3	13.0	25	A condition should be applied to require an assessment of the existing configuration of tyres and where necessary remedial action taken prior to the commencement of proposed shredding .	No	The Board's assessment is confined to the proposed operations area, included with these tables as Figure C02. Regulation of the existing storage activity is governed by planning permit P13-199, as amended by an Environment Protection Notice dated 10/3/16.
			A row of mature pine trees near the development site poses a fire risk and should be removed.	No	The Tasmania Fire Service has been consulted as part of the Board's assessment.
			A condition should be applied to require the storage of an appropriate quantity of water at all times to manage a potential fire.	No	Refer to the comment directly above. The EER estimates a total water volume of 140ML is typically available for the purpose of fire management. The EER also states an irrigation line from the South Esk River is present and able to supply water to manage a fire.
2 3-201	Part B	6-18	Further expansion of the tyre storage area is opposed.	No	The proponent commits to shredding ELT and removing shredded material from the site. The ELT stored within the operations area will, once the shredder is operational, be confined to the shredder building. A condition to impose a limit on the amount of tyres stored within the operations area is envisaged.
			The proposal expands the tyre storage capacity of the site, over a period of potentially nine months.	No	The EER states additional ELT will be delivered and stored within the proposed operations area until the shredder is installed and operating. From this point, the tyre storage area is diminished by shredding.
			The proposal is inconsistent with the Northern Midlands Interim Planning Scheme 2013 (Scheme) applicable standards of the Rural Resource zone and the relevant codes The proposal is inconsistent with the local area objectives as stated in the Scheme The proposal is inconsistent with the values and community objectives of the communities of Perth and Longford.	No	The matters are not in the Board's area of responsibility.

			The proposal is a major increase in risk to persons and property of the residents in the adjacent communities of Perth and Longford.	No	The Tasmania Fire Service has been consulted as part of the Board's assessment.
			The AK consultant report (on behalf of the applicant) on the environmental impact of the proposal on local flora and fauna in the Priority Habit area is insubstantial and unconvincing.	No	The Policy and Conservation Advice Branch of the DPIPWE has been consulted as part of the Board's assessment.
			The proposal is inconsistent with state government initiatives to increase tourism in the Northern Midlands by establishing a heritage corridor from Woolmers Lane and the World Heritage sites to Longford.	No	Heritage Tasmania has been consulted as part of the Board's assessment.
6	16.0	26	Council should be alert to any subsequent applications for upgrades to or signage on Woolmers Lane arising from an intensification of the industrial land use in this area. Applications for such works will need to be assessed separately to determine whether there will be an impact on the experience of visitors arriving at *Woolmers Estate*, aiming to avoid incremental degradation of the route to and from the Estate by *ad hoc* signage and road infrastructure.	No	The matter is not relevant to this assessment.
3, 4	18.0	27	The need for a bond or other form of financial surety (from the proponent) to ensure tyres are removed from the site by 2020, followed by appropriate rehabilitation, is suggested.	No	The Board's assessment is confined to the proposed operations area, included with these tables as Figure C02. Regulation of the existing storage activity is governed by planning permit P13-199, as amended by an Environment Protection Notice dated 10/3/16.
4	App. D: Fire Protection Measures Report & App. E: Fire Emergency Plan		The adequacy of management plans for fire, in terms of scope and level of detail, is queried.	No	The Tasmania Fire Service has been consulted as part of the Board's assessment.

3-202

7	13.0 & Appendices D & E	25 & Appendices D & E	Much of the existing stockpile is not stored as set out in the *South Australian Fire Authorities, Community Safety Department (2014) Built Environs Section Guideline No. 13, General Guidelines for Rubber Tyre Storage* (SA Guideline). To remedy the minimal separation in the existing storage, removing alternate rows would reduce the issue, in some areas 2 rows will need to be removed.	No	The Board's assessment is confined to the proposed operations area, included with these tables as Figure **C**02. Regulation of the existing storage activity is governed by planning permit P13-199, as amended by an Environment Protection Notice dated 10/3/16.
7 3-203	13.0 & Appendices D & E	25	To start the irrigation pump requires local knowledge and would not be suitable for fire crews to operate. No hardstand suitable for a 14 tonne firefighting vehicle is available. Both the method of tyre storage observed and the lack of suitable firefighting water supply would severely impede effective intervention by firefighting services. Hydrants should be installed so that all areas of the storage are within reach of a 10m hose stream issuing from a nozzle at the end of a 60m length of hose. A Hydrant no closer than 10m to the shed is recommended. Pump sets specifically installed for the purpose of supplying firefighting water should be installed in accordance with the requirements of Australian Standard 2419.1 and plumbed to the required outlets on the site. Section 5 of the SA Guide refers to the containment of firefighting water, and specifies that this be able to contain the water at a rate of 30l/s for 90 minutes. The proposal does not demonstrate this capability. To minimise water usage and limit the amount of contaminated water, vehicular access (14 tonne vehicle) and suitable hardstanding at the existing retention ponds is recommended. All new storage of ELT must comply with the separation requirements specified in the SA Guide.	Yes	Provide further discussion about Section 13.0 of the EER and Appendices D (Fire Protection Measures Report) and E (Fire Emergency Plan) which considers and addresses the concerns raised by submission 7, under the **Comments and issues** column.

Measured form and function 6ty°

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Tyre Storage and Shredding

437 Woolmers Lane

Longford

Environmental Effects Report

Draft Issue 1

Date	5 September 2016
Project Number	15.242
Project Name	Tyre Shredder, Tyre Storage and Delivery – Environmental Effects Report
Author	Heidi Goess, 6ty Pty Ltd
Recipient	**Mr Damien Blackwell, Environment Protection Authority**

Draft Issue 2

Date	5 October 2016
Project Number	15.242
Project Name	Tyre Shredder, Tyre Storage and Delivery – Environmental Effects Report
Author	Heidi Goess, 6ty Pty Ltd
Recipient	**Mr Damien Blackwell, Environment Protection Authority** **Ms Nicole Sommer, Dobson Mitchell Allport**

Draft Issue 3

Date	7 October 2016
Project Number	15.242
Project Name	Tyre Shredder, Tyre Storage and Delivery – Environmental Effects Report
Author	Heidi Goess, 6ty Pty Ltd
Recipient	**Mr Damien Blackwell, Environment Protection Authority**

Draft Issue 4.1

Date Issue 4	12 October 2016
Date Issue 4.1	17 October 2016
Project Number	15.242
Project Name	Tyre Shredder, Tyre Storage and Delivery – Environmental Effects Report
Author	Heidi Goess, 6ty Pty Ltd
Recipient	**Mr Damien Blackwell, Environment Protection Authority**

Draft Issue 4.2

Date Issue 4	12 October 2016
Date Issue 4.2	23-December 2016
Project Number	15.242
Project Name	Tyre Shredder, Tyre Storage and Delivery – Environmental Effects Report
Author	Heidi Goess, 6ty Pty Ltd
Recipient	**Mr Damien Blackwell, Environment Protection Authority**

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PART A – PROPONENT DETAILS

Table 1: Proponent Details

Name	Tyre Recycle Tasmania Pty Ltd
ACN	151 658 598
Address	4 Blackwood Drive, Perth
Contact	Mr Tim Chugg
Mobile	0400 692 023
Email	chuggset@bigpond.com

Tyre Recycle Tasmania Pty. Ltd. (the Proponent) is a Tasmanian business that collects, stockpiles and recycles 'end-of-life tyres' (ELT) in Tasmania.

The Proponent is registered as a Controlled Waste Handler for approved Waste Code T140, certificate registration number: CWTEMP054TA. The certificate is contained in Appendix A.

PART B – PROJECT DESCRIPTION

The Proponent has developed long term relationships with many Tasmanian tyre retailers by providing an efficient and cost-effective ELT collection service at a state-wide level. ELT are generated by Tasmanian tyre retailers from the replacement of worn tyres with new tyres on passenger vehicles, trucks and farming vehicles. The primary driver for establishing this service by the Proponent was to stockpile ELT waste in a single location with the intention of applying a sustainable approach to disposing of this waste in Tasmania.

The Proponent has collected ELT from Tasmanian tyre retailers and has delivered and stored these on land at 437 Woolmers Lane, Longford (the site). The delivery and storage of ELT on the site was permitted by the Northern Midlands Council (Council) by planning permit P13-199. Planning permit P13-199 is conditioned to require removal of the ELT stockpile from the site by 31 December 2020.

Planning application P16-077 seeks permission to store and shred ELT. This is outside of the scope of the use and development approved by planning permit P13-199 and consequently planning application P16-077 was lodged with Council. While this is a new application, commitment is given to remove the ELT stockpile from the site by 31 December 2020.

The lodgement of planning application P16-077 was anticipated as a commitment by the Proponent resulting from mediation in Appeal 06/16E and the Consent Memorandum entered into between the Proponent and the Council on 10 March 2016. The purpose of this application is two-fold, both to enable the removal of the existing ELT stockpile and to provide an ongoing and sustainable method of reusing ELT into the future.

The operation of the tyre shredder will enable ELT to be shredded, loaded into containers for transportation off the development area. This will achieve the Proponent's commitment to remove shred from the land by 2020 while continuing to trade to fund operation.

The principal objective of this application is to establish a sustainable business operation, focussing on producing crumb and chip rubber for use as the base material in traffic management products, Softfall playground products and in civil engineering industries.

There is now a viable market for recycled rubber products in Tasmania, particularly since the adoption of VicRoads road engineering Standard by the Tasmanian Department of State

Growth (Department of State Growth, August 2016, Section421 Bitumen Crumb Rubber Asphalt). This Standard provides for the use of rubber chip and crumb in asphalt.

The shredded material will require further processing before the material can comply with the specifications for road construction or moulding. This will require the removal of steel before shredded material is processed again. It is the Proponent's intention, if technology becomes available, to separate out the steel at the initial stage of processing of the ELT rather than a secondary stage. The Barclays shredder referred to in this application requires a secondary processing facility to process material for moulding or road construction.

The Proponent has investigated the possibility of establishing the full primary and secondary processing plant on the Longford site. The Proponent dismissed this in preference for establishing a processing facility within an existing industrial zone in a different municipality. This application provides for the primary processing component.

The Proponent's immediate priority is to establish a secondary shred and crumb facility to meet demand from various manufacturers or civil contractors for shredded rubber product for reuse in road base, play equipment and other civil engineering applications (refer to Appendix A). The Proponent is in negotiation in respect of land in a general industrial area to establish such a plant in another municipality. This application will enable tyre collection and shredding for transport to the secondary facility. A substantial grant by the Northern Tasmanian Waste Management Group's 2016/17 Resource Recovery and Waste Minimisation Grants (refer to Appendix A) program was recently awarded to assist the Proponent in establishing the secondary facility.

The secondary purpose of this application is to provide for a worst-case scenario, in the event that the moulding and chipping production cannot be established by the Proponent. The shredder will enable the Proponent to more cost-effectively dispose of the shred to an interstate or Tasmanian re-processing facility or to landfill. This will achieve the Proponent's commitment to remove shred from the land by 2020 while continuing to trade to fund operation.

Project Overview

Table 2: Operation Details

Project	**Tyre Storage and Shredding**
Location	**437 Woolmers Lane, Longford**
ELT Delivered	**2,600 tonnes per annum**
Delivery of ELT	**Monday to Saturday 6:00am to 6:00pm. No deliveries on Sunday or public holidays.**
Processing	**7800 tonnes per annum**
Operation	**Monday to Friday 6:00am to 6:00pm. Shredder will not operate before 7:00am. No work is intended on Sundays or public holidays.**

The Proponent intends to construct and operate a tyre shredder within the development area of the site in accordance with the operation details summarised in Table 2 and the proposal plans contained in Appendix B.

To summarise, the Proponent seeks permission to:

- Install and operate a tyre shredder on the site;
- Construct a shed and associated infrastructure to contain, store and operate the tyre shredder; and
- Continue delivery and store new ELT on the site post 20 December 2016.

The Proponent currently collects 2600 tonnes per annum of ELT from Tasmanian tyre retailers. This figure was extracted from raw data collected by the Proponent and then calculated by converting the ELT into an Equivalent Passenger Ratio Unit (EPUs) in accordance with the standard set by the Tyre Stewardship Australia contained in Appendix C. The weight of an EPU for a new passenger tyre is 9.5 kg with the weight of an EPU for an ELT standardised at 8kg.

The Proponent intends to collect and store new deliveries of ELT on the site within the development area. Once the shredder is fully operational, new deliveries of ELT will be delivered and stacked within the proposed shed for direct processing by the shredder. The shredder will also process the existing stockpile of ELTs within the development area.

While the storage of ELT has occurred across the development area since 2011, the proposed Schedule 2 Activity will be confined to the operation area shown on drawing number C02 and Figure 1 below.

Figure 1: Operations area

1.1 Delivery and Storage ELT

Table 3: Estimated ELT within the development area.

	Tyres on Site (Estimated Tonnes)	Estimated Increase/ Decrease
July 2016	10500	
20 December 2016	11,500	+1000

At 20 December 2016 it is estimated that there will be 11,500 tonnes of ELT stored within the development area. The Proponent intends to continue delivery and storage of ELT within the development area and once the tyre shredder becomes operational reduce this number progressively by processing the existing stockpile along with new arrivals. An estimated 6-9 months new ELT storage will be required prior to the tyre shredder becoming operational.

Since application P16-077 was lodged, the number of ELT delivered and stored within the development area has reduced. This abovementioned application indicated that the Proponent was collecting ELT on behalf of Tyrecycle. The collection on behalf of this business has ceased as of August 2016. Accordingly, the estimated number of ELT within the development area has been revised taking account of this change.

The Proponent collects ELT directly from Tasmanian tyre retailers. The Proponent will collect and deliver ELT to the development area. No other businesses will collect or deliver ELT to the development area pursuant to application P16-077.

ELT are delivered to the site by a total of 3 trucks, their size being 6 tonne, 9 tonne and 13.5 tonne respectively. Vehicle access to the development area is via a paved farm road from Woolmers Lane. While this paved farm road forms a T-junction at two locations with Woolmers Lane, the most westerly access adjacent to the potato processing and silos will be utilised for vehicles travelling to and from the development area.

Deliveries of ELT will be unloaded by two employees from the abovementioned trucks and stacked by hand within the development area. This will be undertaken without the aid of any equipment. The proposed delivery of ELT will generate an estimate of 12 truck movements per day. The number of truck movements generated from the deliveries of ELT is not likely to alter once the tyre shredder is operational.

1.1.1 Site Coverage

The development area occupies approximately 1.5% of the site and is located approximately 1.5km south of Woolmers Lane.

The development area is set back from the eastern and western lot boundaries more than 200m and 1.5km respectively. The storage area is also more than 1km from the southern lot boundary.

The storage area is separated into two locations as shown on drawing number C03, Appendix B. The Site Plan identifies:

- Location 1 - north of the pine windbreak; and
- Location 2 - south of the pine windbreak.

Within the development area a proportion of the ELT stockpile owned by Tyrecycle was removed at the end of February 2016. This area is identified on drawing number C03, Appendix B. This area has been partially restacked with new ELT.

1.1.2 *Fire Protection Measures*

Fire protection measures were implemented to manage the hazard associated with the existing permitted use. The Fire Protection Measures Report prepared for Planning Permit P13-199 has been revised and attached in Appendix D.

1.1.3 *Fire Breaks and Bunds*

A fire break and bund around the perimeter of each storage location has been established in accordance with the drawing number C03, Appendix B.

1.1.4 *Pod Formation*

Subject to granting P16-077, all new ELT delivered and stored on the site will be stacked in a pod configuration in accordance with drawing number C03, Appendix B.

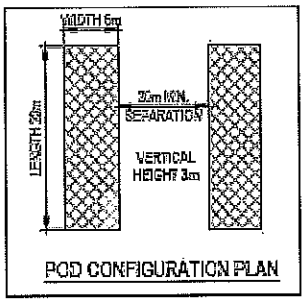

Figure 2: Pod Configuration Plan

The existing pods have been stacked with a 6m separation in accordance with the earlier *South Australian Fire Services, Fire Safety Department, (1999) General Guidelines for the Outdoors Storage of Used Tyres.*

All ELT delivered to the site from the issue date of planning permit P16-077 will be stacked in a pod formation as shown in Figure 2.

This is in accordance with the *South Australian Fire Authorities, Community Safety Department (2014) Built Environs Section Guideline No. 13, General Guidelines for Rubber Tyre Storage.*

1.1.5 *Provision of Water Supply*

An irrigation line is established on the site which will provide a supply of water to the development area in the event of fire. Refer to drawing number C03.

Water can also be accessed from the adjacent dams however; the installed irrigation line will be the primary water source utilised for firefighting purposes.

1.1.6 *Land Maintained in Minimal Fuel Condition*

The area immediately surrounding the ELT stockpile will continue to be grazed, ensuring that the land is maintained in a minimal fuel condition.

1.1.7 *Collection Ponds*

Two water collection ponds exist adjacent to the ELT stockpile. These are designed to collect run-off of water utilised for firefighting purposes. Water run-off over the development area and the water end points are shown on drawing number C04, Appendix B.

1.1.8 *Accessibility and Security of the Development Area*

The storage of ELT within the development area has occurred since 2011. The development area is accessible by an internal access road from Woolmers Lane as shown on drawing number C01, Appendix B. The development area currently receives a delivery of tyres Monday to Saturday and is a managed farm, ensuring that there is surveillance and monitoring over this area.

Since its operation there have no recorded incidents on the property with respect to fire.

1.1.9 *Fire Emergency Plan*

The Emergency Plan included as part of Planning Permit P13-199 forms part of application P16-077. The Fire Emergency Plan is included as part of Appendix E.

1.2 Plant and Equipment

Table 4: Summary of Equipment

Type	Make	Model	Power Rating
4 wheel drive Tractor and 1 x 24 cubic metre trailer			60 hp
Prime Mover and 2 x 40 cubic metre trailers			**400hp**
Tyre shredder	**Barclay Roto Shredder or similar**	**4.9" Primary Shredder or similar**	**75-100 hp or similar**
Trucks	**Various**		
Fire Fighting Equipment			
Water Truck			
Water Pump and Irrigation Line			
Excavator			

1.2.1 *Tyre Shredder*

It is proposed that ELT will be processed with a Barclay Roto-Shred 4.9" Primary Shredder within the development area. Specifications of the shredder are attached in Appendix F. The location of the tyre shredder is shown on drawing numbers C01 and C03, Appendix B. The plant and equipment will be housed within a 20m x 8m x 4.76m colorbond shed.

This shredder is powered by an electrical motor driving the cutting head. This has a capacity to process 16-20 tonnes per hour with the intention of shredding tyres into 50mm chips (refer to Figure 3). The shredder does not require water for the processing of ELT, although it can act as a lubricant which can extend the blade life. This is substantiated by the manufacturer on their website under 'other information', http://www.tireshredders.com

Figure 3: Example of 5cm Tyre Chips

Tyres are fed to the shredder via a standard 8 foot long in-feed conveyor with efficient upper and lower feed mechanisms. This allows the operator to indiscriminately bulk feed.

The tyre shredder will be operated by two employees and supplied with ELT from the stockpile and new deliveries.

Please note that if this model becomes unavailable from the manufacturer or an alternative model can be obtained from another manufacturer that is more cost effective or efficient, then this will be purchased. The model proposed is indicative of the output and emissions of the tyre shredder that will ultimately be installed.

1.2.2 Production Rates

While the shredder has capacity to process 16-20 Tonnes per hour, the Proponent is targeting a throughput of 30 tonnes per day. This comprises:

- **12 tonnes/day** of new ELT delivered to the site once the shredder is operational; and
- **18 tonnes/day** of the stockpile.

The tyre shredder will operate for an estimated 48 weeks of the year, 5 days per week. The tyre shredder will process approximately 7,800 tonnes per annum.

A purpose of this application is to enable the Proponent to comply with the 31 December 2016 timeframe under the Environment Protection Notice dated 10 March 2016.

Variation to the targeted daily throughput as stated above may occur for the following reasons:

- Maintenance on plant and equipment is required and the tyre shredder is not operational;
- Employees are not fit to operate the tyre shredder;
- Tyre shredder is not operational due to a mechanical fault; or
- Other unexpected event.

In the event the tyre shredder is not operational and there is an expected delay in the processing of ELT delivered to the site, a temporary storage area (refer to C03, Appendix B) is set aside as a contingency. This will allow uninterrupted collection of ELT from tyre retailers. Interruption to the collection service could see a backlog of ELT stockpiled in urban areas which is not desirable.

Once the tyre shredder becomes operational again, the targeted daily throughput of 30 tonnes may be increased to clear the backlog of ELT stored within the temporary storage area.

1.2.3 Processing of ELT

Once the tyre shredder is operational, fresh deliveries of ELT will no longer be stacked manually by employees in a pod formation in the development area but will be delivered, unloaded and stacked by employees within the shed. An estimated 1,200 tyres per day are able to be stored in the proposed 20x8x4.8m shed.

This will be done without the aid of any equipment. Employees will then directly load ELT on to the conveyor belt for shredding. This part of the operation is completely contained within the shed.

ELT from the stockpile will be collected daily with a four wheel drive tractor towing a 24m^3 trailer. Two employees will load the trailer and transport ELT to the shredder. ELT collected from the stockpile will be directly loaded on to the conveyor belt to avoid double handling.

The shredding of ELT into tyre chips will be directly loaded from the output conveyor belt of the tyre shredder into two 40m^3 bin trailers. The trailer will be coupled to a prime mover and transported off the development area. Investigations undertaken by the Proponent indicate that the shredded material could be sold as fill for road construction or transported off-site for manufacture of rubber products.

In order for shredded material to be used in road construction or manufacture of rubber products, secondary processing (e.g. further shredding, moulding line) is necessary. This is reliant on a secondary shred and crumb facility establishing to enable ELT to be processed to meet the required standard suitable for road construction or moulded products.

If no such secondary facility exists, the ELT shred will be transported to an equivalent secondary processing facility in Tasmania or interstate, or will be disposed of to a licensed facility.

1.3 Utilities Electricity

The development area will be connected to mains electricity. Electricity route will follow the line of the internal paved road. This is not likely to affect biodiversity and natural values. The connection will be overhead.

1.4 Employee Amenities

A mobile toilet unit will be placed within the development area to meet the requirements of employees. All waste water generated by a mobile toilet unit will be collected by a suitably licensed waste contractor.

1.5 Timeframe

Delivery and storage of ELT to the development area will continue until the tyre shredder is operational. The anticipated period for delivery is estimated to be 120 days from the date of order. An additional 20 days for the installation/commissioning is required. This equates to a time period of 4-5 months.

The shredder will become operational within the development area once construction of the shed and the equipment and plant is completed. The construction of the shed and hardstand will require building approval.

Once Council grants planning permit P16-077 the Proponent intends to order the plant and equipment from an overseas company. A building permit will be obtained and application made to TasNetwork in order to connect the development area to electricity. While it is anticipated that the purchase of the shredder and required works can be undertaken in tandem, it is considered a conservative estimate that it will take a period of 6 to 9 months to ensure the operation of the shredder. There are any number of contingencies or challenges that may arise through the construction and installation process, which are not within the Proponent's control. These timeframes cannot therefore be assured. The Proponent will do what it can to ensure early operation of the shredder.

Please note that if this model becomes unavailable from the manufacturer or an alternative model with similar specifications can be obtained from another manufacturer that is more cost effective or efficient, then this will be purchased.

Within this time, the shed, power and other infrastructure requirements can be constructed to reduce timeframes for the tyre shredder to become operational.

1.6 Operation Hours

The operation hours for the ELT deliveries, tyre shredder and chip dispatches will be Monday to Saturday between 6:00am and 6:00pm. The tyre shredder will not operate before 7:00 am.

The operation of the tyre shredder or deliveries of ELT to the development area will not be undertaken on Sunday or public holidays.

1.7 Employees

Two full-time staff are employed to operate and manage the tyre shredder. Two full-time employees will collect ELT from Tasmanian tyre retailers and deliver to the site.

2.0 Project Area

Table 5: Property Details

Address	**437 Woolmers Lane, Longford**
Property Owner	**Mr K. Gatenby**
Property ID	**7881250**
Certificate of Title	**105810/1**
Area	**1054 ha**
Tenure	**Private Property**
Zone	**Rural Resource, Northern Midlands Interim Planning Scheme October 2013**
Municipality	**Northern Midlands Council**

2.1 Project Site

The development area is contained on 'Rhodes' which is a farming property comprising numerous certificates of titles with a combined land area of more than 1500 ha. The development area is shown on drawing number C02, Appendix B.

The site is contained on land identified on Certificate of Title, Volume 105810 Folio 1, comprising an area of 1054ha. This is held in private ownership by Mr Keith Gatenby.

The development area is situated west of the Midlands Highway and approximately 5km to the south-east of the urban area of Longford.

This property has a frontage to Woolmers Lane of 2.3km. The development area is serviced by a paved farm road that intersects with Woolmers Lane in two locations as shown on drawing number C01 & C03, Appendix B.

2.2 Topography

The site comprises gently undulating land (refer to Figure 4) with the development area contained on top of a ridgeline.

Figures 5 and 6 provide a cross-section of the topography showing the elevation of the landscape between:

- Panshanger Road and Midland Highway; and
- Woolmers Estate, 658 Woolmers Lane and the westerly edge of the development area.

Figure 4 demonstrates the development area is set behind a ridgeline and will not be visible from the Midland Highway. Similarly, the topography between Woolmers Estate and the development area ensures that this is not visible from this World Heritage area.

Figure 4: Topography of the development area, showing 10m contour lines (source:theLIST).

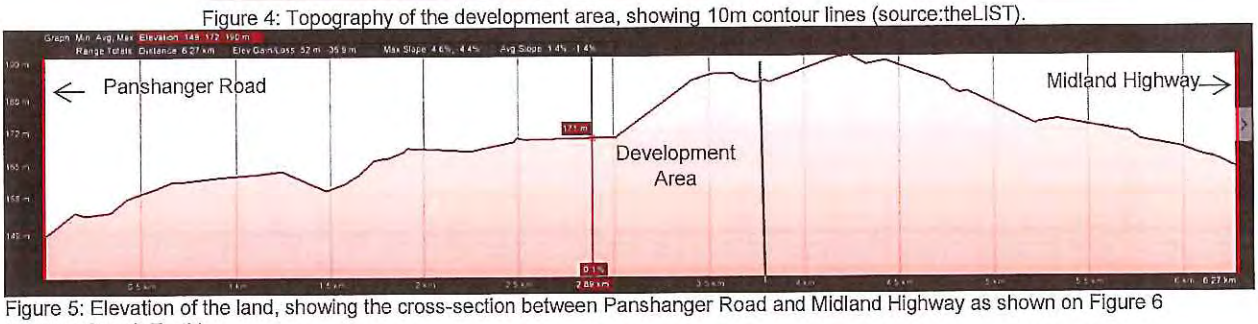

Figure 5: Elevation of the land, showing the cross-section between Panshanger Road and Midland Highway as shown on Figure 6 (source: GoogleEarth).

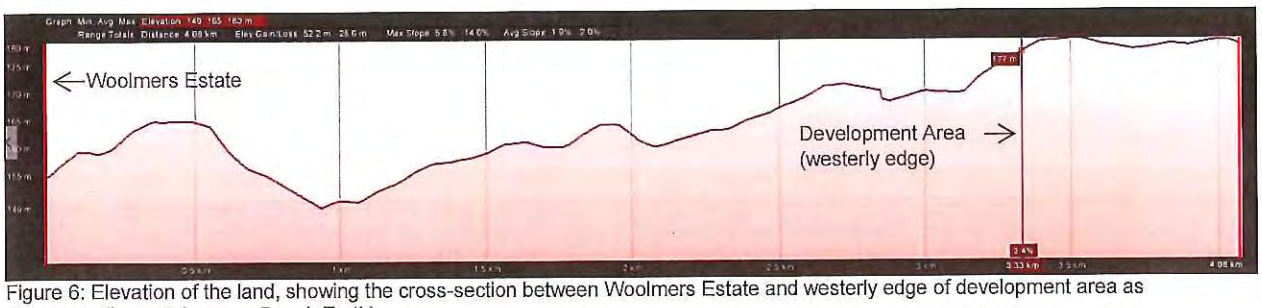

Figure 6: Elevation of the land, showing the cross-section between Woolmers Estate and westerly edge of development area as shown on Figure 6 (source: GoogleEarth).

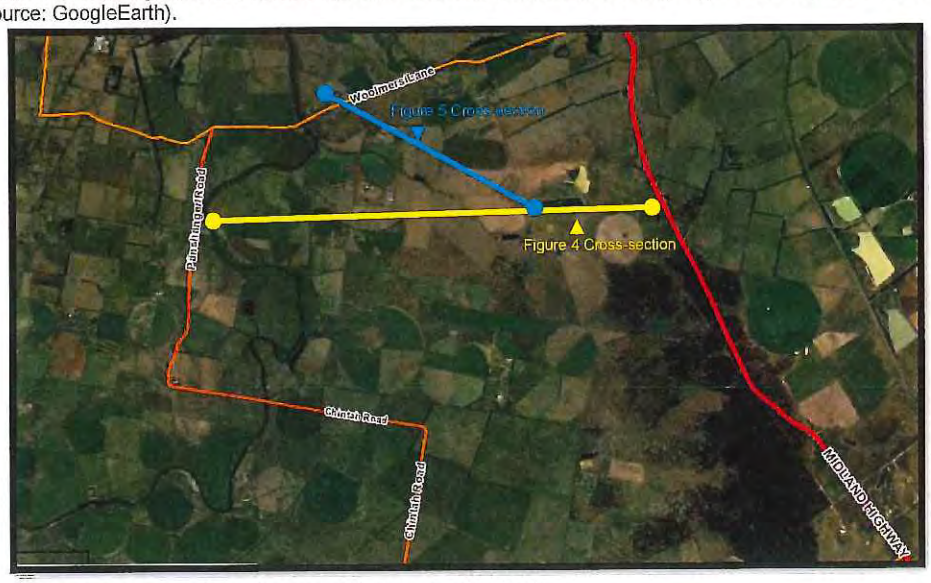

Figure 7: Cross-sections of Figures 4 & 5 (source:theLIST).

2.3 Vegetation

The area immediately surrounding the development area is gently undulating land and is utilised for irrigated cropping and grazing of sheep. While the land is largely cleared of vegetation, a dense vegetation cover of standing vegetation (approximately 300ha) identified as *Eucalyptus amygdalina* inland forest and woodland on canozoic deposit (Tasmanian Vegetation Map, DPIPWE) is located some 700m south-west and south-east of the development area. Smaller patches of trees are also located on the site and there are three distinctive wind breaks on the property (refer to Figure 8). The wind breaks are located:

- At the edge of the northern property boundary, along the southern side of Woolmers Lane;
- Approximately 400m south of Woolmers Lane and approximately 1km north of the development area;
- Approximately 30m south of stored ELT within the development area.

Vegetation is discussed in further detail by the Natural Values Report attached in Appendix G.

Figure 8: Location of wind breaks and priority habitat

2.4 Land Uses

The site containing the development area forms part of a large farming property utilised for irrigated cropping and grazing of sheep. In conjunction with this primary agricultural use, a processing operation for potatoes and grain silos are located close to Woolmers Lane. Soil excavation is also carried out north-west of the development area (refer to Figure 8).

There is an existing stockpile of ELT contained within the development area on the site as shown in Figure 8. The stockpiling of ELT commenced in 2011 and has expanded over time.

The surrounding area primarily comprises irrigated cropping and grazing. Other notable uses surrounding the development area include poultry raising, egg production, an Impact Fertilizer Depot and McCain Pty Ltd Depot (refer to Figure 9).

2.5 Nearby Sensitive Receptors

There are a number of sensitive receptors located within a 2km radius of the development area (refer to Figure 10). The closest sensitive use is located more than 900m north-east of the development area.

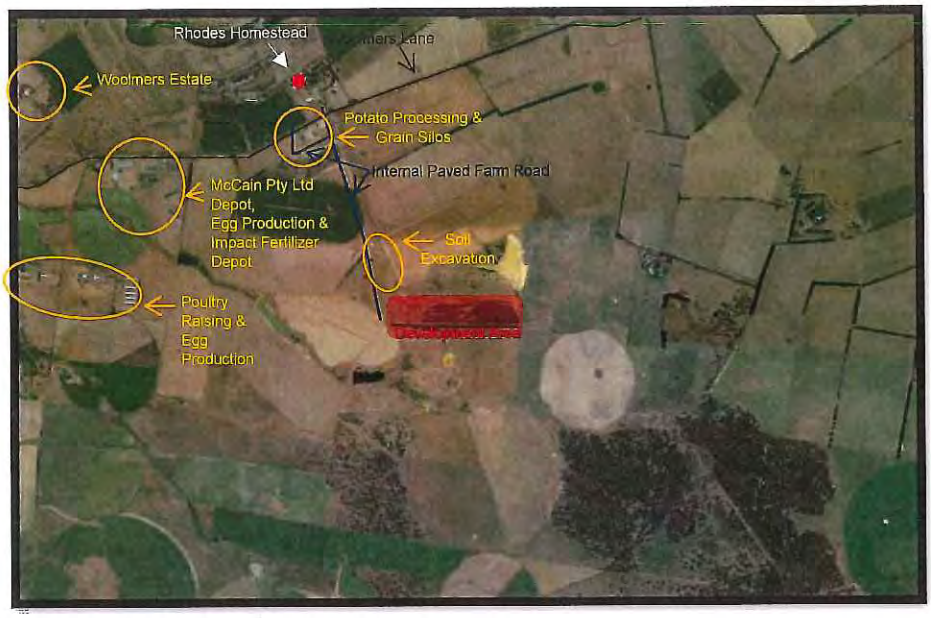

Figure 9: Land Uses of the site and adjoining properties

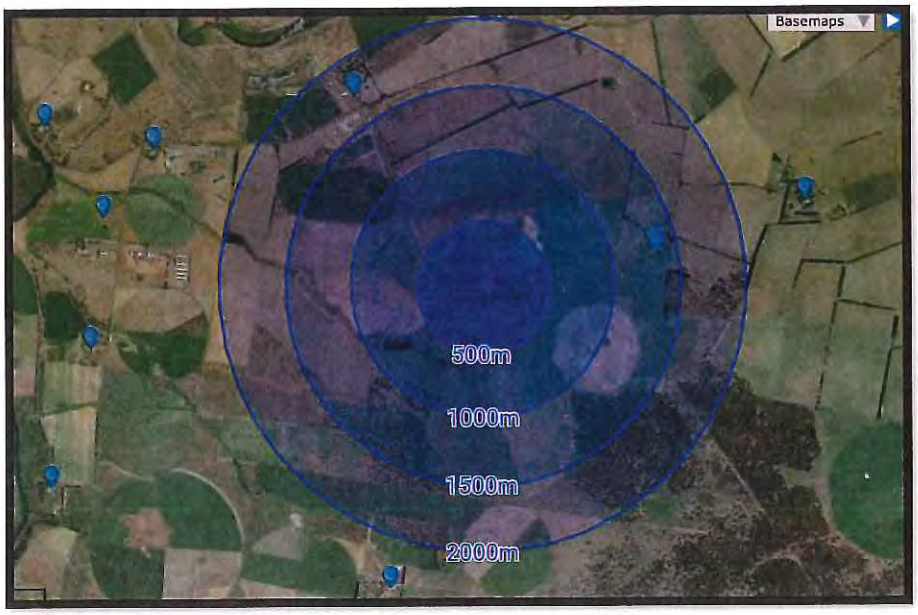

Figure 10: Sensitive uses in proximity to the development area

3.0 Map and Site Plan

The location of the site and development area is shown on Figures 11 and 12.

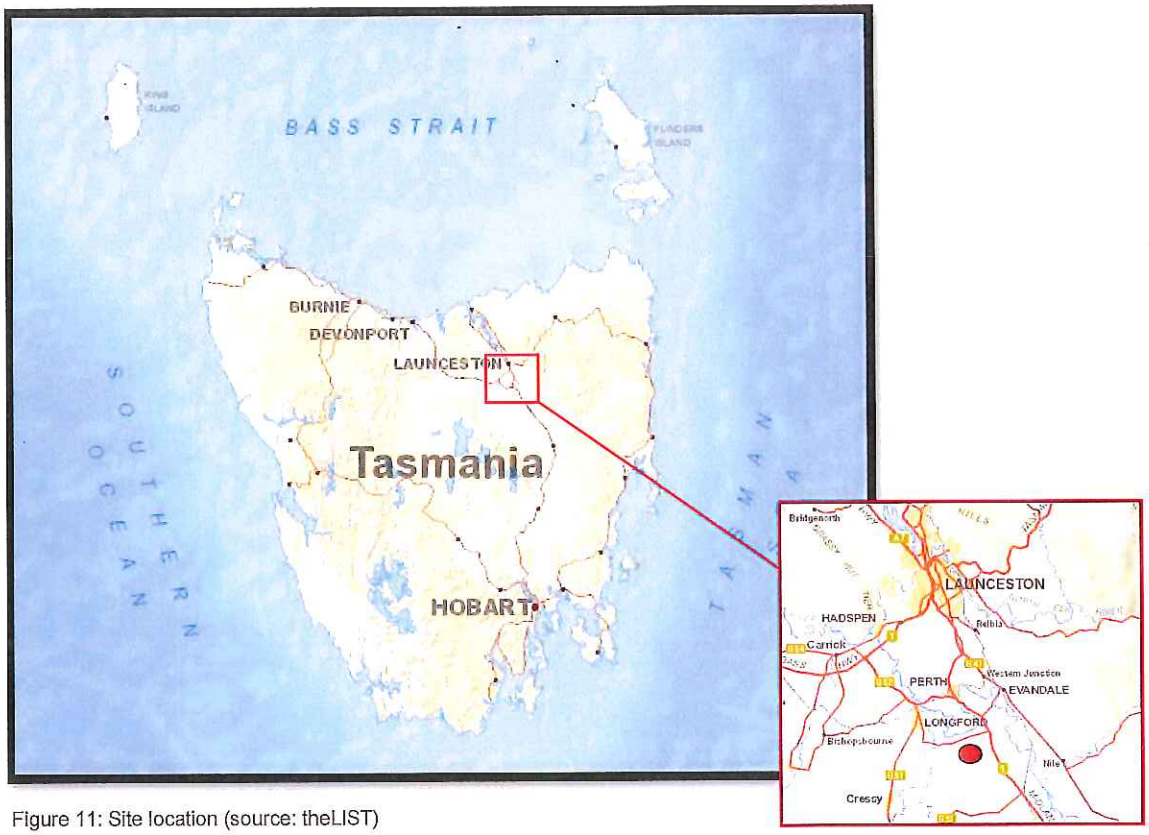

Figure 11: Site location (source: theLIST)

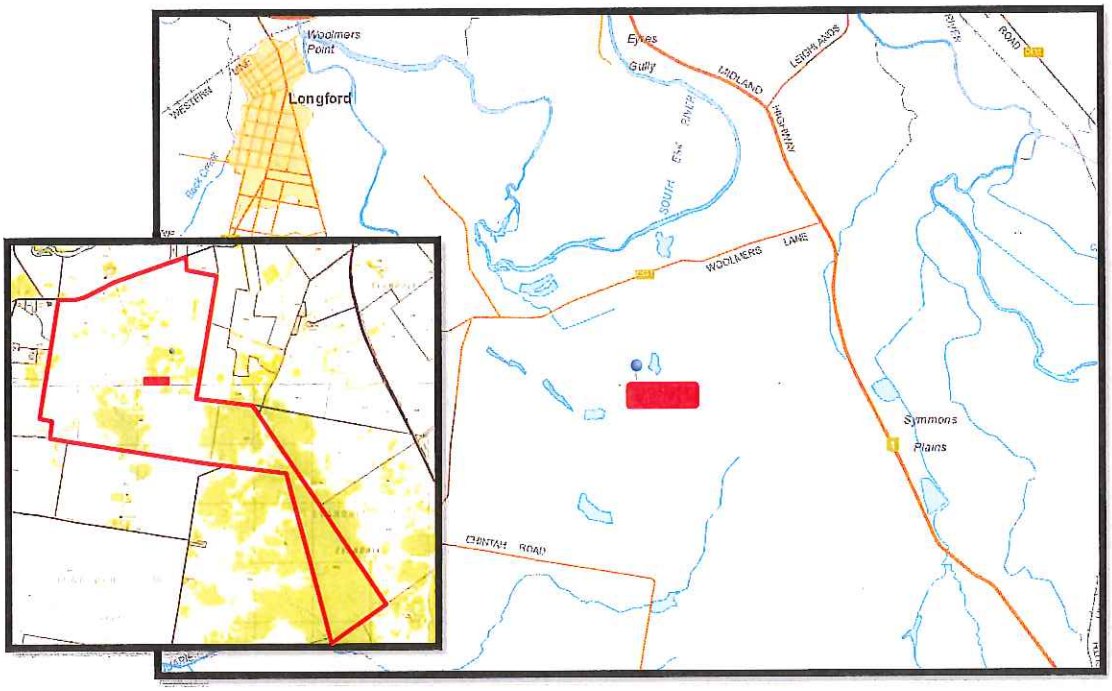

Figure 12: Topographic map and title boundary (source: theLIST)

The proposal plans provide specific details of the development area and are attached in Appendix B.

4.0 Rationale and Alternatives

Planning Permit P13-199 allows the land at 437 Woolmers Lane, Longford to be developed and used for the storage of ELT. The Permit conditions were varied by the Environment Protection Notice dated 10 March 2016. This prevents the further depositing of ELT on the site after 20 December 2016 and requires the removal of all ELT from the site by 31 December 2020.

Green Distillation Technologies Corporation Ltd (GDTC) has developed Australian technology to recycle ELT and present a sustainable solution to removing the existing ELT stockpile from the development area. Application P15-383 was lodged on 15 December 2013 with the Northern Midlands Council seeking permission to:

- Construct and operate a plant for destructive distillation of ELT; and
- Continue to deliver and store ELT until such time they can be processed by the proposed destructive distillation plant.

The proposal is a Level 2 activity as defined by the *Environmental Management and Pollution Control Act 1994 (EMPCA)*. Accordingly this application is subject to assessment under EMPCA as well as the *Land Use Planning and Approvals Act 1993* (LUPAA) before the permit can be determined and the destructive distillation plant can commence.

While the preferred solution to remove ELT from the development area is the proposed destructive distillation plant, application P15-383 has not been progressed by GDTC and is unlikely to be determined by 20 December 2016.

This application P16-077 provides an alternative to remove ELT from the development area by 31 December 2020. The Proponent proposes to proceed with the shredding of ELTs on the site in order to comply with the 31 December 2020 timeframe. The tyre shredder presents an opportunity to process the stockpile of ELT at the development area and in turn allowing their removal. Without approval of continued delivery on site, it will not be economic to install a shredder on the site and accordingly delivery post 20 December 2016 is an integral component of this application. Accordingly, this application P16-077 is the best alternative to the GDTC proposal to both remove the existing ELT stockpile and represents the sustainable solution for ELTs generated in Tasmania.

Prior to the nominated development area being considered for the destructive distillation plant or shredder, several other locations were explored. These locations did not present a viable proposition either because of the costs associated with securing a site or proximity to sensitive receptors. A very high proportion of industrial zoned land within the Northern Tasmanian region adjoin residential areas, are highly visible, are in bushfire prone areas or a combination. No site of substantial size or isolation exists within those areas to allow for the storage and processing component.

The advantages of this site are both its isolation and proximity to key transport networks. It has a generous buffer of over 900m to the closest sensitive receptor, and of over 4.5km to the outskirts of the nearest township, Longford. The site also benefits from its proximity to the Midlands Highway with easy access to the Devonport Port. The isolation also reduces public visibility, and the associated risk of arson found within urban areas. This is

fundamentally the reason why an isolated Rural Resource Zone site was originally chosen. Land capability assessment showed that this area of agricultural land was of limited use for agriculture and the use can co-exist with the current grazing use of the land by its owner.

The advantages of locating destructive distillation plant or tyre shredder on the development area means ELT can be processed without incurring further energy or economic costs with respect to transport.

PART C – POTENTIAL ENVIRONMENTAL EFFECTS

1.0 Flora and Fauna

The property (CT105810/1) contains areas identified as priority habitat on the Northern Midlands Interim Planning Scheme Overlay Maps (refer to Figure 13).

The priority habitat areas identified under the *Northern Midlands Interim Planning Scheme 2013* are located more than 700m to the south-east of the development area. Accordingly, a natural values report was prepared as part of Planning Application P15-383 by AK Consultants Pty Ltd and is attached in Appendix G. This report has considered the impact of the tyre storage area on adjoining flora and fauna and provides a full list of threatened flora and fauna for the site.

While the report was prepared for the proposed destructive distillation plant as part of Planning Application P15-383, this assessment is equally applicable to this application as the tyre storage and shredder is contained within the same development area.

The development area and surrounding land has been cleared and converted to pasture or used for grazing. The proposal will not entail any clearing or disturbance of any native vegetation.

The flora and fauna report concludes that, "*the development area supports no native vegetation communities. The development within agricultural land will have minimal impact on threatened fauna species that may forage in the area, no other natural values will be impacted*" (Summary, AK Consultants Pty Ltd).

The site inspection conducted as part of this report found three species of weed in the development area. These are as follows:

- *Centauruim erythraea*, Common centaury;
- *Onopordum acanthium*, Scotch thistle; and
- *Ulex europaeus*, Gorse.

These weeds are declared under the *Tasmanian Weed Management Act 1999.* As part of the ongoing management of the tyre shredder and storage area, weeds generally will be grubbed out by an excavator bi-annually or as required to maintain the site in minimum fuel condition. This is in accordance with the fire management plan.

Vehicles entering and leaving the property will utilise the internal access roads to ensure that weeds are not spread by transport. The four wheel drive tractor with trailer will be utilised within the development area only, tyres of the tractor and trailer will be regularly washed and cleaned to minimise the spread of weeds.

2.0 Rivers, creeks, wetlands and estuaries

The South Esk River is located approximately 2km north of the development area on the northern side of Woolmers Lane. The Macquarie River is approximately 3km to the east of the development area, east of Panshanger Road (refer to Figure 14 showing the hydrographic areas).

Rhodes is a farming property which is cleared land converted to pasture and crops. A series of dams traversing the site are used to irrigate pastures (refer to Figure 13).

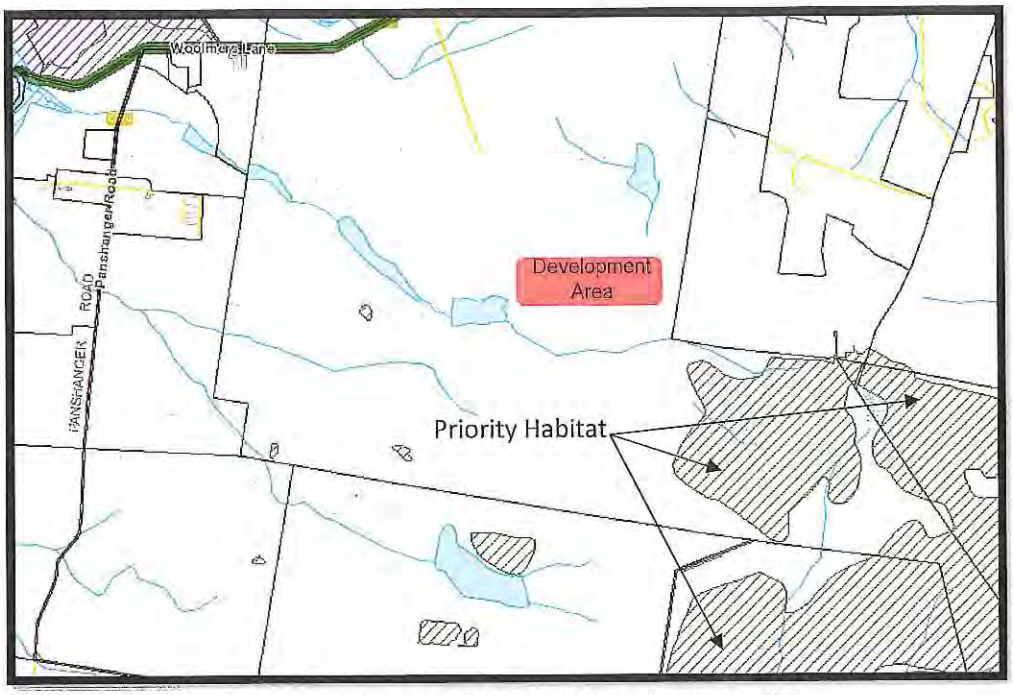

Figure 13: Priority Habitat, Northern Midlands Interim Planning Scheme (source: theLIST)

There are two main dams located to the north and south of the site as shown on drawing number C01 and C04, Appendix B which provide in excess of 140ML of water.

The development area is located on the crest of a broad ridge line that runs approximately east-west. As such, there are no significant areas of upstream catchment that will inflow into the development area. The general fall of the land is to the north and the development area straddles the headwaters of a defined drainage path running north to a substantial farm dam.

The development area is 2.0 Ha of farm pasture isolated from the downstream drainage path by a perimeter interception drain that directs surface flows to two detention basins. There is no piped drainage within the development area. The detention basins will only contain surface flows during a fire event when the outlets are closed. This will contain contaminated flow waters.

The underlying soils are a sandy clay with isolated dolerite surface rock. There are no areas that indicate a high water table or a spring. Calculations of surface flows from the site suggest a total peak flow into the detention basin of 0.07 m^3/s during the 10 year ARI event with a total volume of 32 cubic metres. This calculation assumes a relatively wet catchment with poor subsoil drainage. For the catchment during drier

periods, such as a summer thunderstorm, there are no outflows from the development area.

The northern perimeter drain is adequate to collect surface water and direct it to the existing detention storage basins which have a minimum storage volume of 320KL, ample for the predicted outflows from the site.

The main source of potential contamination to the dams is anticipated to be from water used for firefighting purposes in the event of a tyre fire. To ensure that water utilised for firefighting purposes does not contaminate the dams, two collection ponds have been constructed for the development area. These collection ponds are designed to collect run-off of water utilised for firefighting purposes and stormwater from rain events.

Other than water utilised for firefighting purposes, the operation does not consume water which will result in run-off.

3.0 Significant Areas

Woolmers Estate World Heritage Area is located approximately 2km to the north-west of the development area. There is no direct line of sight from the buildings of Woolmers Estate to the development area (refer to Figure 5). There is no impact anticipated from the proposed use and development of the site on Woolmers Estate.

While the southernmost lot boundary shares a common boundary with the Powranna Nature Reserve, this is more than 5km from the development area. Given the conclusion formed by the Natural Values Report prepared by AK Consultants, the proposed development is not expected to impact on this reserve.

4.0 Coastal zone

The site is not located within 300m of the coast.

5.0 Marine areas

The development area is not located on a site that will impact on sensitive marine areas, conversation areas, or areas used extensively for recreation or commercial fishing activities.

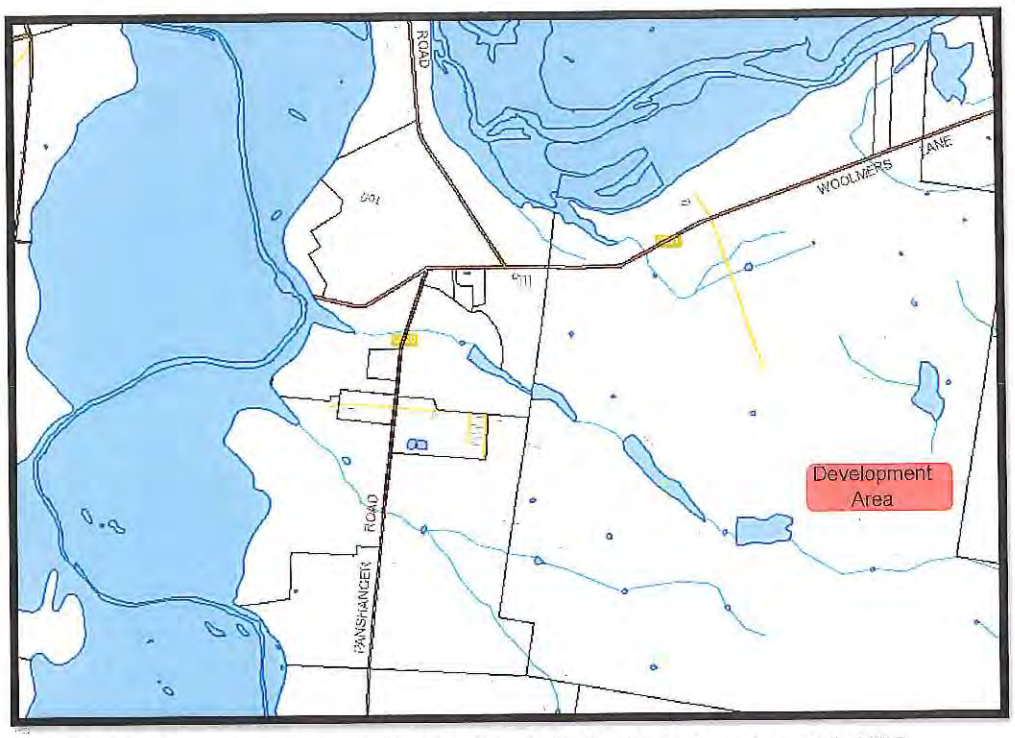

Figure 14: Hydrographic Areas (shown in blue) in relation to the development area (source: theLIST)

6.0 Air Emissions

Air emissions from the proposal include dust from:

- Vehicles travelling along the internal paved farm road from Woolmers Lane to the development area, delivering ELT;
- Tractor and trailer travelling to and from the stockpile to the shed;
- Operation of the tyre shredder; and
- Loading of tyre chips from the output conveyor belt of the tyre shredder into 40m^3 bin trailers.

Woolmers Lane is a sealed road providing access to the site. The internal road leading to the development area is a gravel paved farm road, currently utilised by trucks and various farm vehicles. Vehicle movements will generate dust emissions from use of the paved farm road. Vehicles travelling along this internal paved road are not too different to farm vehicles accessing the site.

The tyre shredder will be contained within a large shed on a sealed hardstand area, minimising the potential for generation of dust from the operation.

Dust emissions are also minimised from the tyre shredded by loading processed tyre chips from the output conveyor belt of the shredder directly into 40m^3 bin trailers. Trailers will be covered with a fitted tarp to mitigate against dust emissions during their transport off-site for processing.

The closest sensitive receptors are located to the east of the development area. The dust emissions generated from vehicle movements and operation of the tyre shredder are not expected to cause environmental nuisance or impact sensitive uses. The

unloading of ELT from various vehicles is not expected to cause environmental nuisance.

7.0 Liquid Effluent

There are two main sources of liquid effluent that may result from the proposed use and development of land. These are:

- Liquid waste collected by a single portable toilet; and
- Water run-off utilised for firefighting purposes in the event of a tyre fire.

Water is not required for the operation of the tyre shredder.

The Proponent intends to provide employees of the operation with a portable toilet. This will be located adjacent to the proposed shed. This toilet will be mounted on a trailer and is designed for easy transport to and from the site. Waste-water will be removed by suitably licenced waste contractor.

Water run-off utilised for firefighting purposes will be directed into the adjacent collection ponds as described in the Fire Protection Measures Report contained in Appendix D. In the event of fire, contaminated water will be removed by an accredited waste disposal company. The collection ponds will be cleaned and scraped by an excavator and if required contaminated soils removed.

8.0 Solid wastes

ELT will be collected from various tyre retailers across Tasmania. ELT will be generally stacked by retailers in a specific location for collection by the Proponent. Generally ELT collected are free from contamination.

General waste generated from the operation will be disposed into a skip-bin located within the development area. This will be removed by licensed contractor.

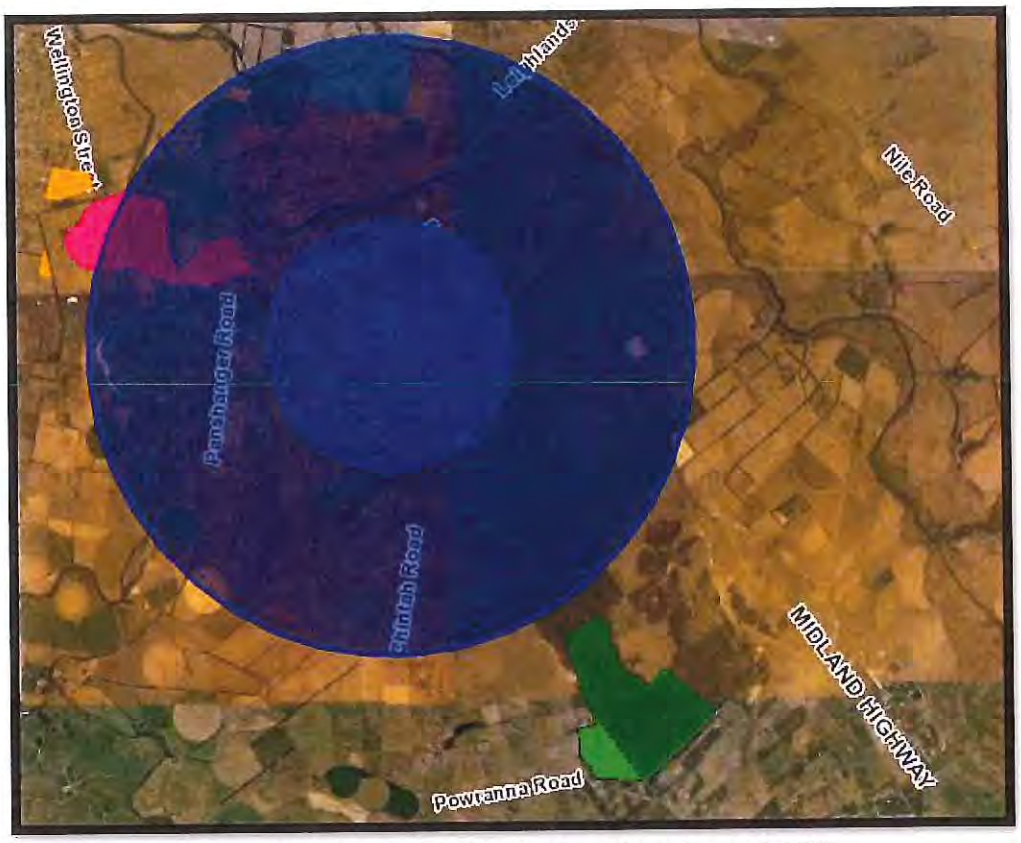

Figure 15: Significant areas within a 2.5km radius of the development area (source: theLIST)

Oil and lubricants consumed through the maintenance of plant and equipment will also be disposed of appropriately through a licensed contractor.

9.0 Noise Emissions

The development area is contained within the Rural Resource Zone under the *Northern Midlands Interim Planning Scheme 2013* on a farming property. Establishing a tyre shredder within the development area will introduce a new noise source in addition to the existing uses and activities carried out on the site.

Accordingly, Vipac Engineers & Scientists Ltd (Vipac) was commissioned to undertake an Environmental Noise Assessment Report to determine the impact of the proposed tyre shredder on adjoining sensitive receptors. Vipac's Environmental Noise Assessment Report is included as Appendix H. Vipac is a professional acoustic engineering firm appropriately qualified to undertake noise modelling.

The closest sensitive receptor is located at 179 Woolmers Lane (CT 104175/2) which is approximately 950m north-east of the storage area.

For the purpose of this assessment Vipac:

- Developed an environmental noise model of the tyre shredder from the operation; and
- Predicted noise emission levels from the installation of the shredder at the site boundary and sensitive noise receiver locations.

Acceptable noise level limits (rural environment) as advised by the Environment Protection Authority are outlined in Table 6 below.

Table 6: Acceptable noise level limits (rural environment)

Period	Noise level limit
Night (10pm to 7am)	35 dBA
Evening (6pm to 10pm)	40 dBA
Day (7am to 6pm)	45 dBA

The operation will be generally between 6.00am and 6:00 pm Monday to Saturday.

Investigations undertaken by VIPAC, predicted that the noise levels at noise sensitive receptors, including the nearest ones, were all below 20dBA under neutral weather noise propagation conditions. This is below the recommended acceptable noise level of 45dBA for the daytime period. It is concluded that the predicted noise levels do not have potential to cause nuisance at nearby sensitive receptors.

10.0 Transport impacts

Table 7: Vehicle Movements

	Loads	Movements
VEHICLE MOVEMENTS PRE-SHREDDER OPERATION		
Deliveries of ELT to development area	3 per day **882 pa**	6 per day **1764 pa**
Light Vehicle for supervision of delivery	3 per day **864 pa**	6 per day **1728 pa**
VEHICLE MOVEMENTS POST SHREDDER OPERATION		
Prime Mover – transporting shredded tyre chips off-site	1 per day **240 pa**	2 per day **480pa**
Private vehicles from employees operating and managing tyre shredder	2 per day **480 pa**	4 per day **960 pa**
4WD Tractor & Trailer	Internal only	Internal only
Total		**4932 pa**

The use and development of land will generate approximately 4932 two-way vehicle movements per annum at maximum production. About 70 percent of these vehicle movements are already established as part of the permitted use P13-199.

On average there will be 6 two-way truck movements per day associated with the delivery and receipt of ELT. A light vehicle will usually be on site at the time ELT are unloaded from the trucks. This will generate a further 6 two-way vehicle movements per day, through employee vehicle movements and trucks transporting processed material off-site. The proposed delivery of ELT is estimated to generate 12 vehicle movements per day.

The operation of the tyre shredder on the site will add an estimated of 6 additional vehicle movements per day. All vehicles taking tyre chips will travel to their destination via the Midland Highway.

The additional vehicle movements will be confined to the main road network. Travel through Longford is limited to collection of ELT only. Noise and dust generated from vehicle movements are not expected to create any environmental nuisance.

11.0 Other off-site impacts

The tyre shredder will not operate on weekends. The receipt of ELT on Saturday is established in a working landscape. This is not expected to impact on sensitive uses or the amenity of the surrounding uses.

12.0 Hazardous substances and chemicals

There will be no hazardous substances or chemicals stored on the site. ELT collected from various retailers across Tasmania may have some contamination that could contain elements of hazardous substances and chemicals. Where contamination of this nature is considered likely, the Proponent will refuse collection.

The tyre shredder will be located on a hardstand and contained within the shed. The tyre shredder will require minimal oils and lubricants to be handled on-site for the day-to-day maintenance of this plant equipment.

Major maintenance and service of the tyre shredder will be undertaken by an external contractor. Oils and lubricants for a major service will provided by the contractor and not stored on-site.

Fuelling or maintenance of vehicles associated with the operation is not anticipated to be carried out within the development area.

13.0 Fire Risk

The storage of ELT tyres is largely an inert activity. Although, when tyres are lit by fire, whether accidentally or deliberate, adverse environmental impacts such as reduced air quality impacting on public health and contamination of land and water resources are a result.

The fire risks associated with this use and development are described in Appendix D. This Report and the Fire Emergency Plan has been compiled in conjunction with the Tasmania Fire Service.

These documents identify the strategies that will be employed to manage fire risk. The major strategies to manage fire risk are as follows:

- Emergency Plan outlining procedure to responding to a fire emergency;
- Maintenance of the existing fire break and bund;
- Stacking ELT in a pod formation in accordance with the *South Australian Fire Authorities, Community Safety Department (2014) Built Environs Section Guideline No. 13, General Guidelines for Rubber Tyre Storage*;
- Maintaining the irrigation line which provides water directly from the South Esk River to the development area;

- Maintaining land in a minimal fuel condition; and
- Continued surveillance over the development area by employees and farm managers of the property.

The irrigation line provides water directly from the South Esk River in absence of the ability to connect to a reticulated mains water system. This is operated by a pump which is plumbed to the required outlet within the development area. The Emergency Fire Plan (Appendix E) is located in a red box on site adjacent to the main gate of the development area. Copies of this Fire Emergency Plan are also kept within each vehicle accessing the development area, as part of the operation and the local Tasmania Fire Service. A copy of the Fire Emergency Plan will also be kept in the proposed shed. This provides clear instruction for the operation of the pump.

In the event that a tyre fire occurs within the development area (which includes the operations area), two collection ponds are constructed. These collection ponds are designed to collect run-off of water utilised for fire fighting purposes and have been engineered to have a capacity of approximately162KL each.

The capacity of these two collection ponds must meet the specifications under Section 5 of the *South Australian Fire Authorities, Community Safety Department (2014) Built Environs Section Guideline No. 13, General Guidelines for Rubber Tyre Storage* relating to the containment of fire fighting water. Section 5 specifies that fire fighting water is to be contained at a rate of 30l/s for 90 minutes. This equates the collection ponds having a capacity to store 162KL. The two collection ponds have a combined volume exceeding 300KL, exceeding the specification of Section 5.

A trench is located around the northern perimeter of the site connecting the two collection ponds. The natural contours will drain fire fighting water to the trenches and direct to the collection ponds. Each collection pond is fitted with a valve, ensuring that this water can be contained. The layer of clay soil within each collection ponds acts as an impervious surface ensuring that groundwater resources are not contaminated.

While it is unlikely for groundwater resources will be affected, localised contamination of the surface soils of a consequent fire may result, given the likely degradation of tyres when lit releasing oily compounds which then permeate into the soils. In the event of a fire, inspection of the localised area will be undertaken. [If contamination has occurred, contaminated ground will be excavated and appropriately disposed of at an appropriate waste disposal facility or remediated on site with separate and prior approval of the EPA.

Additionally the following fire safety precautions are in place:

- There will be no hot work activities such as oxy cutting, welding and grinding undertaken within the operations area;
- Machinery and vehicles will be inspected on a regular basis in relation to potential fires and sparking.
- Smoking will be prohibited within the operations area;
- There will be no storage of flammable or combustible liquids, hazardous waste, or other easily ignitable materials within 30 metres of any tyre storage.

14.0 Site Contamination

The Proponent leases the development area from the property owner. The land has a long history as a farming property with the development area largely utilised for grazing as it is not suitable for irrigated pasture. There is no known contamination associated with the development area.

The storage of ELT is unlikely to create a source of contamination. The tyre shredder will be contained on a hardstand and powered by electricity. Fuelling or maintenance of vehicles associated with the operation is not anticipated to be carried out within the development area.

The storage of ELT is largely an inert activity although when tyres are lit by fire, whether accidentally or deliberate, adverse environmental impacts can occur. Water used to extinguish a fire of burning tyres becomes contaminated and if released as run-off, could have a detrimental impact on groundwater resources.

A trench is located around the northern perimeter of the site connecting the two collection ponds. The natural contours will drain fire fighting water to the trenches and direct to the collection ponds. Each collection pond is fitted with a valve, ensuring that this water can be contained. The layer of clay soil within each collection pond acts as an impervious surface ensuring that groundwater resources are not contaminated.

While it is unlikely for groundwater resources will be affected, localised contamination of the surface soils of a consequent fire may result. In the event of a fire, inspection of the localised area will be undertaken. If contamination has occurred, contaminated ground will be excavated and appropriately disposed of at an appropriate waste disposal facility or facility or remediated on site with separate and prior approval of the EPA.

15.0 Sustainability and climate change

The tyre shredder and storage of ELT will contribute to greenhouse gas emissions. The placement of the tyre shredder within the development area means that energy consumption associated with transport costs can be considerably reduced. Energy consumption will be minimised by:

- Tyre shredder not left idling while not in use;
- Vehicles not left running during the unloading of ELT; and
- Regular maintenance and review of equipment to ensure it is operating efficiently.

The conversion of ELT to new product will, however, divert ELT from landfill and has benefits in terms of reduction of fossil fuels wasted, albeit unquantified.

16.0 Cultural heritage

The homestead associated with Rhodes is listed on the Tasmanian Heritage Register. Rhodes is located approximately 1.5km to the north of the development area. The storage of ELT and tyre shredder are not anticipated to have impact on the homestead.

The development area of the site utilises marginal farming land that is setback more than 2km from Woolmers Estate World Heritage Area. Impacts on this World Heritage Area are not forecast.

Aboriginal Heritage Tasmania (AHT) completed a search of the Aboriginal Heritage Register. AHT has advised via email on 11 July 2016 (contained in Appendix I) that there are no Aboriginal heritage sites recorded within or close to the property. This also concluded that the area has a low probability of Aboriginal heritage present.

17.0 Sites of high public interest

Woolmers Estate is a World Heritage Area and is a site of public interest. The proposed use and development land is not expected to impact on this Estate.

Vehicle movements will be via Woolmers Lane, traveling to Longford or the Midlands Highway. The preferred transport route for tyre chips will be via the Midlands Highway. This will have no impact on Woolmers Estate.

Vehicle movements generated from the use and development from the development area to Longford are already established. The additional vehicle movements will predominately travel via the Midlands Highway. Vehicle movements will only be generated from Longford via Woolmers Lane when ELT have been collected from the town itself.

18.0 Rehabilitation

Over time, as the tyre storage area decreases, the development area will simply convert to use for grazing purposes. The storage of ELT is an inert activity that will have no long term impact on the land as an agricultural resource.

There is the potential that once the existing tyre stockpile is removed and the development area is decommissioned, the tyre shredder will be removed from the site and relocated elsewhere. If this were to occur, the shed will remain and will be utilised by the property owner as an agricultural shed. It is anticipated that the tyre shredder, however, will continue to operate post 31 December 2020.

If a tyre fire occurs and there is soil contamination, the Proponent will carry out soil sampling and other work as required to ensure that any contamination can be treated appropriately.

PART D – MANAGEMENT COMMITMENTS

No	Commitment	Frequency	By Whom
1	Emergency Fire Plan stored on site. Copies also provided to the TasFire Service.	Ongoing	Property owner Proponent
2	Review of Emergency Fire Plan	Biannually	TasFire Proponent
3	Run sheep through the development area to ensure that the land is kept in low fuel conditions	Ongoing	Property owner Proponent
4	Gorse within the development area removed.	Biannually	Property owner Proponent

5	Ensure water irrigation line is maintained in good working order for firefighting.	Current	Property owner Proponent
6	Ensure collection pond valves are in good working order.	Quarterly	Proponent
7	Bunds and fire breaks around the development area are maintained.	Biannually	Property owner Proponent
8	Soil sampling and analysis undertaken after a fire incident where detention ponds were filled	On decommissioning	Property owner Proponent
9	Scraping detention ponds after a fire event with an excavator	Fire Event	Property owner Proponent

PART E – PUBLIC CONSULTATION

During the preparation of this application, a number of agencies and stakeholders were consulted. These are as follows:

- Environment Protection Agency;
- Northern Midlands Council;
- Tasmanian Fire Service; and
- Property owner.

Previously, consultation for the storage of ELT on the subject site was also undertaken through the public notification of the Planning Permit 13-199. The public notification period of this application did not attract any representations objecting to the proposal.

The proposal to establish a tyre shredder and the continued storage of ELT on the site processing more than 200 tonnes per year is considered a level 2A Activity under the *Environmental Management and Pollution Control Act 1994*. This application must be assessed by the Board of the Environment Protection Authority and pursuant to Section 57 of the *Land Use Planning Approvals Act 1993*. The application will be placed on public notification as part of the assessment of the Section 57 application.

Appendix A

Controlled Waste Handler Certificate of Registration

EPA TASMANIA
ENVIRONMENT PROTECTION AUTHORITY

SCANNED

CONTROLLED WASTE HANDLER CERTIFICATE OF REGISTRATION

Issued under regulation 10 of the *Environmental Management and Pollution Control (Controlled Waste Tracking) Regulations 2010*

S.E Chugg & T.D Chugg

Trading As
Tyre Recycle Tasmania

ABN No. 27 138 386 022

Controlled waste handler registration no. CWTEMP054TA

The above entity is registered as a:

controlled waste transporter; and

controlled waste agent.

The above entity is authorised to handle the following controlled waste categories:

Waste code	Waste category
T140	Tyres

The registration of the controlled waste handler is subject to the conditions specified on attachment A to this certificate.

A/Director, Environment Protection Authority

13/11/2010
Date

Ultimate Play

Playground Installers of Tasmania

ABN: 42 559 336 415

3rd th November 2016

To whom it may concern,

Ultimate Play is a rapidly growing Tasmanian company specialising in playground design, sales, installation and soft-fall surfacing.

The Directors and staff of Ultimate Play have been involved in the playground industry for in excess of 15 years. Over this time, they have had to source their refined granulated rubber products from various suppliers on the mainland of Australia and also from overseas. At time purchasing 20-foot shipping containers of granulated rubber products from international manufactures and unfortunately sending hard earned Australian dollars overseas.

Ultimate Play prides itself on employing local staff and supporting the local economies wherever possible. We understand the flow on benefits that keeping as much of the money in the local economic system as possible. Everyone benefits, from the local take away shops providing food for workers, to the management positions that are kept productive by utilising locally sourced value added products. Every dollar spent in the local economy has a multiplier effect associated to it. At Ultimate Play we wish to see business of all sizes benefit from the utilisation of local suppliers.

We see a fantastic opportunity to work with Tyre Recycle Tasmania. A local company, value adding what would otherwise be a waste product into a viable, locally available valuable resource. Currently we spend nearly as much on freight charges as we do on raw product. This in turn has a detrimental effect on the selling price of our final product and thus a negative impact on the amount of product that we are able to sell.

By being able to decrease costs associated with freight charges we envisage being able to reduce the final finished product pricing to our customers and as a result increase volumes and sales of our wet pour rubber surfacing. This would be of significant benefit to Ultimate Play, Tyre Recycle Tasmania and all of Tasmania, creating a win-win situation both economically and environmentally.

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0407 293 113

belinda@ultimateplay.com.au
0408 833 384

Ultimate Play

Playground Installers of Tasmania

ABN: 42 559 336 415

We also see great opportunities of being an exporter of the value added granulated products into the mainland markets. The increased awareness of playground safety and Australian Standards associated with attenuating surfacing being brought to the fore, the demand for wet pour rubber surfacing will only increase over the coming years. What a great opportunity exists for a local Tasmanian owned and operated company to establish itself in this evolving market space.

The prospect of being able to source our rubber for both soft-fall and wet-pour applications from a Tasmanian producer is very exciting and something that we have hoped for since we started operation. Ultimate Play intend to utilise locally produced materials made available from Tyre Recycle Tasmania as soon as they are able to produce them. We are excited to contemplate the new products and services that we may be able to provide to our Tasmanian schools, community groups, not-for-profit organisations and local councils. Turning what may have been once a waste product and lost resource into fantastic opportunities.

We urge all Tasmanians and businesses to support this fantastic initiative from a Tasmanian owned and operated company and our hope is that this self-funded venture is able to be supported and progressed as soon as possible so that we all may benefit from the venture.

Kind Regards,

Peter Davey

Managing Director

tony@ultimateplay.com.au
0455 336 646

peter@ultimateplay.com.au
0407 293 113

belinda@ultimateplay.com.au
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File No: SF5218

7 December 2016

Mr Timothy Chugg
Director
TD & SE Chugg Pty Ltd
PO Box 292
Longford TAS 7301

Dear Mr Chugg,

2016/2017 RESOURCE RECOVERY AND WASTE MINIMISATION GRANTS APPLICATION: *ELIMINATE STOCKPILES OF SCRAP TYRES BY PROCESSING INTO MOULDED PRODUCTS AND ASPHALT ADDITIVE*

Thank you for submitting the above application to the Northern Tasmanian Waste Management Group's (NTWMG) 2016/17 *Resource Recovery and Waste Minimisation Grants program.*

Your application was assessed by a panel of two representatives from the NTWMG in November 2016. Following this, a shortlist of applicants was presented to the NTWMG committee meeting on 25 November 2016.

I am pleased to advise your application for funding has been successful. Your organisation will receive a grant totalling $50,000 (ex-GST) in one payment following the completion of your project. Your project must be completed by 7 December 2017 and is subject to the following conditions, in addition to the Grant Application Conditions (attached to this letter):

Conditions to be met before the grant payment is made:

Before your project commences, your organisation must:

1. provide a signed copy of the grant acceptance declaration.
2. provide copies of insurances held (both workers compensation and public liability).
3. agree to a commercial viability check to be undertaken by the City of Launceston.
4. attain EPA and relevant council planning/building approvals or provide written evidence that such approvals are not required. If this information is not provided to the NTWMG by 30 June 2017, the funding offer will be rescinded.

Once your project has been completed, your organisation must:

5. provide evidence of expenditure incurred as part of this project. The grant payment will only be made once the project is complete and all expenditure incurred. Evidence of expenditure in the form of tax receipts will be required to prove expenditure.

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6. provide a final report at the project's conclusion, including copies of any education materials used. (Note that a report template will be provided by the NTWMG.)
7. repay the grant funds if the project fails to operate for at least two years following successful completion of the project.

The intention of the NTWMG funding program is to provide seed funding for projects that will increase recycling and waste diversion. Projects funded through this year's program will be ineligible for funding in future years for any ongoing operational or management costs.

However, I encourage your organisation to consider applying for funding for alternative projects or projects that expand or build on the success of this project in future funding rounds.

I would like to draw your attention to the *Grant Application Conditions* (attached to this letter and outlined in the funding application form) which outline the terms and conditions of this grant.

Congratulations on the success of your application. If you wish to discuss anything in this letter or would like assistance with any aspect of your project, please contact Michael Attard, Waste and Environment Officer, on 6323 3394 or michael.attard@launceston.tas.gov.au.

Yours sincerely,

Harry Galea
CHAIR, NTWMG

Contacts:
Telephone (03) 6323 3349
E-mail Harry.Galea@launceston.tas.gov.au

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2015/16 NTWMG RESOURCE RECOVERY AND WASTE MINIMISATION GRANTS

GRANT APPLICATION CONDITIONS

Grants offered to successful applicants are subject to the following conditions:

- Successful applicants will be required to enter into a funding agreement with the NTWMG.
- Funding will not be granted to projects prior to a funding agreement being signed with the NTWMG or before some other formal approval by the NTWMG.
- Funds must be spent on the project as described in the application and as outlined in the funding agreement, and the project must meet best practice standards. Failure to do so may result in a reduction or withdrawal of funding.
- There is to be no deviation from the funded project prior to and unless approved by the NTWMG. The applicant acknowledges that any alterations to the project may result in a reduction or withdrawal of funding.
- Funding will be provided to successful applicants in multiple payments. Successful schools, not-for-profit community organisations and local governments will receive an upfront payment of 50% of the grant amount. Unless determined otherwise by the NTWMG, all other successful applicants will receive payment once the project has commenced and expenditure has been incurred. Before payments to other organisations are made, and before final payments to schools, not-for-profit organisations and local governments are made, all costs associated with each respective stage of the project must have been incurred and evidence of expenditure must be provided in the form of tax invoices.
- Projects must be finished within twelve months from the date of funding offer or funding may be withdrawn. Any applicants who have funding withdrawn are eligible to apply again in any following funding rounds.
- Applicants who were previous NTWMG grant recipients will only be considered for funding if they have completed their previously funded projects. Funding to previous grant recipients will only be provided for new projects or projects which build on previously completed projects.
- Applicants must meet eligibility criteria as specified in the 2016/17 Resource Recovery and Waste Minimisation Grants Guidelines.
- Successful applicants are required to provide the NTWMG with satisfactory progress reports (verbal or written) throughout the duration of the project.
- Successful applicants are required to provide the NTWMG with a satisfactory final evaluation report twelve months after the completion of the project.
- Successful applicants must acknowledge the support of the NTWMG in all project communications and the NTWMG must be notified about any public communication made by the applicant about the funded project.
- Project information provided by successful applicants will be used by the NTWMG for program evaluation purposes and case studies that may be used by the NTWMG in future communications.
- Shortlisted commercial/private applicants may need to pass a financial viability check if required by the NTWMG.
- Applicants must carry out their work with professional skill, care and diligence and in accordance with all laws, codes and standards.
- Applicants must provide any information, report, statement or declaration relating to the project within 14 days of a written request from the NTWMG.
- Applicants must be, and continue to be, solvent and financially viable to the satisfaction of the NTWMG in order to receive funding. Applicants will be ineligible, or the NTWMG will withdraw any funding offer or terminate any funding agreement, if, in the opinion of the NTWMG, the applicant is not solvent and financially viable.
- The funding grant may be terminated by the NTWMG by giving written notice to the applicant if the applicant fails to comply with the conditions of this grant; provides false or misleading information; or becomes financially insolvent. If the grant is terminated, the NTWMG reserves the right to demand repayment of any grant monies paid.

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- The applicant hereby indemnifies and agrees to keep indemnified the NTWMG from and against all or any actions, claims, demands, losses, damages costs and expenses for which the NTWMG shall or become liable in respect of or arising from any breach by the applicant or its servants and agents or any person of its obligations under the grant.
- The NTWMG is not liable to the applicant in any circumstance whatsoever for any consequential, indirect or incidental loss, special loss or damage or economic loss, loss of revenue, loss of production or loss of profit (whether direct or indirect).

By submitting a grant application, you agree:

- that you are bound by these conditions
- that you will lodge your application using the prescribed application form, by the closing time and date, in accordance with the lodgement method outlined in the grant documents. Late applications will not be accepted, except as outlined in the guidelines
- that these conditions, together with the guidelines and the application form and any other documents specified by the NTWMG, form part of the grant
- to submit all documents as required by the grant guidelines and application form
- that the grant application documents become the NTWMG property upon lodgement
- to license the NTWMG to use and reproduce the whole or any portion of the application documents for evaluation and audit purposes.

The NTWMG will:

- send an email confirming electronic receipt of applications
- reject applications received after the closing time and date, except in accordance with the NTWMG's procedures
- assess applications against the evaluation criteria and determine which applications will be funded
- advise the outcome of the grant process
- not be liable for any deficiency within the guidelines and application form or other associated documents
- not warrant the accuracy of the guidelines and application form.

The NTWMG may:

- change any details in the guidelines and application form
- extend the closing time
- reject any application that does not meet the eligibility criteria
- contact other local government agencies or departments or any other relevant person to obtain additional information
- negotiate with one or more applicants to change any aspect of their application
- accept the whole or any part of your grant application.

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2016/17 NTWMG RESOURCE RECOVERY AND WASTE MINIMISATION GRANTS

GRANT OFFER ACCEPTANCE DECLARATION

Please complete and sign the parts A, B and C of the declaration below and return to:

Michelle Ogulin
Natural Environment Officer – Strategy
NTWMG
PO Box 396
Launceston 7250

PART A: Agreement

- I agree to submit a short report twelve months after the initial establishment of the funded program or project outlining the current state of the program or project.
- I agree to provide copies of workers compensation and public liability insurances held before any grant payment is made.
- I understand that the final grant payment will not be made until:
  - I provide evidence of expenditure incurred
  - I provide a final report on the outcomes of the project
  - My organisation commits, to the best of its ability, to continue with the funded project into the future
- I understand the project is to be completed and all information provided by close of business 30 June 2017.
- Where requested by the NTWMG, I agree to facilitate the NTWMG waste assessors to attend the project site for a pre and post-program waste assessment to demonstrate the effectiveness of the implemented infrastructure, education or awareness raising programs (this will be at no cost to the successful applicant).

☐ **I declare that, as an authorised person, my organisation will meet these terms.**

PART B: Financial viability assessment

- I agree to the NTWMG, through the City of Launceston, undertaking a financial viability assessment of my organisation.
- I agree to submit financial documentation as requested by, and to the satisfaction of, the NTWMG to enable this assessment to occur.
- I understand financial information my organisation provides will be kept confidential by the NTWMG and the City of Launceston.

☐ **I declare that, as an authorised person, my organisation will meet these terms.**

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PART C: Declaration – By checking the box and signing below, I declare that:

- I confirm my organisation agrees to accept the offer of grant funding, subject to the conditions in the letter and in the Grant Application Conditions on pages three and four of the letter of offer.
- I confirm that the project for which funding has been awarded has not yet commenced.
- the information in my application and attachments is, to the best of my knowledge, true and correct and agree to the grant application conditions.
- I will notify the NTWMG of any changes to this information and any circumstances that may affect this project.
- I acknowledge the NTWMG may refer this application to external experts or other local government departments or agencies for assessment, reporting, advice, comment or for discussions regarding alternative or collaborative grant funding opportunities.
- I understand the NTWMG is subject to the Right to Information Act 2009 and that if a Right to Information request is made, the NTWMG will consult with the applicant before any decision is made to release the application or supporting documentation.
- The costs for the project outlined in the project budget in the submitted application are a true and correct record/assessment of the relevant costs associated with the approved project.

☐ **I declare that, as an authorised person, my organisation will meet these terms.**

Signature:		**Date:**	
Print name:		**Position:**	

(To be signed by a person with delegated authority – i.e. chairperson, secretary, public officer or treasurer of the applicant organisation.)

SECTION 421 - BITUMEN CRUMB RUBBER ASPHALT

##This section cross-references Section 407.
If Section 407 is relevant, it should be included in the specification.
If Section 407 is not included in the specification, all references to it should be struck out, ensuring that the remaining text is still coherent:

421.01 GENERAL

This section is a supplement to Standard Section 407 - Asphalt and covers special requirements for Bitumen Crumb Rubber Asphalt that are in addition to, or override the requirements of Section 407.

421.02 DESCRIPTION

Bitumen Crumb Rubber Asphalt is asphalt which contains crumb rubber obtained from tyre shredding to improve flexural and elastic recovery properties of an asphalt layer.

421.03 AGGREGATES

Unless otherwise specified, properties of the aggregates used in Bitumen Crumb Rubber Asphalt shall comply with the requirements specified in Clause 407.03.

421.04 FILLER

Added filler shall be hydrated lime.

421.05 GRANULAR CRUMB RUBBER

(a) General Requirement

Granular crumb rubber shall consist of synthetic rubber from car tyres or natural rubber from truck tyres or a mixture of both and shall be free from cord, wire, fluff and other deleterious material.

(b) Grading and Particle Size

The grading shall comply with Table 421.051 and shall not contain particles greater than 3 mm in length.

Table 421.051

Sieve Size AS (mm)	1.18	0.600	0.150
Percentage Passing (by mass)	100	80 - 100	0 - 20

(c) Bulk Density

The maximum bulk density shall not exceed 350 kg/m3 as determined by the ARRB Transport Research test method described in AIR 286-3.

421.06 MIX DESIGN REQUIREMENTS

(a) Mix Design

The asphalt mix proposed for use shall be registered in accordance with Clause 407.06.

The Contractor shall also submit Marshall Stability and Marshall Flow properties.

(b) Grading

Unless otherwise specified, the grading of aggregate with added filler after mixing but before compaction, and the proportions of aggregate, added filler, granular crumb rubber and bitumen in the mix shall comply with Tables 421.061 and 421.062.

Table 421.061 Grading of Aggregate with Added Filler

Sieve Size AS (mm)	Percentage Passing (by Mass)	
	Mix Size 14	Mix Size 10
19.0	100	-
13.2	90 – 100	100
9.5	65 – 75	90 - 100
6.7	40 – 50	64 – 74
4.75	30 – 40	36 – 46
2.36	15 – 25	20 – 30
1.18	10 – 19	12 – 22
0.600	7 – 15	8 – 17
0.300	5 – 10	6 – 11
0.150	4 – 8	4 – 8
0.075	3 – 5	3 – 5

Table 421.062 Proportions of Aggregate, Added Filler, Granular Crumb Rubber and Bitumen

Sieve Size AS (mm)	Percentage Passing (by Mass)	
	Mix Size 14	Mix Size 10
Aggregate	86 - 89	86 – 89
Added Filler	1.0 - 2.0	1.0 - 2.0
Granular Crumb Rubber	2.5 - 3.0	2.5 - 3.0
Bitumen	7.5 - 9.0	7.5 - 9.0

(c) Marshall Test Properties

The Marshall cylinder test properties of the mix shall comply with Table 421.063.

Table 421.063

Size	Stability (kN) (min)	Flow (mm)	Air Voids (%)	Voids in Mineral Aggregates (min) (%)	Bitumen Film Thickness (microns)
14	3.0	3.0 - 5.5	5.0 - 6.5	27	19 - 25
10	2.5	3.0 - 5.5	5.0 - 6.5	27	19 - 25

Notes: 1. For purposes of calculation of Voids in Mineral Aggregates, granular crumb rubber is not considered as part of the aggregates.

2. Bitumen film thickness shall be calculated as bitumen distributed over the surface of the aggregates including granular crumb rubber.

421.07 MIXING AND MIXING TEMPERATURES

(a) Granular crumb rubber is added to the mix before the binder (Dry Mixing).

A pugmill batch mixing plant shall be used.

The temperature limits shall be 20°C higher than those shown in Table 407.081.

Following discharge of aggregate and filler into the mixer, the required quantity of granular rubber shall be added and dry mixed for a minimum period of 10 seconds.

Following addition of bitumen, the whole mixture shall be mixed for a minimum of 60 seconds or until the whole of the mix is homogeneous and proper digestion of the rubber into the bitumen has occurred.

(b) Granular crumb rubber / bitumen binder has been pre-blended prior to being added to the mix (Wet Mixing).

The mixing plant may be a drum plant or a pugmill batch plant.

The crumb rubber bitumen mixture shall not contain carrier oils, cutters or flux oils.

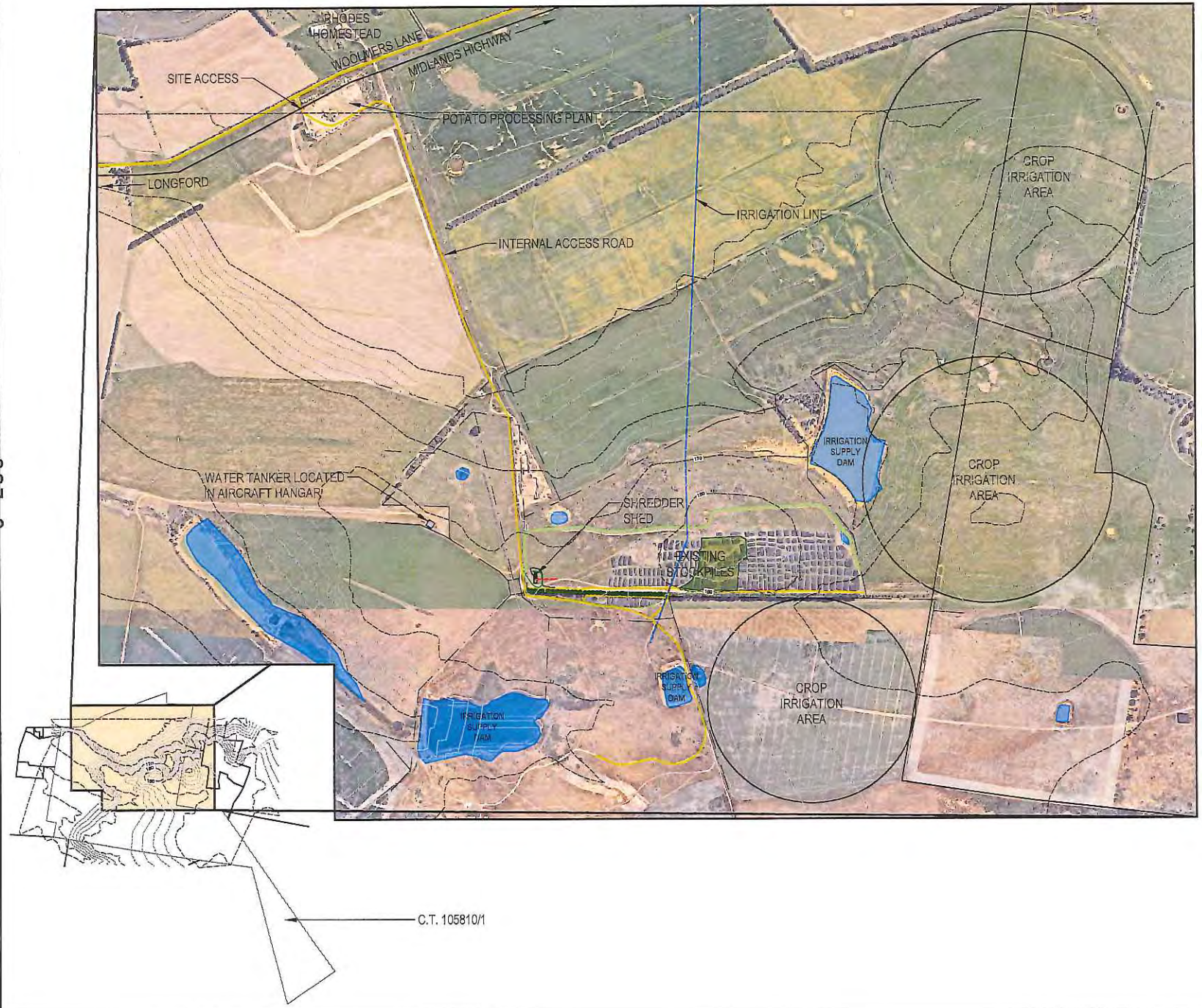
The temperature limits shall be 20°C higher than those shown in Table 407.081.

421.08 AMBIENT CONDITIONS FOR PLACING

Bitumen Crumb Rubber Asphalt shall not be placed when the pavement temperature is less than 15°C.

Appendix B

Proposal Plans



3–250

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P (03) 6332 3333

57 Best Street
Devonport Tasmania
P (03) 6424 7161

ISSUE	DATE	ISSUED FOR	REV
01	00.00.00	INFORMATION	-

DIMENSIONS ARE IN METRES. DO NOT SCALE. CHECK AND VERIFY ALL DIMENSIONS ON SITE. REFER DISCREPANCIES TO THE SUPERINTENDENT. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH APPLICABLE AUSTRALIAN STANDARDS & LOCAL AUTHORITY REQUIREMENTS.

PROJECT: TYRE RECYCLE TASMANIA
TYRE RECYCLING PLANT
TYRE SHREDDER SHED
AT: 437 WOOLMERS LANE
LONGFORD

DRAWING: SITE PLAN
TITLE BOUNDARY

DESIGNED P.M.W. DRAWN J.E.P. CHECKED P.M.W.

SCALES 1:5000 AT A1 SIZE DRAWING SHEET

PROJECT No 15.242 DRAWING No C01 REV -

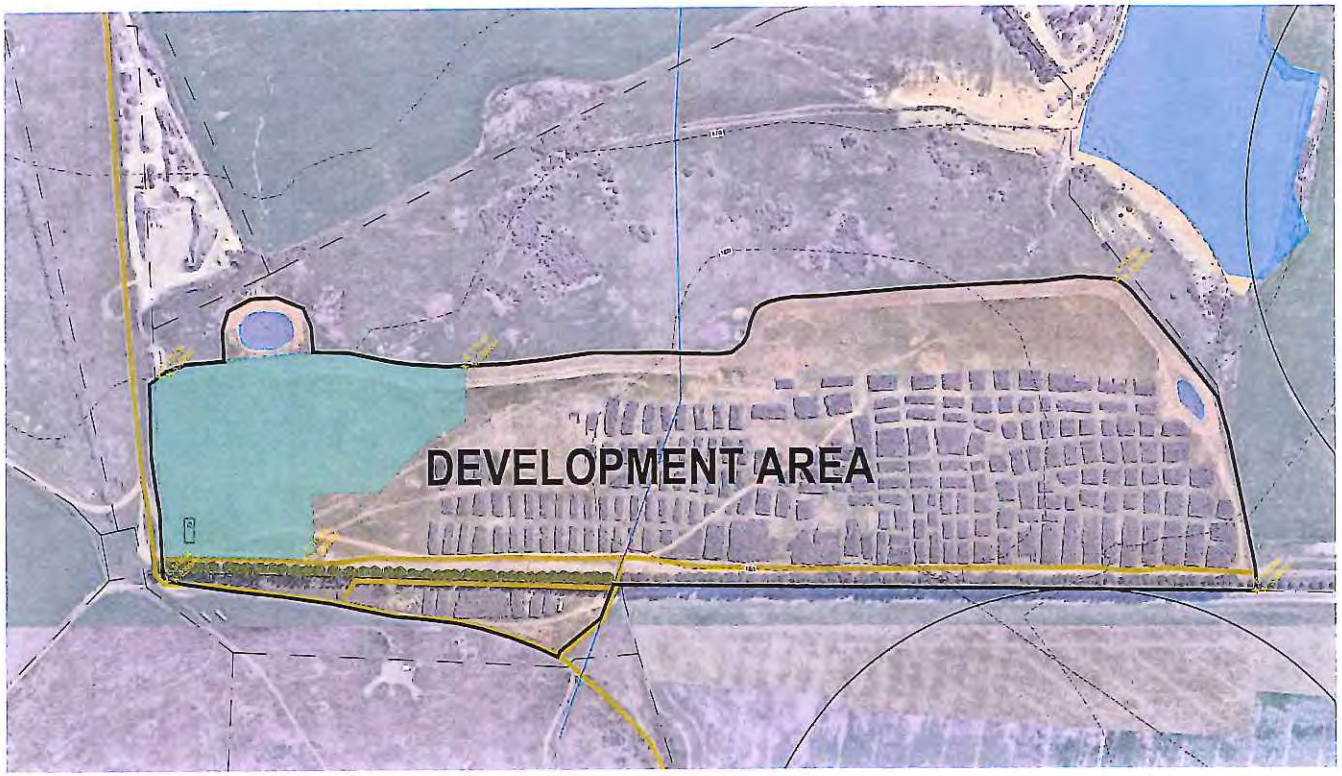
3-251

N

LEGEND

DEVELOPMENT AREA

OPERATIONS AREA



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ISSUE	DATE	ISSUED FOR	REV.
01	06.06.23	INFORMATION	-

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PROJECT: TYRE RECYCLE TASMANIA
TYRE RECYCLING PLANT
TYRE SHREDDER SHED

AT: 437 WOOLMERS LANE
LONGFORD

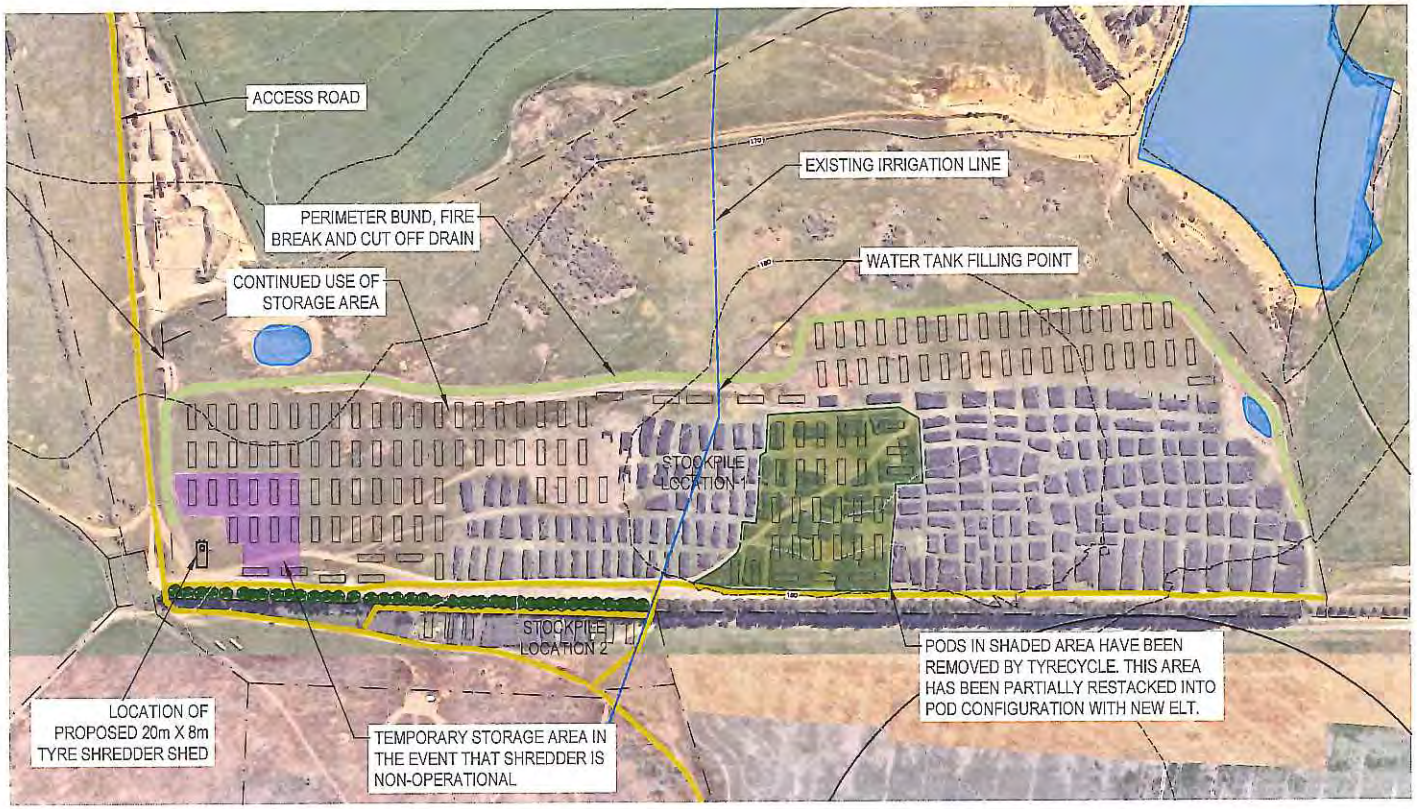
DRAWING: DEVELOPMENT AREA
PLAN

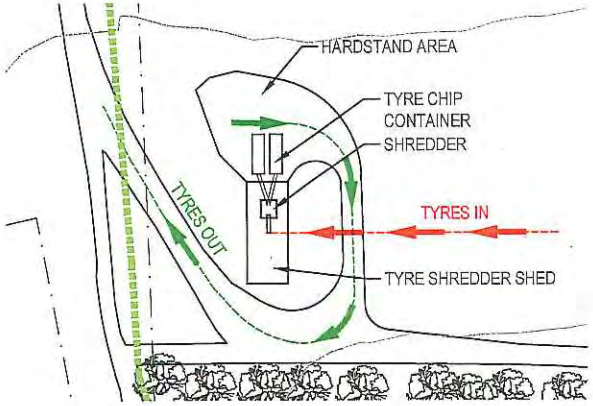
DESIGNED: P.M.W. DRAWN: M.C.V. CHECKED: P.M.W.

SCALES: 1:2000 AT A1 SIZE DRAWING SHEET

PROJECT No. 15.242 DRAWING No. C02 REV. -

3-252





TRAFFIC MOVEMENT

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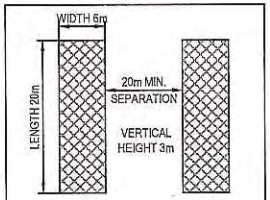
ISO 9001 Approved Company



POD CONFIGURATION PLAN

ISSUE	DATE	DESCRIPTION	REV
01	00.00.00	INFORMATION	-

DIMENSIONS ARE IN METRES. DO NOT SCALE. CHECK AND VERIFY ALL DIMENSIONS ON SITE. REFER DISCREPANCIES TO THE SUPERINTENDENT. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH APPLICABLE AUSTRALIAN STANDARDS & LOCAL AUTHORITY REQUIREMENTS.

PROJECT: TYRE RECYCLE TASMANIA
TYRE RECYCLING PLANT
TYRE SHREDDER SHED
AT: 437 WOOLMERS LANE
LONGFORD

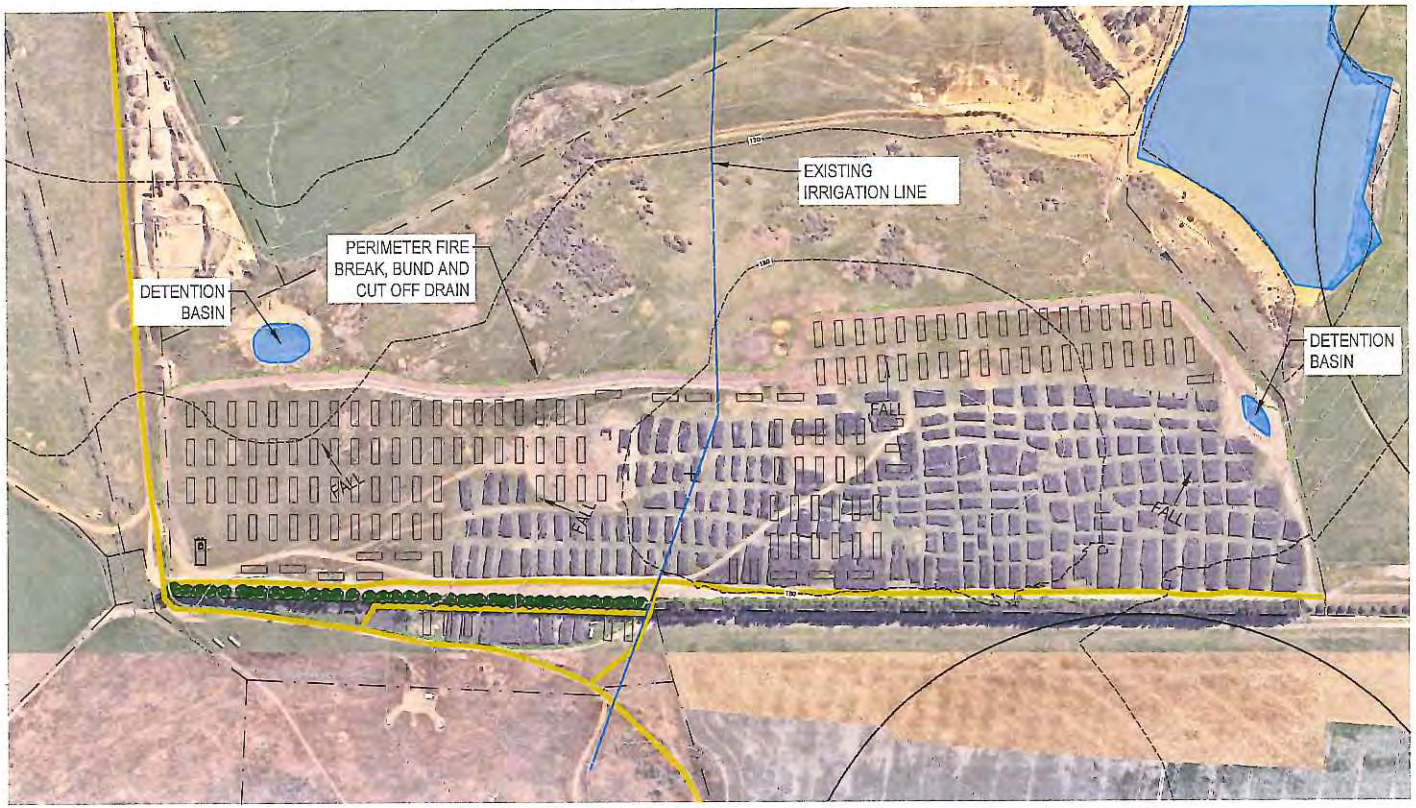
DRAWING: SITE PLAN

DESIGNED P.M.W. DRAWN J.E.P. CHECKED P.M.W.

SCALES 1:2000 AT A1 SIZE DRAWING SHEET

PROJECT No 15.242 DRAWING No C03 REV -

3-253



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ISSUE	DATE	ISSUED FOR	REV
01	03.08.09	INFORMATION	-

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PROJECT: TYRE RECYCLE TASMANIA
TYRE RECYCLING PLANT
TYRE SHREDDER SHED

AT: 437 WOOLMERS LANE
LONGFORD

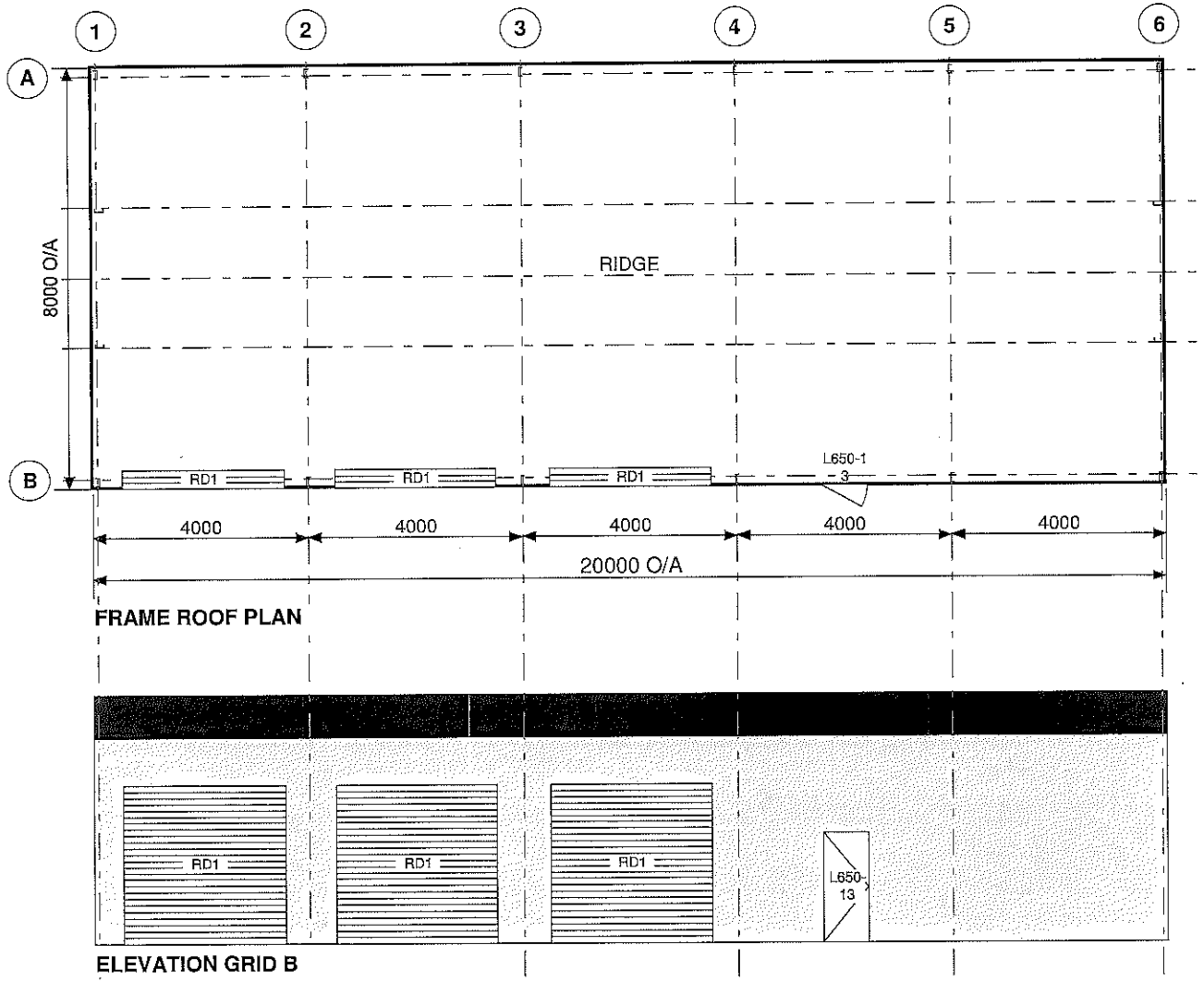
DRAWING: DRAINAGE PLAN

DESIGNED P.M.W. DRAWN M.C.V. CHECKED P.M.W.

SCALES 1:2000 AT A1 SIZE DRAWING SHEET

PROJECT No 15.242 DRAWING No C04 REV -

3-254



FRAME ROOF PLAN

ELEVATION GRID B

Cont. on page 2

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CLADDING

ITEM	PROFILE (min)	FINISH	COLOUR
ROOF	CUSTOM ORB 0.42 BMT	CB	AA
WALLS	TRIMDEK 0.42 BMT	CB	AA
CORNERS	-	CB	AA
BARGE	-	CB	AA
GUTTER	HI-QUAD	CB	AA

0.35bmt=0.40tct; 0.42bmt=0.47tct; 0.48bmt=0.53tct

ACCESSORY SCHEDULE & LEGEND

QTY	MARK	DESCRIPTION
3	RD1	Steel-Line R.D, Manual "A", 2925 high x 3000 wide Clear Opening C/B
1	L650-13	Larnec Door & Frame Kit, 650/37, Std. 2040 x 820 C/Bond

ARCHITECTURAL DRAWING ONLY, NOT FOR CONSTRUCTION USE

WIND DESIGN

IMPORTANCE LEVEL	REGION	TERRAIN	Ms
2	A	2.5	1.0

CLIENT
Tim Chugg

SITE
5 Blackwood Drive
LONGFORD TAS 7301

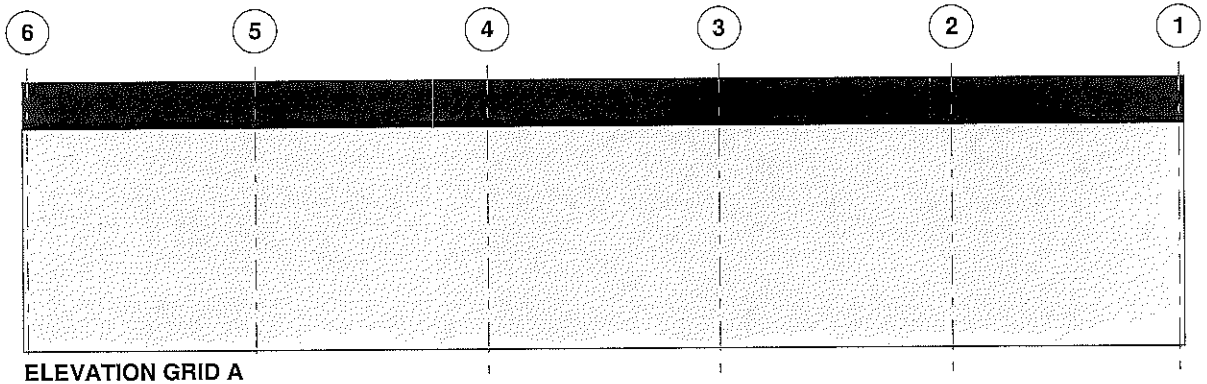
BUILDING
SUNDOWN DELUXE
8000 SPAN x 4000 EAVE x 20000 LONG

TITLE
GENERAL ARRANGEMENT

LICENSE NO: CC2747G

SCALE	DRAWING NUMBER	PAGE
A4 SHEET 1:125	LAUNC3-6334	1/3

Cont. on page 1



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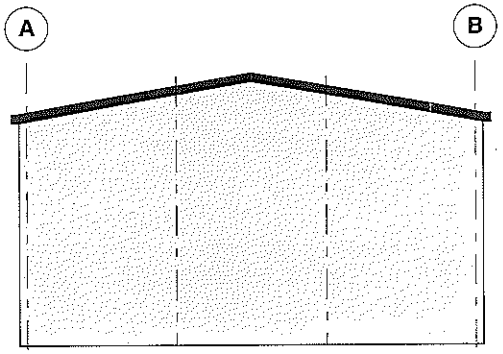
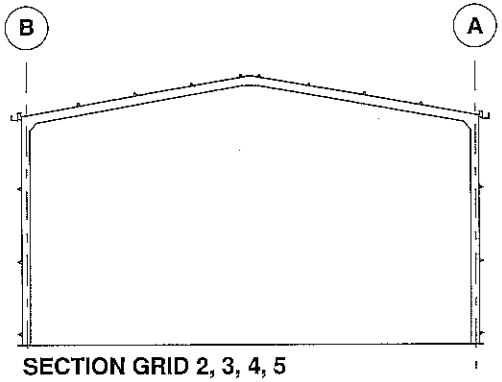


ELEVATION GRID 1



SECTION GRID 2, 3, 4, 5

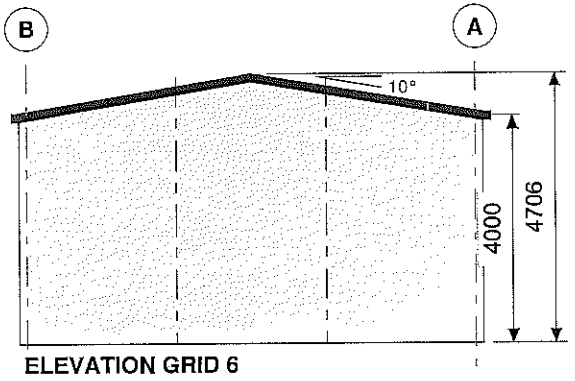
3-255

RANBUILD
Better sheds. Bigger choice.

Cont. on page 3

SCALE	
A4 SHEET 1:125	
DRAWING NUMBER	PAGE
LAUNC3-6334	2/3

Cont. on page 2



ELEVATION GRID 6

3-256

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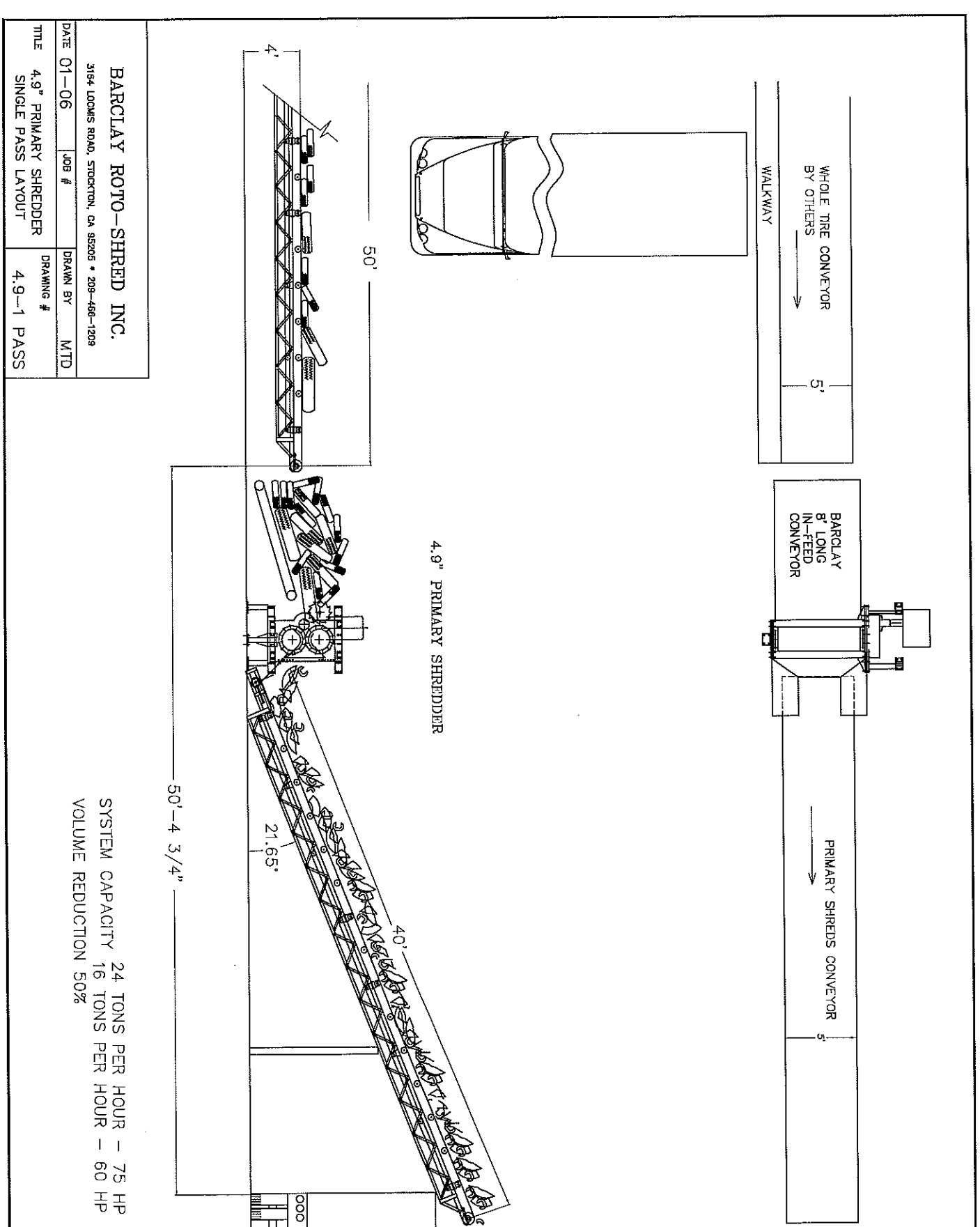
SCALE	
A4 SHEET 1:125	
DRAWING NUMBER	PAGE
LAUNC3-6334	3/3



BARCLAY ROTO-SHRED INC.

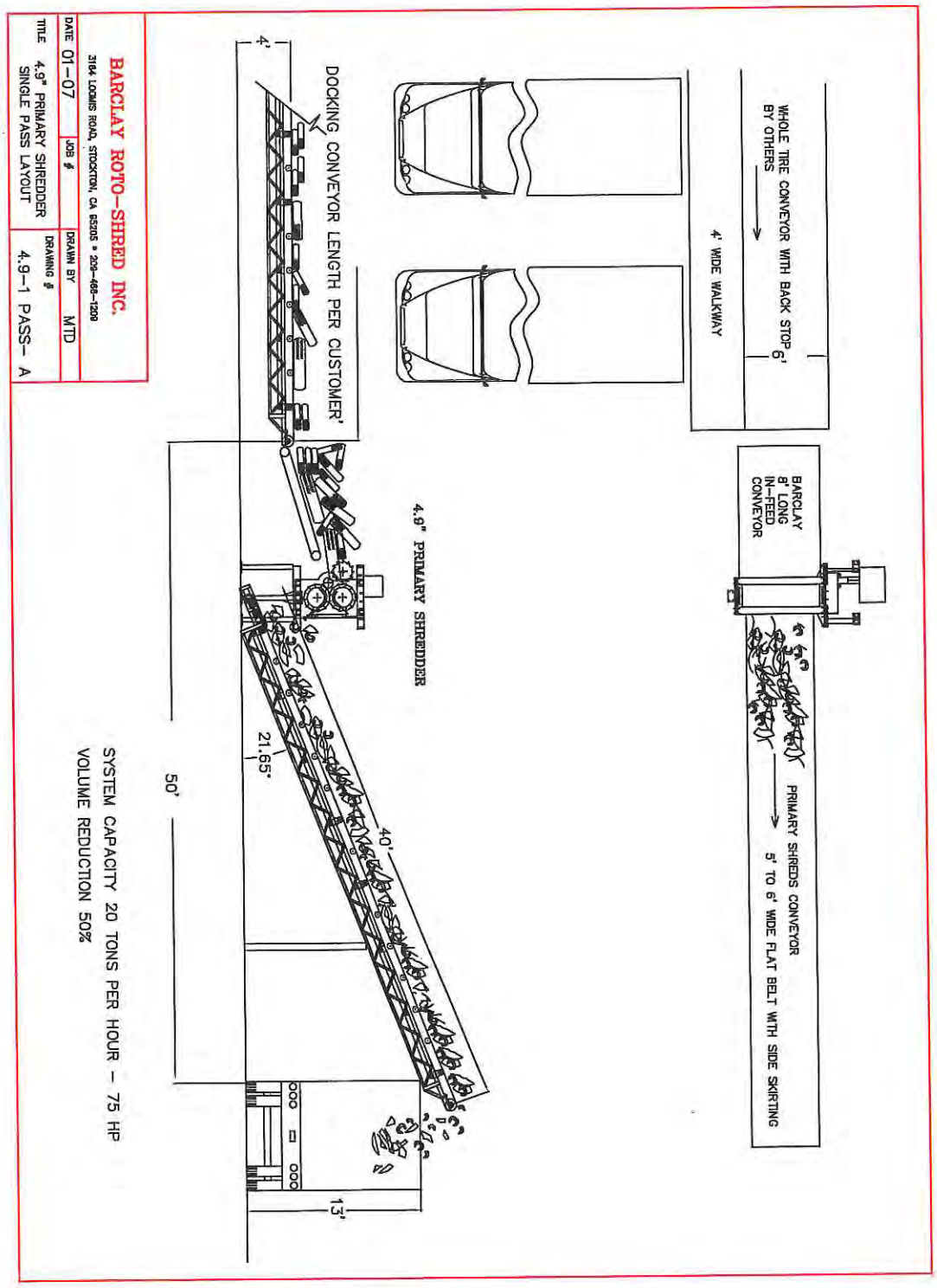
3164 LOOMIS ROAD, STOCKTON, CA 95205 • 209-466-1209

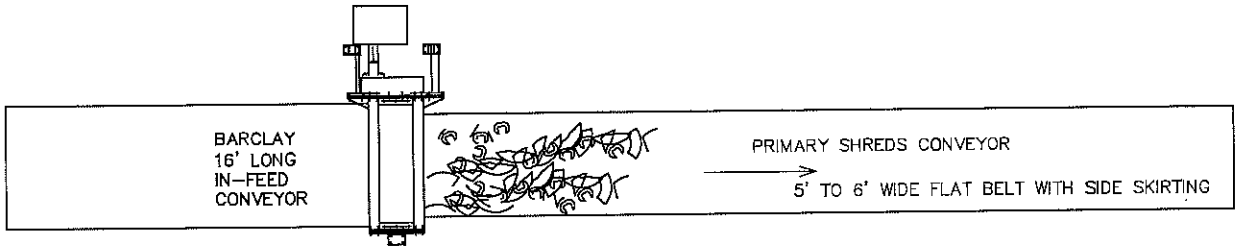
DATE	JOB #	DRAWN BY
01-06		MTD

TITLE: 4.9" PRIMARY SHREDDER SINGLE PASS LAYOUT

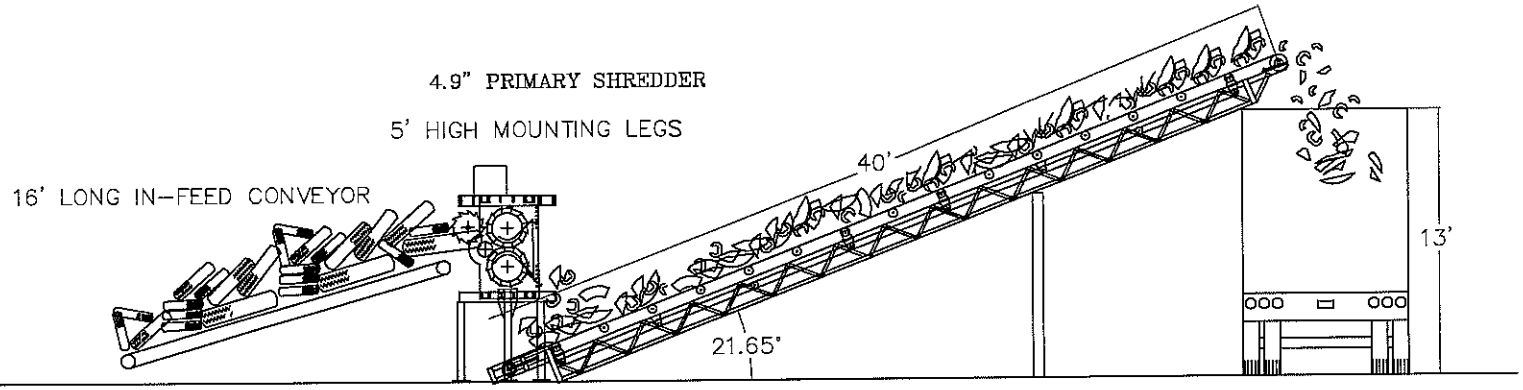
DRAWING #: 4.9-1 PASS

SYSTEM CAPACITY 24 TONS PER HOUR - 75 HP
16 TONS PER HOUR - 60 HP
VOLUME REDUCTION 50%


WHOLE TIRE CONVEYOR WITH BACK STOP BY OTHERS
6'
4' WIDE WALKWAY
BARCLAY 8' LONG IN-FEED CONVEYOR
PRIMARY SHREDS CONVEYOR
5' TO 6' WIDE FLAT BELT WITH SIDE SKIRTING
4'
DOCKING CONVEYOR LENGTH PER CUSTOMER'
4.9" PRIMARY SHREDDER
21.65'
40'
50'
13'
SYSTEM CAPACITY 20 TONS PER HOUR - 75 HP
VOLUME REDUCTION 50%
BARCLAY ROTO-SHRED INC.
3164 LOOMIS ROAD, STOCKTON, CA 95205 • 209-466-1206
DATE 01-07
JOB #
DRAWN BY MTD
TITLE 4.9" PRIMARY SHREDDER SINGLE PASS LAYOUT
DRAWING # 4.9-1 PASS- A



VOLUME REDUCTION 50%

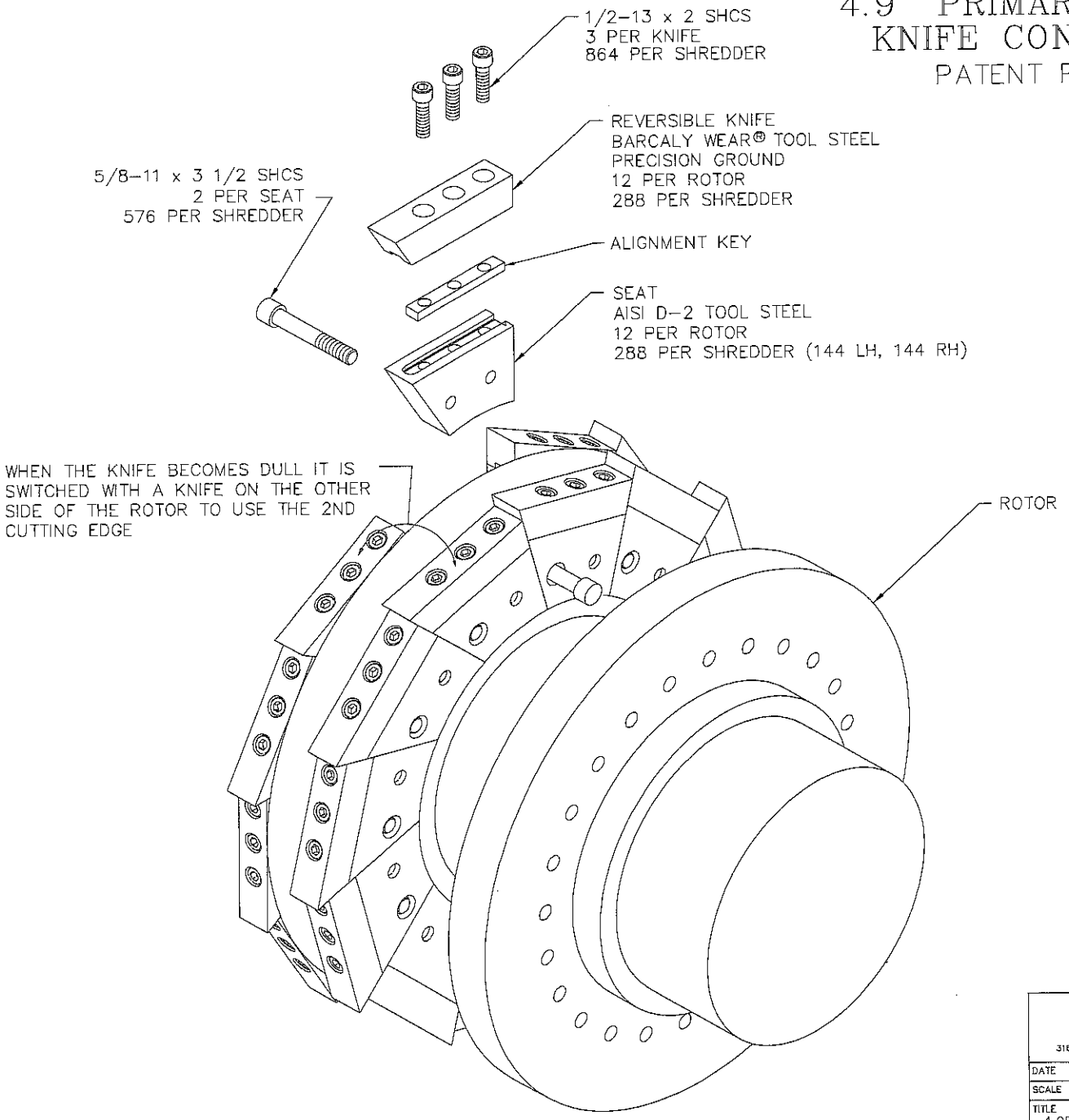


BARCLAY ROTO-SHRED INC.		
3164 LOOMIS ROAD, STOCKTON, CA 95205 * 209-466-1209		
DATE 01-07	JOB #	DRAWN BY MTD
TITLE 4.9" PRIMARY SHREDDER SINGLE PASS LAYOUT		DRAWING # 4.9-1 PASS- C

SYSTEM CAPACITY 20 TONS PER HOUR – 75 HP

4.9" PRIMARY SHREDDER KNIFE CONFIGURATION

PATENT PENDING



BARCLAY ROTO-SHRED INC.

3164 LOOMIS ROAD, STOCKTON, CA 95205 • 209-466-1209

DATE 03-18-05	JOB # 4.9P	DRAWN BY	SZ
SCALE		CHECKED BY	
TITLE 4.9P KNIFE CONFIGURATION		DRAWING #	49ISO-1B

Appendix C

Equivalent Passenger Tyre Ratio Units, Australia Tyre Stewardship

Equivalent Passenger Unit Ratios (EPUs) Tables

An equivalent passenger unit (EPU) is a standard passenger car tyre. The weight of an EPU for a new standard passenger car tyre is standardised as 9.5kg; and the weight of an EPU for an end-of-life standard passenger car tyre is standardised as 8 kg.

The following EPU ratios reflect the potential recoverable resources from the various types of tyres.

The first set is to be used by tyre importers, vehicle manufacturers and importers and miners for reporting data to TSA as part of their specific commitments.

The second set is to be used by recyclers for reporting data to TSA as part of their specific commitments.

Each set reflects the categorisations used by the respective industries.

Reporting can be in EPUs or by weight.

EPUs for reporting by TYRE IMPORTERS, VEHICLE MANUFACTURERS and MINERS	
Type of Tyre	**EPU Ratio**
Motorcycle	0.5
Passenger Car 1	1
Light Truck/SUV/RV	2
Truck small (17.5" & 19.5")	3
Truck large (20" & 22.5")	5
Small Specialty/Ag (skid steer, forklift 8"-15", front tractor & backhoe 15" to 18")	3
Medium Specialty/Ag (20" – 30")	5 to 8
Large Specialty Ag (32" and above)	20 to 30
Small Earthmover (24" – 25")	50
Medium Earthmover (29" – 35")	100
Large Earthmover (above 35")	200

EPUs for reporting by RECYCLERS	
Type of Tyre	**EPU Ratio**
Motorcycle	0.5
Passenger	1
Light Truck	2
Truck	5
Super Single	10
Solid small (up to 0.3m high)	3
Solid medium (>0.3m up to 0.45m)	5
Solid large (>0.45 m up to 0.6m)	7
Solid extra large (> 0.6m)	9
Tractor small (up to 1m high)	15
Tractor large (>1m up to 2m)	25
Fork lift small (up to 0.3m high)	2
Fork lift medium (>0.3m up to 0.45m)	4
Fork lift large (>0.45m up to 0.6m)	6
Grader	15
Earth mover small (up to 1m high	20
Earth mover medium (>1m up to 1.5m)	50
Earth mover large (>1.5 up to 2m)	100
Earthmover extra large (>2m up to 3.0m)	200
Earthmover giant (>3 up to 4m)	400
Bobcat	2

Appendix D

Fire Protection Measures Report

Measured form and function

6ty.Pty Ltd
ABN 27 014 609 900

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PO Box 63
Riverside
Tasmania 7250
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Tamar Suite 103
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287 Charles Street
Launceston 7250
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57 Best Street
PO Box 1202
Devonport 7310
P (03) 6424 7161

Tyre Storage and Shredder

437 Woolmers Lane
Longford

Fire Protection Measures Report

Issue	01
Date	1 September 2016
Project Number	15.242
Project Name	Tyre Shredder, Tyre Storage and Delivery – Environmental Effects Report
Author	Heidi Goess
Document	I:\2015\15242\1 Administration\6 Authorities\2 Council\Planning Permit Tyre Shredder and Ongoing Delivery and Storage of End-of-Life Tyres 6 April 2016\R16-08-02 Tyre Shredder Environmental Effects Report

Contents

1.0 Introduction

Planning application P16-077 has applied for a permit seeking approval to construct and operate a tyre shredder and continuation of the storage of 'end-of-life' tyres (ELTs) on land identified in Certificate of Title 105810/1 at 437 Woolmers Lane, Longford.

ELTs will be stored on the abovementioned land until such time they can be processed on the site. This use and development is categorised as "*recycling and waste disposal*" under the Northern Midlands Interim Planning Scheme 1 July 2013.

The purpose of this report is to provide specific information on the fire protection measures being implemented for the proposed use and development of the land. These protection measures have been implemented as part of the planning permit P13-199.

The area identified for the storage of tyres will occupy 1.5% of the total land area of the property. The location for the storage of used tyres was selected for the following reasons:

- The property is in a remote location, approximately 5.0 km south-east from the edge of the urban area of Longford and approximately 1.5 km south from Woolmers Lane, reducing the opportunity for ELTs stored on the property to be deliberately set alight;
- The location for the storage of tyres is more than 900m from any sensitive use;
- The large land area means that more than adequate defendable space around the storage area can be established, minimising the potential for ELTs to ignite from a grass fire that has spread from within the property and/or adjoining land;
- The land containing the storage area is grazed by sheep, which maintains the surface in a minimal fuel condition between the piles of stacked tyres and the surrounding area adjacent to the tyre storage;
- There is an accessible water supply from a number of adjoining storage dams for fire fighting purposes. These dams have a minimum combined volume of 140ML; and
- The adjoining farm land is predominately irrigated cropping, reducing the fire hazard due to the minimal fuel loading of the land.

A site plan has been prepared for the proposed use and development. This depicts the location of dams, fire breaks and the separation between piles of stacked tyres and forms part of the fire protection measures being implemented.

2.0 Fire Hazard

The storage of used tyres is considered to be an inert activity. However, if these tyres are set alight, there can be adverse impacts on the environment.

These include:

- Contaminated smoke being released from the source of the fire into a surrounding area impacting adversely on air quality; and

- Water used to extinguish a fire of burning tyres becomes contaminated and if released as run-off, could have a detrimental impact on groundwater resources.

These impacts have been documented by the Environment Protection Agency of Tasmania for previous fires that have broken out at a tyre recycling depot at Longford and Perth. Accordingly, fire is considered the primary hazard associated with this development.

2.1 Causes of Fire

There are three probable causes of fire that can threaten the stored tyres on the property. These are:

- Stored tyres have been deliberately or accidently lit on-site by a person or persons;
- A grass fire that breaks out on adjoining land and encroaches into the area where used tyres are stored; and
- A grass fire that breaks out within the property boundaries and spreads to where used tyres are stored.

The Wind Rose charts show the range of wind directions and speeds likely at the site. These charts are obtained from the Bureau of Meteorology (refer to Appendix A) and give indication of the prevailing winds likely to be experienced on the property and hence the direction a grass fire may travel. As there is no weather station located at Longford, data was obtained for the three closest weather stations being the Launceston Airport, the Cressy Research Station and at Powranna (Tasmania Feedlot).

The prevailing wind records from all three sites suggest that the main threat from a grass fire would from the north or north-west (Appendix A). The fire threat is considerably reduced from this direction given that the land north and north-west of the location of the stored tyres is cleared cropping land, generally under irrigation and which also accommodates significant water storages.

Winds from the southern quadrant are experienced although less frequently and with generally much lower wind speeds. Again the site is well protected from fire due to the irrigated cropping land and the presence of large dams. There are no shrubs or standing vegetation within 700m of the area used for the storage of tyres.

2.2 Existing Vegetation – Site

The site is an irregular shaped parcel of land comprising an area of 1054ha. The land is primarily utilised for irrigated cropping and grazing. Excavation works are also undertaken on the site.

The land immediately surrounding the storage of used tyres is gently undulating and utilised for irrigated cropping and grazing of sheep.

While the land is largely cleared from vegetation, a dense vegetation cover of standing vegetation (approximately 300ha) identified as eucalyptus amygdalina inland forest and woodland on canozoic deposit (Tasmanian Vegetation Map, DPIPWE) is located some 700m south-west and south-east of the used tyres. Smaller scatterings of trees are also located on the land and there are three distinctive wind breaks on the property. The wind breaks are located:

- At the edge of the northern property boundary, along the southern side of Woolmers Lane;
- Approximately 400m south of Woolmers Lane and approximately 1km north of the area used for the storage of tyres;
- Approximately 30m south of the used tyre location 2 (Figure 7, Environmental Effects Report).

2.3 Existing Vegetation – Adjoining Land

The land to the east and west of the property is irrigated cropping and pasture. A dense cover of vegetation, forming part of the vegetation community identified as eucalyptus amygdalina inland forest and woodland on canozoic deposit (refer to 2.2 above), is located on adjoining land to the south and south-east of the subject land. These areas of vegetation are located approximately 2km and 1.5km respectively from the location of the stored used tyres.

3.0 Development

The proposal is for the storage of ELTs and tyre shredder. ELTs will be stored on the land until such time the shredder becomes operational. Once the tyre shredder becomes operational, ELTs will be processed immediately rather than being stored within the development area.

There are no habitable buildings proposed as part of this use and development of land or located within the immediate vicinity of the area used for the storage of tyres. Additionally there are no hot work activities such as oxy cutting, welding and grinding taking place in close proximity to the storage area. There are no flammable or combustible liquids, hazardous waste or other easily ignitable materials within 30m of the storage area. The tyre shredder is powered by electricity.

The storage of ELTs is in two main locations within the development area shown as location 1 and location 2 on the proposal plans, drawing numbers C01-C04. Location 1 is approximately 1.4km south from Woolmers Lane and location 2 is approximately 1.5km south from Woolmers Lane and the two locations are separated by a row of trees.

Location 1 will store the majority of the ELTs carted to the development area, although allowance has also been made for additional tyres to be stacked at location 2. Fire breaks are already established around each location, in particular on the northern and southern side of the row of trees and on the southern side of location 2 (refer to site plan). An additional fire break is constructed around the northern perimeter of the location 1. The proposed fire break around the northern perimeter of location 1 is

exposed bare earth with a minimum width of 4m. This fire break will also establish a bund around the northern perimeter of location 1.

There is no access to a reticulated supply of water other than spray irrigators. In the event of fire, dams located within 300m of the area used for the storage of tyres will become the supply of water for fire fighting purposes. The dams are accessible by vehicles from multiple locations. The dams located to the north of location 1 and south of location 2 will provide in excess of 140ML.

Additionally, an irrigation line, delivering water from the South Esk River, is also located to the north of the tyres. This also provides water for fire fighting purposes.

Permission has been obtained by the property owner to utilise this water supply in the event of fire (refer to Appendix B). To ensure that water utilised for fire fighting purposes does not contaminate the dams, two collection ponds are constructed. These collection ponds are designed to collect run-off of water utilised for fire fighting purposes and have a capacity of approximately162KL each

No landscaping around the development area are proposed. Landscaping is not deemed necessary as the proposed storage of used tyres will not be visible from Woolmers Lane as it is screened by the Hawthorn Hedge along the northern property boundary and also by the wind break located 400m south of Woolmers Lane.

4.0 Fire Protection Measures

The proposal is to reduce the threat of fire to used tyres by a combination of site works and the maintenance of surrounding vegetation in a minimum fuel standard. Specifically, these include the following:

a) Construction of Fire Breaks and Bunds

The ignition temperature of tyre rubber is considerably higher than weatherboard – typically 510C versus 250C. The key issue is that rubber, once alight, has much more heat and stored energy to burn than the equivalent weight of timber.

The *AS3959 (2009), Construction of buildings in bushfire-prone areas,* while not completely applicable, has been considered in context of this development.

In examining the underlying maths of AS3959, it can be shown that stacked tyres are very difficult to ignite from radiant heat from a grass fire. The grass, even if it might be un-grazed for a season, simply does not generate enough heat.

The fire break of 4m with and bund around the perimeter of each location will generate sufficient volume of soil to form the protective bund and prevent direct flame attack from a grass fire to the stacks of stored tyres.

b) Pod Formation

This existing storage area utilises a pod layout that has been modelled on the *South Australian Guidelines* (refer to Appendix C) so that the tyres are stored in

discrete stacks of limited size and provided with aisles between each pod to restrict the spread of fire and to provide access by fire fighting vehicles.

c) Provision of Water Supply

An irrigation line is also provided north of location 1 which receives water directly from the South Esk River. The irrigation line will be the main supply of water.

d) Land Maintained in a Minimal Fuel Condition

The area immediately surrounding locations 1 and 2 will continued to be grazed to ensure that the land is maintained in a minimal fuel condition.

e) Accessibility and Security of the Site

The storage of tyres has occurred on site since 2011. The site is accessible by an farm paved road from Woolmers Lane. The site receives a delivery of tyres every weekday and is a managed farm ensuring that there is a presence on site on a daily basis.

5.0 Conclusion

The fire protection measures integrated as part of the proposed development will ensure that the storage of ELTs is laid out in accordance with recommended standards.

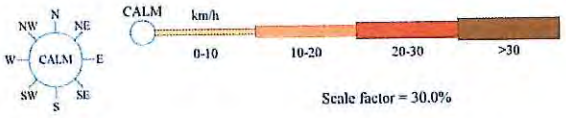
The fire protection measures documented in the preceding report has demonstrated the following:

- The fire breaks and bunds protect a grass fire igniting the stored tyres;
- There is more than an adequate supply of water for firefighting purposes;
- The grazed land and irrigated crops will ensure that the minimal fuel condition of the area surrounding locations 1 and 2 are maintained; and
- The pod formation has clear separations around each pod ensuring that the spread of fire within locations 1 and 2 are minimised.

Appendix A

Wind Rose Charts

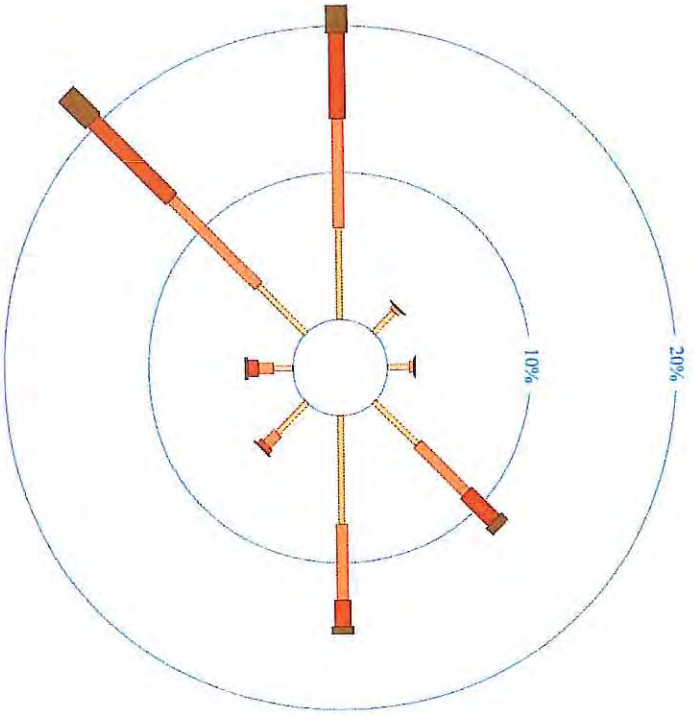
WIND FREQUENCY ANALYSIS (in km/h)
LAUNCESTON AIRPORT COMPARISON STATION NUMBER 091104
Latitude: -41.54 ° Longitude: 147.20 °



Scale factor = 30.0%

9 am
22769 Total Observations (1939 to 2004)

Calm 16%



Wind directions are divided into eight compass directions. Calm has no direction.
An asterisk (*) indicates that calm is less than 1% .
An observed wind speed which falls precisely on the boundary between two divisions (eg 10km/h) will be included in the lower range (eg 1-10 km/h). Only quality controlled data have been used.

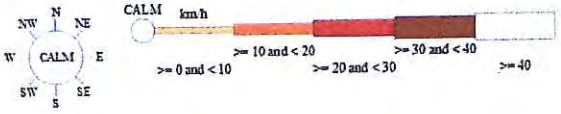
Rose of Wind direction versus Wind speed in km/h (02 Oct 1991 to 18 Dec 2008)

Custom times selected, refer to attached note for details

POWRANNA (TASMANIA FEEDLOT)

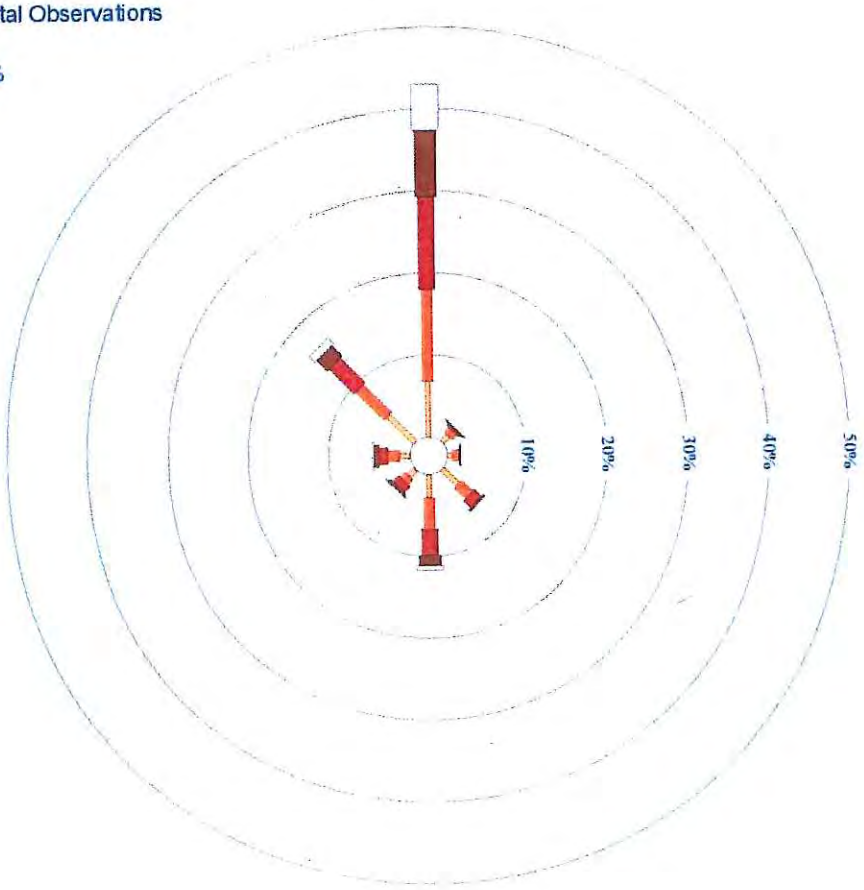
Site No: 091269 • Opened Oct 1991 • Closed Dec 2008 • Latitude: -41.6839° • Longitude: 147.2831° • Elevation 173m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm
5701 Total Observations

Calm 11%



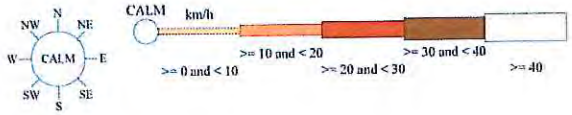
Rose of Wind direction versus Wind speed in km/h (01 Jan 1965 to 30 Sep 1990)

Custom times selected, refer to attached note for details

CRESSY RESEARCH STATION (MAIN OFFICE)

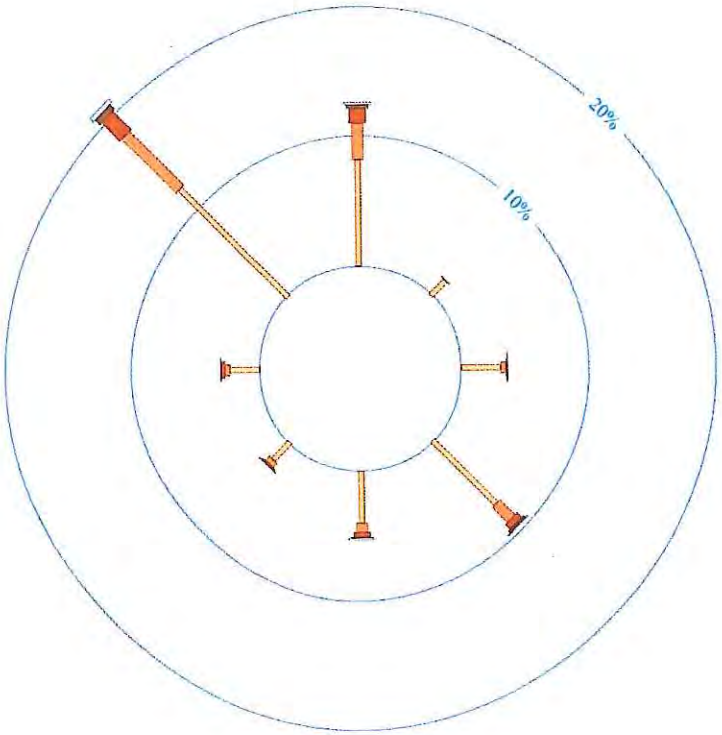
Site No: 091022 • Opened Jan 1939 • Still Open • Latitude: -41.7219° • Longitude: 147.0811° • Elevation 148m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am
7413 Total Observations

Calm 40%



Appendix B

Permission of Use of Water Supply

28th October 2013

To whom it may concern,

I consent to Tasmania Fire Service utilising irrigation dam water for fire fighting in the event of a tyre fire on my property ("Rhodes")

Keith Gatenby 0427911121

Appendix C

General Guidelines for the Outdoor Storage of Used Tyres

First Issued	01 November 1999
Author	FSE Marchant & FSO Czerwinski
Review date	28 July 2014
Reviewed by	SO D Kubler
Version	1.0
Authorised by	ACFO Community Safety & Resilience

SOUTH AUSTRALIAN FIRE AUTHORITIES

Community Safety Department

BUILT ENVIRONS SECTION GUIDELINE NO. 13

General Guidelines for Rubber Tyre Storage

BUILT ENVIRONS SECTION GUIDELINE 013:
General Guidelines for Rubber Tyre Storage

Revision History:

Version	Revision Description	Date
A	First issue	01 November1999
1.0	General Departmental Rewrite – all sections	10 April 2014

List of Amendments:

Clause	Amendment
Document control/revision history	added
Table of contents	added
Reference Standards	added
General	minor revisions and formatting
Indoor Storage	added
Outdoor storage.	amended separation distances
References	added
Bibliography	added

BUILT ENVIRONS SECTION GUIDELINE 013:
General Guidelines for Rubber Tyre Storage

REFERENCED STANDARDS

The following Australian (and other) Standards are referred to in this Schedule:

AS 1851	Australian Standard 1851 – '*Maintenance of fire protection systems and equipment*'.
AS 2118	Australian Standard 2118 - '*Automatic fire sprinkler systems*'.
AS 2441	Australian Standard 2441 - '*Installation of fire hose reels*
AS 2419	Australian Standard 2419 - '*Fire hydrant installations*'.
NFPA 101	National Fire Protection Association 101 – "*Life Safety Code*""
FM 8-3	Factory Mutual Global, Data Sheet 8-3 "*Rubber Tire Storage*"

Table of Contents

BUILT ENVIRONS SECTION GUIDELINE 013: General Guidelines for Rubber Tyre Storage

1 GENERAL

This fire safety guideline have been developed to assist businesses that store tyres on site (indoors and outdoors).

Tyre fires present significant challenges in terms of fire fighting and environmental and community impact. Each of these areas must be addressed when considering tyre storage on site.

This guideline is applicable to sites storing more than 100 individual tyres or 10 tonnes of tyre product (whichever is the lesser).

Note that the South Australian Environmental Protection Agency (EPA) requires that premises handling in excess of 500 tyres or 5 tonnes of waste tyres (or tyre pieces) per annum require licencing (environmental authorisation) (EPA, 2001).

Where the requirements of these guidelines do not fit site-specific circumstances, advice should be sought from the South Australian Metropolitan Fire Service (MFS) Community Safety and Resilience Department, phone (08) 8204 3611.

1.1 Overview of tyre fires

Tyre fires produce very high heat outputs and produce large volumes of thick black, toxic smoke. Tyre piles are very difficult to penetrate with fire fighting water and/or foam. The nature and behaviour of burning tyres limits the effectiveness of direct fire fighting operations when compared to most other combustible goods.

Large quantities of water are required to extinguish tyre fires due to many factors, including the rubber tyre surface repelling water and the burning inner surface of a tyre being shielded from the water spray. A significant portion of the water applied provides only a limited cooling effect and does not wet the ignited surface of the tyre casing.

Type piles provide an open, porous and well vented fire mass providing a fast rate of fire growth that also extends downwards into the pile. Over time, the pile will deform and compress, with a risk of flaming tyres rolling off the pile and spreading the fire to surrounding exposures. In this compression phase, the effects of pyrolysis include the rendering of rubber into oil, creating pool fire burning characteristics.

The environmental impacts are very significant and include air born pollution, soil contamination and large volumes of contaminated run-off water.

As a result, emphasis must be placed upon:

- Adequate separation distance from site boundaries and buildings to restrict the spread of fire,
- Limiting pile sizes with access between piles to restrict fire size and facilitate effective fire fighting operations,
- Maintaining access between piles to facilitate effective fire fighting operations
- Effective fire prevention practices to minimise the risk of a fire outbreak,
- Protection of the environment from damage in case of a fire.

1.2 Site selection and access

Select a level site with impervious soil, remote from surface watercourses and human habitation. Avoid sites with streams, rivers or dams on the property or close-by.

Ensure the site is large enough for the business operation, including allowances for future expansion. Take into account the limits placed on pile sizes and the required separation distances from buildings, boundaries and individual piles.

Each facility should have two separate access points that shall provide not less than four metres clearance to allow access for larger fire appliances. Site access roads should be of hardstand, all weather material and designed for fire appliance weight limits.

For major sites, specific advice should be sought from the MFS Community Safety and Resilience Department.

2 OUTDOOR STORAGE SITES

2.1 General

Outdoor tyre storage must be arranged as piles of tyres or contained in metal cages, in rows not exceeding the dimensions set out below.

The separation distance of tyre storage from allotment boundaries is considered to be a critical factor in reducing the likelihood of fire spread between properties

The intent of these requirements is to limit fire size and restrict spread, thus reducing the potential impact of a fire.

2.2 Pile sizes

Storage heights should be determined by the stability of the pile and must not exceed 3 metres high (as per NFPA 101) due to the potential for instability.

It is considered that "on-flat" or "laced" tyre storage will be employed for all outdoor tyre piles.

Tyre piles shall be arranged in "thin" rows to assist fire fighting operations and shall be no more than 6 metres wide.

Tyre pile rows shall be no more than 20 metres in length to limit the total volume of tyres contained in a pile to a maximum of 360m^3.

2.3 Separation distances

Between piles

Tyre piles shall be arranged to provide suitable aisle separation in order to reduce the risk of fire spread between piles and afford safe travel of fire appliances through the site.

These aisles must remain clear at all times, be free from combustible materials and tyre scraps and shall have a minimum width of 20 metres.

Allotment boundaries

Tyre piles shall be set-back from allotment boundaries as follows:-

- Where the pile narrow ends face the boundary – 12 metres, and
- Where the pile long sides face the boundary – 20 metres.

Where the allotment boundary adjoins a public road affording perimeter fire appliance access, the total applicable set-back distance may include the far boundary of the roadway. However, in this instance, the set-back off the perimeter fence line should be not less than 3 metres.

Where the allotment boundary is of fire resisting construction to a minimum height of 3 metres (above the finished ground level of the site) and has a minimum fire resistance level (FRL) of -/60/60, the boundary set-back distance may be reduced to a minimum of 6 metres.

Buildings on site

Separation distances of tyre piles from buildings on the same allotment shall be 12/20 metres (as applicable from above) where the building's exposed façade is not protected.

Where the building's exposed façade is protected with automatic fire sprinkler system in accordance with AS2118.1 or a wall wetting sprinkler system in accordance with AS2118.2, the separation distance may be reduced to 10 metres.

3 FIRE HYDRANTS FOR OUTDOOR STORAGE FACILITIES

A fire hydrant system complying with AS2419.1 shall be installed to provide fire fighting water supplies to tyre storage facilities.

Fire hydrant system design shall be in accordance with AS2419.1 Clause 3.3 for Open Yard Protection, with the exception that the minimum number of hydrants flowing simultaneously shall be as follows:

3.1 Small storage facilities

Notwithstanding the requirements of AS2419.1, where the total storage volume on site is less than or equal to 750m^3 (up to two piles as defined in Section 2.2 above), the facility shall have a hydrant system capable of providing simultaneous hydrant flows of two outlets (10l/s each).

3.2 Large storage facilities

Where the total tyre storage volume on site is greater than 750m^3, the facility shall have a hydrant system capable of providing minimum simultaneous hydrant flows of three outlets (10l/s each).

Where the facility is of a size that AS2419.1 requires additional heads to flow (with respect to total yard areas), then the requirement of AS2419.1 takes precedence.

4 INDOOR STORAGE FACILITIES

4.1 General

Tyre storage fires within an enclosed structure present very significant hazards to fire fighters, due to the heat and excessive smoke being contained within the space.

Under the Building Code of Australia (BCA), MFS will require that Clauses E1.10 and E2.3 are reviewed and addressed appropriately.

It is considered that incorporation of the systems and recommendations outlined in Section 5 meet the above BCA Clauses.

4.2 Tyre storage systems and arrangement

Storage of tyres within premises shall be within open framed fixed or portable racking systems or palletised and shall be arranged to prevent tyres from becoming dislodged and falling/rolling from the storage system.

"On-flat" or laced tyre storage allows water penetration into the piles. "On-edge" storage is generally not supported by this Department as the tight spacing and vertical alignment reduces water penetration between individual tyres and into the internal casing.

On edge stored tyres shall be adequately restrained to prevent roll-away.

4.3 Classification of occupancy hazards

This Department recommends that buildings of greater than 500m^2 floor area used as tyre storage facilities be provided with the following fixed fire suppression/smoke hazard management provisions in addition to any other fire and life safety measures required by the BCA.

Tyre storage >10 tonnes or 1000 tyres (whichever is the lesser)

Shall be provided with;

- permanent natural ventilation as per BCA Table 2.2a; or
- automatic smoke hazard management systems designed in accordance with BCA Specification E2.2b; or
- automatic smoke and heat vents designed in accordance with BCA Specification E2.2c.

Tyre storage >20 tonnes or 2000 tyres (whichever is the lesser)

Shall be provided with;

- automatic fire sprinkler protection in accordance with BCA E1.5; and

Shall be provided with;

- automatic smoke hazard management systems designed in accordance with BCA Specification E2.2b; or
- automatic smoke and heat vents designed in accordance with BCA Specification E2.2c.

4.4 Automatic fire sprinkler protection design criteria

This Department supports the design of automatic fire sprinkler protection in accordance with FM Global Data Sheet 8-3 and AS2118.1.

4.5 Internal steel column protection

This Department recommends that internal steel columns be protected in accordance with NFPA 101 Clause 34.8.2.1 to reduce the likelihood of premature building collapse from the intense heat from a tyre fire.

5 FIRE FIGHTING WATER CONTAINMENT

5.1 General

This section is applicable to both indoor and outdoor tyre storage facilities.

Bund walls, sealed kerbing and blind sumps/catchment pits should be provided to contain water run-off from the site during fire fighting activities.

The rate at which water can be applied to a fire is often limited by the rate at which the contaminated waste fire water can be contained, treated and/or removed from site.

The proposed site containment systems shall also meet EPA SA licensing conditions.

5.2 Non-sprinkler protected premises

The bunded capacity shall be designed to cater for a run off of not less than 30 litres a second (fire hydrant flows) for 90 minutes, which equates to 162,000 litres (162kl).

5.3 Sprinkler protected premises

The bunded capacity shall be designed to cater for a run off of not less than the combined volume of 20 litres a second (fire hydrant flows) for 90 minutes (108kl) **AND** the design sprinkler system flow rate for 20 minutes.

6 FIRE FIGHTING EQUIPMENT

6.1 Fire hydrant systems

Refer Section 4 above for specific flow rate and design requirements for outdoor tyre storage facilities.

As noted in Section 5 above, indoor tyre storage shall be provided with fire hydrant systems in accordance with the requirements of the BCA.

Note that as of 2014, all new premises' on site hydrant valves shall be Storz fittings in accordance with MFS Storz Specification (refer MFS Website).

Location of on-site hydrants, boosters **and** primary fire brigade access points should be presented to this Department for review during the design phase for new tyre storage facilities.

6.2 First Attack Fire Fighting Equipment

It is considered that effective first attack fire suppression may be achievable within the first five minutes of a tyre fire, during its ignition and propagation phase (RMA, 1993). Adequate first attack fire fighting equipment should be available for staff use.

Fire hose reels provided in accordance with AS2441 that reach all parts of the site are considered necessary first attack fire fighting equipment.

Consideration shall be given to the provision of Class A foam fire hose reels (with nozzle compatibility) as this medium has been found to provide improved fire suppression performance in this early stage due to the wetting agent actions of the foam (FEMA, 1998).

It is also recommended that all fuel powered vehicles be fitted with a dry chemical powder extinguisher with a minimum rating of 4A:60B(E).

Dry chemical powder extinguishers are considered to provide an effective initial suppression measure as the powder penetrates into the tyre pile void spaces and provides chemical suppression actions.

All fire protection equipment on the site must be maintained and regularly tested in accordance with Ministers Specification 76 and AS1851 as applicable.

6.3 Staff Training

Optimum fire safety standards cannot be attained unless staff are conversant with basic fire prevention methods and the operational use of installed fire equipment.

Division 4, Regulation 43 of the Work Health and Safety Regulations (SA Gov, 2012) requires that staff be informed, trained and instructed in the implementation of emergency procedures.

7 SITE EMERGENCY PLAN

A responsible staff member should be appointed as Site Safety Officer to ensure that fire prevention standards are maintained on the site.

Prepare an emergency plan for the property (displayed in a prominent position), which includes:

- Emergency service telephone numbers,
- After hours contact telephone numbers for a minimum of three staff members,
- Site evacuation procedures,
- Control strategy for all fire-fighting water run-off
- Tactical fire plan for the site showing:
    - Location of all fire hydrants, fire plugs
    - Location of all first aid fire-fighting equipment
    - Fire-fighting actions appropriate to the site
    - Locations of all access points to the site
    - Locations of all drains
    - Locations of all hazardous materials stored on the site

8 FIRE PREVENTION REQUIREMENTS

8.1 Housekeeping

It is important that sound housekeeping practices are maintained across the entire tyre storage facility.

Vegetation and combustible rubbish must be routinely cleared and removed from the site.

Perimeter clearances between piles and site boundaries must be clear of vegetation to prevent fire spread to adjacent allotments.

Any required combustibles must be adequately separated away from stored tyres. For example, empty wood pallets should be stored in a separate designated area, with clearances as specified in Section 2.3.

8.2 Site Security

The site should be fenced to ensure security and prevent unwanted persons entering the premises, particularly after hours. Additional security measures may be required including CCTV, perimeter lighting and proximity alarms (PIR).

8.3 Eliminate Potential Ignition Sources

Adequate fire safety precautions must be in place to eliminate unwanted fires, which should include:

- All hot work activities such as oxy cutting, welding and grinding shall be controlled via a "Hot Works" permit system and measures employed such as a fire spotter (with extinguisher/s).
- Inspection of electrical equipment, machinery and vehicles on a regular basis in relation to potential fires and sparking.
- Restriction of smoking to designated safe areas. "No Smoking" signs should be appropriately displayed.
- No open fires, in accordance with EPA guidelines (EPA, 2003) and the South Australian Environmental Protection Policies (SA Gov, 1994).
- No storage of flammable or combustible liquids, hazardous waste, or other easily ignitable materials within 30 metres of any tyre storage.

9 REFERENCES

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EPA (2003), "Burning in the open – EPA Guidelines", Environmental Protection Agency, Adelaide SA.

FEMA (1998), "Report on Tire Fires", Federal Emergency Management Agency - United States Fire Administration, Maryland, United States.

RMA (1993), "Guidelines for the Prevention and Management of Scrap Tire Fires", Scrap Tire Management Council, (undated) Rubber Manufacturers Association, United States. Downloaded from: http://www.rma.org/download/scrap-tires/general/GEN-021-Guidelines for the Prevention and Management of Scrap Tire Fires.pdf (April 2014).

SA Gov (2012), *Work Health and Safety Regulations 2012*, Attorney General's Department, government of South Australia.

SA Gov (1994), *Environmental Protection (Burning) Policy 1994*, Attorney General's Department, government of South Australia.

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Department of Communities and Local Government (CLG), *59/1994: Storage of Rubber Tyres*, CLG, London, United Kingdom.

Fire and Rescue New South Wales (FRNSW), *Policy No. 2: Guidelines for the bulk storage of rubber tyres, , Version 02 (2009)*, FRNSW Structural Fire Safety Unit, Greenacre, NSW Australia.

Metropolitan Fire and Emergency Services Board (MFB), *Guideline No: GL-02 – Outdoor Storage of Scrap Tyres, Version 1 (2014)*, MFB Fire Safety Policy Group, Burnley, VIC Australia.

Waste Authority Western Australia (WA), *Tyres legislation*, Downloaded: http://wasteauthority.wa.gov.au/publications/tyres-legislation, April 2014.

Motor Trade Association of SA, *Environmental Fact Sheet – Waste tyres*, MTA SA, Downloaded from: http://greenstampplus.com.au/downloads/GPG/SA/Fact Sheet - Waste tyres.pdf.

Motor Trade Association of ACT, *Standard 7 – Storage and Disposal of Waste Tyres – Environmental Guidance Note*, Downloaded from: http://www.mtaact.com.au/f.ashx.Government/Environmental/ Standard 7 – Storage and Disposal of Waste Tyres – Environmental Guidance Note.

Waste and Resources Action Programme (WRAP), *UK Waste Tyre Management Best Practice: Handling of Post-Consumer Tyres – Collection and Storage* (2006), Oxon, United Kingdom.

Viking Group Inc. *Technical Article – Protection of Rubber Tyre Storage Using Open high Challenge Nozzle*, (2006) Viking Group Incorporated, United States.

Australian Standard 1940 (2004), "The storage and handling of flammable and combustible liquids", Standards Australia, Sydney NSW Australia.

Appendix E

Fire Emergency Plan

1. DETERMINE WHAT TYPE OF INCIDENT

On arriving on site establish the type and location of incident.

- **GRASS FIRE ON OR ADJOINING PROPERTY -** A grass fire is burning on the property or an adjoining property with potential to threaten the tyre storage area.
- **MINOR FIRE** - There are 1 or 2 tyres alight at the edge of one of the tyre pods.
- **LARGE FIRE** - >2 tyres alight or inaccessible due to location in pods.
- **MAJOR FIRE -** Tyre pods fully alight.

2. CONTACT TASMANIA FIRE SERVICE

IN ALL CIRCUMSTANCES, irrespective of the type of incident contact the **TASMANIA FIRE SERVICE - DIAL 000.**

If a mobile phone service is not available, please go to **Dennis Jones** or **Rhodes Homestead** to notify emergency services.

WHEN SPEAKING TO TASMANIA FIRE SERVICE, ALWAYS INCLUDE THE FOLLOWING:

What Type of Incident:	Grass fire
	Minor fire
	Large fire
	Major fire
Where:	437 Woolmers Lane, Longford
Who:	Persons currently on site attending to fire.

3. CONTACT PROPERTY OWNER, TYRE RECYCLE TASMANIA & DENNIS JONES

After emergency services have been contacted, contact the following persons:

- **KEITH GATENBY** 0427 911 121 (property owner) to mobilise property water tanker and request irrigation line pumps to be activated.
- **TIM CHUGG**, TYRE RECYCLE TASMANIA 0400 692 023.
- **DENNIS JONES** 0408 133 285 OR **CRAIG JARMAN** 0438 132 351- request top loader or excavator to be moved to site.

4. IF KEITH GATENBY CANNOT BE CONTACTED, MOBILISE WATER TANKER TO LOCATION OF INCIDENT FOR USE (SEE INSTRUCTIONS)

5. CONTACT THE FOLLOWING PERSON(S) TO TURN ON THE IRRIGATION PUMP TO ALLOW FILLING POINT TO BE ACTIVATED

• **KEITH GATENBY**	0427 911 121
• **STEVEN MCARTHY**	0418 134592
• **KIERAN WOODS**	0437 179300
• **LEE JOHNSTONE**	0438 268587
• **GREG BRYANT**	0417 035299

PROCEDURE FOR A MINOR FIRE

After taking the above actions, the following procedure should be followed for a minor fire.

1. Assess the location of the fire and if burning tyres can be removed from pod.
2. Remove tyres from stack with tools such as a shovel or a rake where tyres are accessible and the risk of injury is low.
3. Smother the tyres with dirt or hand held extinguisher.
4. Monitor the smothered tyres and pods to ensure that the fire has been extinguished.
5. If fire is not extinguished, block outlet pipe of collection ponds prior to any water being utilised for fire-fighting purposes.
6. On arrival of excavator and water tank, where risk to injury is low commence moving tyres and dampening tyres of adjacent pods.
7. Wait for Tasmania Fire Service to arrive for further instructions.

PROCEDURE FOR A LARGE FIRE AND MAJOR FIRE

After the Tasmania Fire Service has been contacted, the following procedure should be followed for a large fire.

1. Avoid radiant heat and smoke.
2. Block outlet pipe of collection ponds to prevent polluted firefighting water from leaving the site.
3. Where risk to injury is low, remove tyres from unengaged portions of the stack with farm equipment to reduce available fuel.
4. Consider use of earthmoving machinery such as an excavator to remove fuel from burning stack or to smother with excavated soil.
5. Consider use of earthmoving machinery to increase the aisle width and/or to remove adjoining piles of tyres.
6. Utilise on site water tanker to dampen tyres in adjacent pods.
7. With Tasmania Fire Service Crew, extinguish if possible or prevent the spread of fire to adjoining tyre piles.
8. Monitor fire with Tasmania Fire Service until fire is extinguished.

PROCEDURE FOR A GRASS FIRE ON THE PROPERTY OR ADJOINING PROPERTY.

After the Tasmania Fire Service has been contacted, the following procedure should be followed for a grass fire.

1. Re-assess the extent of the grass fire and the direction it is moving.
2. Check firebreak for debris that may allow fire to cross the road. If risk to injury is low, remove debris.
3. Where risk of injury is low, defend firebreak with the property water tanker to prevent fire crossing road.
4. Check for windblown ambers and extinguish if possible.
5. Continue to fight fire with the Tasmania Fire Service Crew until it is extinguished.

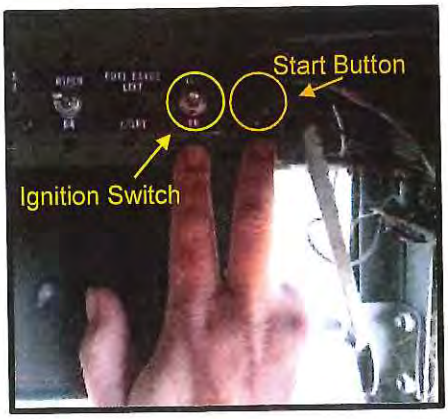
INSTRUCTIONS TO START TRUCK

1. Activate **Isolator Switch** - located on left hand side of dash

2. Activate **Fuel Pump** - located on dash directly in front of driver

3. Pull out **Choke** - located between seats

4. **Switch on Ignition** - located above driver side sun visor

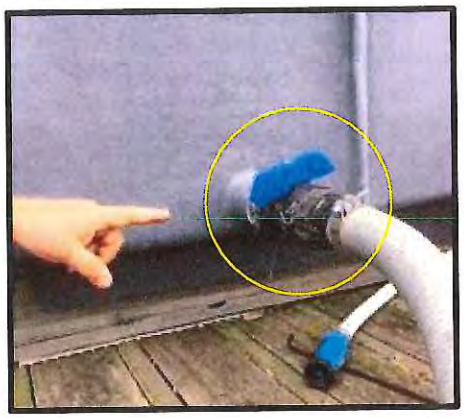


5. **Push Start button** - located next to Ignition Switch

After starting allow time for brake air supply to build up

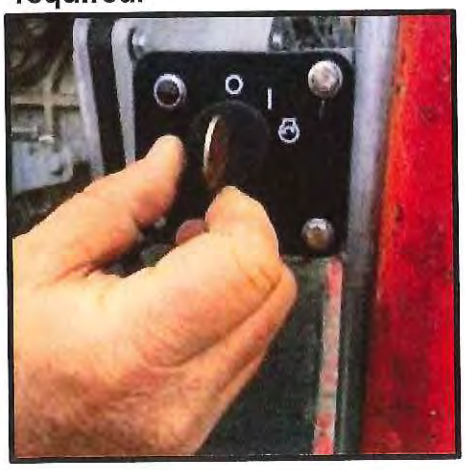
INSTRUCTIONS TO START WATER PUMP LOCATED AT REAR OF TRAY

1. **Turn on tap between Tank and Pump**



2. **Set Throttle to half**

3. **Start Engine – key start**
   If battery is flat pull start will be required.



4. **Activate water outlet tap**

Tap for opening spray bar

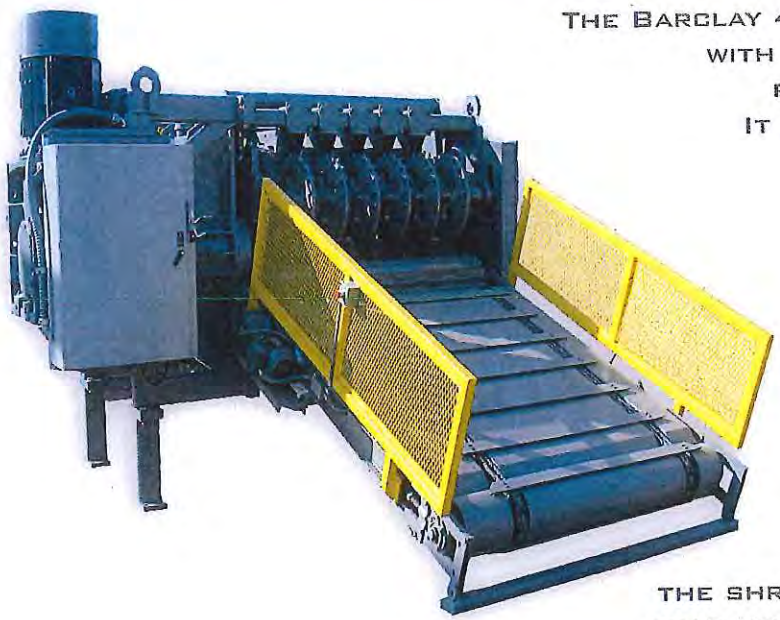
Appendix F

Tyre Shredder Specifications

BARCLAY
ROTO-SHRED

4.9 PRIMARY SHREDDER

PRODUCT SHEET



THE BARCLAY 4.9 PRIMARY SHREDDER WAS DESIGNED WITH THE PURPOSE OF BEING THE FIRST AND FOREMOST CUT IN ANY SHREDDING LINE. IT IS CAPABLE OF CUTTING RIM FREE TIRES RANGING IN SIZE FROM PASSENGER TO SUPER SINGLE TIRES.

UTILIZING A STANDARD 8' LONG IN-FEED CONVEYOR AND EFFICIENT UPPER AND LOWER FEED MECHANISMS, THE 4.9 PRIMARY SHREDDER ALLOWS THE USER TO INDISCRIMINATELY BULK FEED. GONE ARE THE DAYS OF HAVING TO HAND FEED OR SINGLE FILE FEED RESULTING IN LOWER COSTS.

THE SHREDDER IS POWERED BY A HELICAL BEVEL GEAR MOTOR AND CONTROLLED WITH SOFT START CONTROLS ENCLOSED IN AN INTEGRAL ELECTRIC PANEL. IT CAN BE WIRED TO ACCOMMODATE A WIDE RANGE OF VOLTAGE/HERTZ RATIOS. WHETHER YOU ARE DOING SINGLE PASS SHREDS OR MAKING CRUMB RUBBER, THE BARCLAY 4.9 PRIMARY CAN HELP INCREASE PRODUCTIVITY.

SPECIFICATIONS / FEATURES

WEIGHT:	26,000 LBS
GEARMOTOR:	75 - 100 HP, 3 PHASE, 380-460V, 50 - 60 HZ
SHAFT DIAMETER:	9 1/2"
ROTATION SPEED:	9 RPM @ 75HP, 12 RPM @ 100HP
ORIENTATION:	VERTICAL.
CONTROLS:	FULLY WIRED TO ACCEPT LINE CONNECTION. REMOTE MOUNTED CONTROL BOX WITH INDEPENDENT CONTROL OF SHREDDER AND INFEED CONVEYOR.
SAFETY:	EMERGENCY STOP BUTTONS ARE MOUNTED ON FRONT AND BACK OF THE SHREDDER.
CUTTING CHAMBER:	72" WIDE WITH 12 TOTAL CUTS SPACED 4.9" APART
CUTTING KNIVES:	VASCO-WEAR (TM) TOOL STEEL. 1.50" THICK HEAT TREATED AND PRECISION GROUND. REVERSIBLE BLADES RESULTS IN TWO CUTTING EDGES PER BLADE. 288 BLADES TOTAL.
KNIFE BASES:	AISI D-2 TOOL STEEL. MODULAR, REPLACEABLE PIECES.
DRIVE PROTECTION:	COUPLERS WITH SHEAR PINS PROTECTS OVERLOADING.
STRIPPERS:	FIXED WELDMENTS WITH REPLACEABLE WEAR PLATES.
FEEDERS:	CHAIN-DRIVEN BY MAIN SHAFT WITH TORQUE LIMITER.
THROUGHPUT:	16-20 TONS/HOUR (SINGLE PASS)
CAPACITY:	NO WHOLE TIRES WITH A COMPRESSED CROSS SECTION GREATER THAN 5 1/2"
INFEED CONVEYOR:	DETACHABLE 2HP CONVEYOR WITH IMPACT ABSORBING SPRING STEEL SLATSS. LENGTHS ARE 8' OR 16' LONG.

PH: (209 466 1209 FAX: 209 465 2012 WEBSITE: WWW.TIRESHREDDERS.COM
3164 LOOMIS ROAD, STOCKTON, CA 95205

Appendix G

Natural Values Report

Natural Values Report

Report for: **Green Distillation Tech Corp Ltd & 6TY Pty Ltd**

Property Location: Title no: 105810/1
437 Woolmers Lane, Longford

Prepared by: Scott Livingston
AK Consultants,
40 Tamar Street,
LAUNCESTON, TAS. 7250

Date: 16th May 2016

AK Consultants