

Works Approval Application Attachments

47 Hope Valley Road, Naval Base

Hayes Recycling Pty Ltd

24-1569

3030 September 2024



30 September 2024



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1 Definitions

For the purposes of this document, the following definitions apply:

DFES	Department of Fire and Emergency Services
Development Approval	Legal document that provides permission for specified use or development to occur on a particular piece of land
DMIRS	Department of Mines, Industry Regulation and Safety
DWER	Department of Water and Environmental Regulation
Licence	Under section 52 of the Environmental Protection Act (EP Act), a licence is required when proposed operations on a premises would cause it to become (or become capable of being) a prescribed premises under the EP Act
Pipes	For the purpose of this works approval applications, subsea rigid and flexible i.e. risers, flowlines, umbilicals, and coiled tubing) pipes
Prescribed Premises	Industrial premises with potential to cause emissions and discharges to air, land or water are known as 'prescribed premises' and trigger regulation under the Western Australian Environmental Protection Act 1987
Recyclables	Waste suitable for recycling ¹
Recycling	Activities that culminate in the reprocessing of wastes into products or secondary materials that are returned to productive use (excluding for energy). May include collection, sorting and/or reprocessing ¹
Reprocessing	Transformation of recovered materials to make raw materials for use in making new products or direct use. May include cleaning, fractionation, crushing, shredding, dissolution, composting or other transformative processes. May also be called 'secondary processing' ¹
Waste	Materials or products that are unwanted, surplus, discarded, rejected, abandoned or left over, including those materials or products intended for or managed by recycling, energy recovery, treatment, storage and disposal ¹
Works approval	Under section 52 of the Environmental Protection Act (EP Act), a works approval is required when proposed construction and commissioning and operations on a premises would cause it to become (or become capable of being) a prescribed premises under the EP Act

¹ As referenced from 'Australian standard for waste and resource recovery data and reporting', Department of Climate Change, Energy, the Environment and Water (DCCEEW, March 2024).

1 Licence Application

Hayes Recycling, a subsidiary of Hayes Metals (the Applicant) purchased Lot 1, 47 Hope Valley Road, Naval Base in April 2024 to establish the first reprocessing facility in Western Australia for subsea flexible and rigid pipes (pipes). Between 50,000 and 65,000 tonnes per annum (tpa)² of flexible and rigid pipes will be diverted from landfill and reprocessed into metals and plastics materials for on sale to a combination of foundries, domestic and export markets.

1.1 Scope

This Works Approval application is made under ‘Schedule 1 – Prescribed premises’ of the Environmental Protection Regulations 1987³ to the Western Australian Department of Water and Environmental Regulation (DWER). Under Schedule 1, a Works Approval application for the following categories is being applied for:

- Category 47 – Scrap metal recycling: premises (other than premises within category 45) on which metal scrap is fragmented or melted, including premises on which lead acid batteries are reprocessed. 100 tonnes or more per year
- Category 61A - Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land. 1,000 tonnes or more per year
- Category 62 – Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use. 500 tonnes or more per year.

Hayes Recycling are establishing their recycling facility at Lot 1, 47 Hope Valley Road, Naval Base. The application is being made to accept and recycle up to 65,000 tpa of subsea flexible and rigid pipes, decommissioned from the oil and gas sector, and other scrap metals.

It is noted that pipes are washed and cleaned prior to transport by specialist contracted cleaning companies and that a ‘Declaration of Clearance’ is completed by the relevant company. This declaration is to state that no hazardous substances are present on pipes supplied to Hayes Recycling facility.

The waste pipes will be diverted from predominantly regional landfills and recycled into metals and plastics (polymers) for sale to foundries and plastic processing domestic and export markets.

² Centre of Decommissioning Australia (CODA, 2023), ‘Understanding the opportunity for local disposal and recycling pathways’

³ Available: http://www5.austlii.edu.au/au/legis/wa/consol_reg/epr1987404/sch1.html, Accessed: August 2022



Photo 1: Flexible pipe



Photo 2: Flexible pipe reel

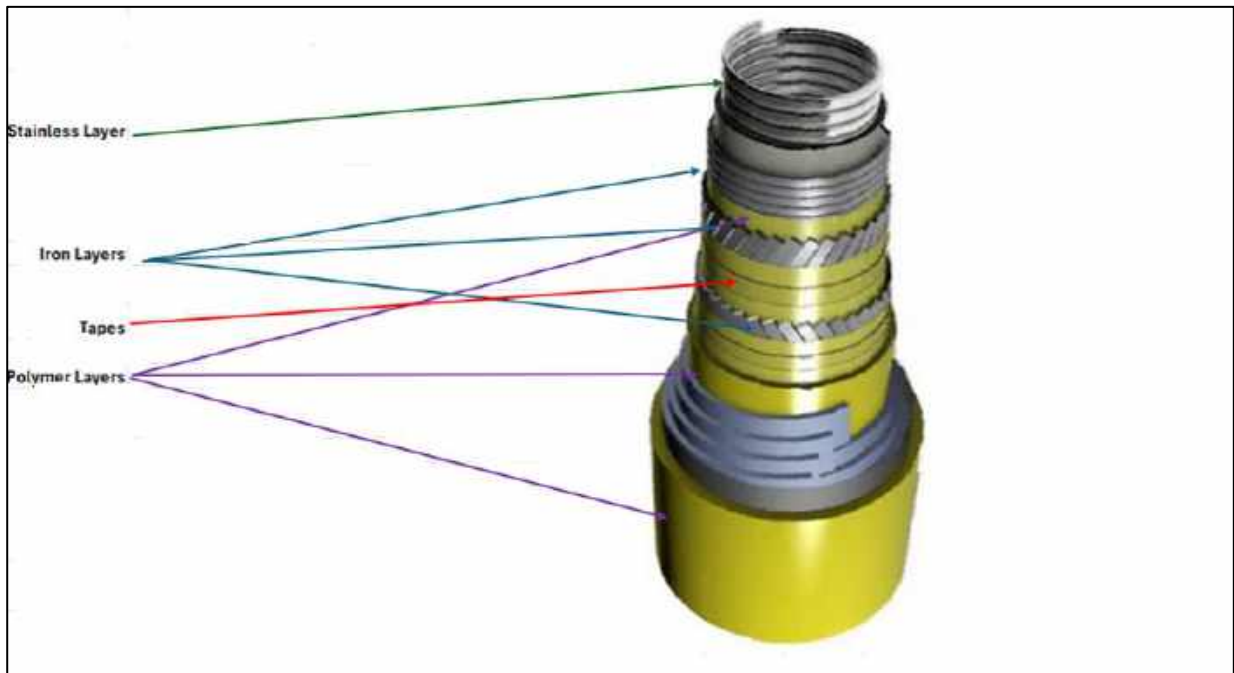


Photo 3: Sample composition of flexible pipe

1.2 Hayes Recycling

Hayes Recycling is a fourth-generation, family-owned company based in New Zealand and Australia and has been operating since 1927. Hayes Metals began operating as a metals recycling company and later ingot manufacturing, diversifying and growing to become industry leaders in the reprocessing of subsea infrastructure including decommissioned flexible and rigid pipes.

Hayes Recycling has worked on decommissioning projects across New Zealand and the Pacific Islands for the past twenty years in the electrical, mining and oil and gas sectors. With the recent award for onshore decommissioning of the Tui Oil Field subsea equipment, Hayes Recycling has invested \$A 4 million in plant and equipment to ensure this subsea equipment is fully recycled, including all grades of polymers. A client required and met outcome for this project is a minimum recycling rate of 98%.

Hayes Recycling have a strong commitment to quality, customer satisfaction and the environment. The company holds current ISO 9001:2005 Quality Management Systems accreditation. Hayes Laboratories is IANZ accredited and, since 1976, operates in accordance with NZS ISO/IEC 17025:2017.

Hayes expertise lies in:

- Onshore subsea infrastructure and scrap metal recycling
- Onshore subsea cable recycling and reprocessing
- Mobile plant and equipment for onshore subsea infrastructure and scrap metal downsizing.

The company has been recognised for its recycling innovation over the years, including being placed in the top 100 most innovative recycling companies globally for the past three years (2021, 2022, 2023) by Recycling International.

Further information on the company's heritage, services and operations can be found on their website: <https://www.hayesmetals.com.au/>

1.2.1 Bespoke Recycling Solutions in Western Australia

Hayes Recycling is bringing its expertise in recycling and expanding its operations to Western Australia. Supplier contracts are in place to divert pipes from being disposed to landfills and reprocess them by January 2025. Hayes Recycling aims to begin construction and installation works at its Naval Base facility in September 2024.

Hayes Recycling will assemble and install its bespoke recycling plant, which is referred to as the SURF Recycling Plant. This plant ensures that pipes (i.e. risers, flowlines, umbilicals, and coiled tubing) and associated subsea infrastructure (scrap metal) can be diverted from landfill and fully recycled according to safety and environmental industry best practices.

1.3 Licence application contacts

Paul Coyte, Managing Director, Hayes Recycling, pcoyte@hayesmetals.co.nz

Jenny Campbell, Director, Encycle Consulting jenny@encycle.com.au

Geraldine Busby, Principal Consultant, Eva Environmental, geraldine@evaenvironmental.com

1.4 Engagement with DWER: Synopsis

Hayes Recycling has engaged Encycle Consulting Pty Ltd (Encycle) and its sub-consultant, Eva Environmental, to prepare and lodge an application to DWER for their recycling facility at 47 Hope Valley Road, Naval Base.

On Tuesday 11 June 2024, Eva Environmental held discussions with a DWER licensing officer to determine the requirement for and the category of licence for the operations on the Hope Valley site. A high-level overview of operations was given, and potential environmental emissions or operational aspects for clarification were raised for possible submission of the Works Approval. Guidance and clarification were sought from DWER with respect to the submission of documents. Refer to Attachment 8B-DWER Scoping Meeting.

Email correspondence from DWER received on Tuesday 11 June 2024, advised that the facility is required to be licensed under the EP Act and associated Schedule 1 of the EP Act Regulations⁴ for:

- Category 47 – Scrap metal recycling: premises (other than premises within category 45) on which metal scrap is fragmented or melted, including premises on which lead acid batteries are reprocessed. 100 tonnes or more per year;
- Category 61A - Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land. 1,000 tonnes or more per year; or
- Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use. 500 tonnes or more per year.

⁴ Environmental Protection Regulations 1987 - Schedule.pdf (legislation.wa.gov.au)

2 Attachment 2: Premises Maps

2.1 Prescribed premises boundary

The proposed Prescribed Premises boundary is shown in Figure 1 and presented in Attachment 8C.



Figure 1: Prescribed Premises boundary

2.2 Site infrastructure

The site's infrastructure is shown in Figure 2 and detailed in Table 2.

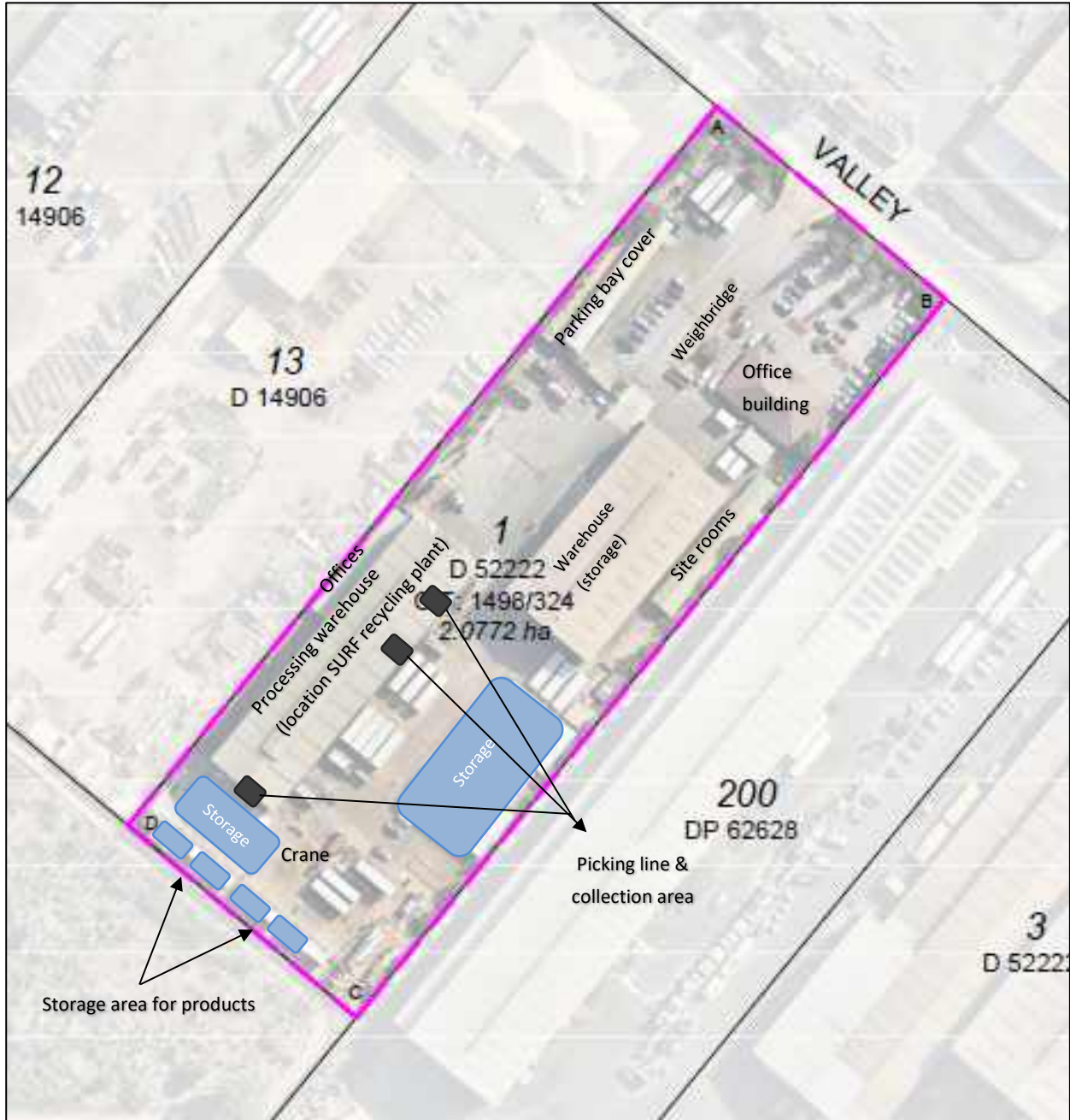


Figure 2: Proposed Prescribed Premises boundary and (not to scale) location of site infrastructure

3 Attachment 3B: Activities

Operational and construction activities are presented in the following sections.

3.1 Infrastructure modifications/services installation activities

The facility modifications and installation activities are planned to be undertaken from September 2024.

A 'Work Plan' has been developed and is submitted with this Works Approval application (refer Attachment 8A) that details the works to be undertaken. The Work Plan is an operational "working document" and on-site activities may be modified to further mitigate any possible impacts during modifications to, and installation of, equipment at the processing warehouse. An assessment of potential emissions considering construction activities has been undertaken and site, management and works mitigation measures provided.

3.2 Operational activities

3.2.1 Scope and scale

Hayes Recycling will divert and recycle up to 65,000 tpa at their facility.

The facility will operate for 5 days initially; however, 7 days of operations are submitted on the works approval application to allow for scaling up of activities and as a contingency for any unscheduled operational 'downtime'. The facility will be open from 6 a.m. to 7 p.m. Monday through Friday and 7 a.m. to 12 p.m. on Saturdays and Sundays (if / as needed).

Supply of pipes and distribution of products / recyclables will involve up to 90 truck movements per week to and from the site (i.e. 45 trucks entering and leaving the site per week).

The overview of the SURF Recycling Plant for recycling of pipes into component parts involves:

- Initial mechanical fragmenting of the used pipes is undertaken by enclosed. A fine mist keeps the process cool and damp without generating discharge water. The hooded system is designed to capture all moisture generated within the process. Wastewater is not generated due to the low volumes and misting nature of water use. All water generated remains on the product which dries in future stages of the process.
- To ensure the integrity and quality of the recyclables, processing occurs in a specific sequence to liberate the various components of the pipes. The equipment used ensures that the plastic is liberated and recyclable.
- Recyclables move in the processing warehouse on a series of conveyor belts and units designed to further sort and granulate material. Material is sorted using purpose-built units, which further separates the metals into the various components (using materials attracting technologies,

manual, sortation and separation technologies). Technology utilised for separating is mechanical and does not involve chemical cleaning or leaching processes.

An overview of the process flow is shown in Figure 3.

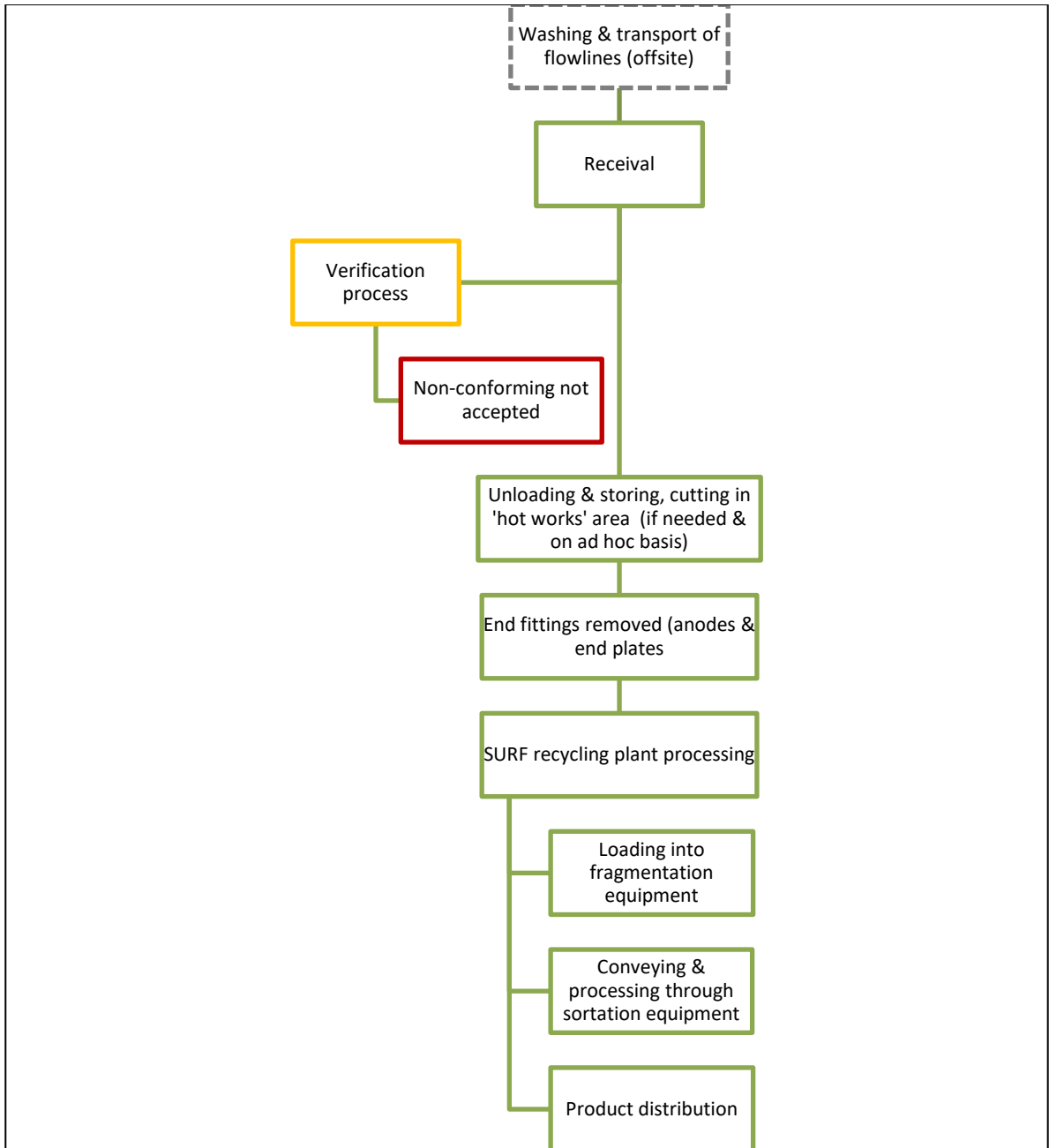


Figure 3: Overview of processing steps

3.2.2 Waste types and products

Up to 65,000 tpa of used pipes and recyclable metal from the oil and gas, and industrial sectors will be processed. Rigid pipelines and flexible pipelines are purpose built for each oil and gas field. The composition of each pipeline varies and is IP protected by the oil and gas operators and vendors.

Table 1 shows indicative component tonnes per year of previously processed pipes from an offshore oil field in New Zealand processed by Hayes Recycling. Based on current indicative flow line compositions, the facility plans to divert between 50,000 and 65,000 tonnes from landfill. Residual waste is in the form of composite materials, degraded plastics and tape and has conservatively been allowed for at 3% of incoming tonnages.

Table 1: A breakdown of materials & product tonnages from an offshore oil field previously processed by Hayes Recycling

Components of pipes	Estimated tonnage per annum (tpa)
Carbon steel	35,000
Duplex Stainless Steel/Stainless Steel	11,000
Copper	5,000
Aluminium	2,000
Zinc	1,000
Polyethylene (PE plastic)	5,000
Thermoplastic elastomer (TPE plastic)	2,000
Polypropylene (PP plastic)	2,000
Polyamide (PA plastic) or Nylon	2,000
Residual waste estimate	3% conservative residual waste component

3.2.3 Key infrastructure

The key infrastructure is shown in Figure 2 and detailed in Table 2.

Table 2: Infrastructure, plant & equipment

Infrastructure	Description
Buildings	4 onsite buildings covering 4,560m ² comprising: <ul style="list-style-type: none"> - 2 x warehouses - office / admin building - site offices, lunchroom & amenities
Cranes	4 cranes located in: <ul style="list-style-type: none"> - processing building (x2) - storage warehouse (x1) - outside (x1)
Weighbridge	90t weighbridge
SURF recycling plant	Bespoke recycling plant & equipment for processing and recycling of flexibles
Mobile equipment / vehicles	
Picking lines	Located internally and externally to processing warehouse
Skip bins	Located externally and internally to the processing warehouse
Forklifts	For moving materials on site
Material handlers	For the movement of materials
Excavator	For downsizing and cutting of pipes and scrap metals
Loader and telehandlers	For transportation of cut pieces of pipe and metal around site
Sea containers	For storage of product

3.2.4 Detailed description of processing steps and recycling process

- Pre-acceptance
 - Waste generator requests waste to be processed at Hayes facility
 - Technical review (desktop) of the waste is undertaken, and waste is accepted / rejected for processing by Hayes facility
 - Contracts or a purchase order (PO) is provided to the waste generator. This includes that waste is to arrive at the facility cleaned and with a 'Declaration of Clearance' that it has been cleaned and contains no hazardous materials.
- Washing and transport of pipes
 - Refer section 4.4.1

- **Receival**

- Pipes received in sea containers, bathtub truck or flatbed truck (requires bolsters, and to meet lashing requirements under Heavy Transport Guidelines 2018).
- Admin to be advised of the type of vehicle transporting pipes so appropriate equipment and procedures are known in advance for unloading
- Vehicles directed over the weighbridge and weight recorded.
- All sea containers and trucks will then be scanned using a handheld Geiger counter. If the Residual NORM scale is detected at the side of the truck whilst the load is still on the truck at greater than $5 \mu\text{Sv/hr}$, the load will be treated as contaminated. This will cause the load to be rejected
- Waste pipe is checked on arrival for possible contaminants (using field testing techniques described below)
- Admin will make a note of non-confirming loads, customer, date etc.
- Site supervisor responsible for verification and receival to site for unloading

Contingency planning:

- Pipes will be removed from shipping containers and verified and checked in a dedicated, demarcated concrete paved quarantine area. Due to verification checks and the required 'Declaration of Clearance', the likelihood of contaminated materials arriving at the facility is highly unlikely to non-existent

Note this has not occurred in the history of prior operations by Hayes Recycling. The verification check is an additional mitigation measure and contingency step which is implemented by the facility as a matter of assurance

- Non-confirming waste material will be isolated and remain in the quarantine area and returned to the waste generator or will be sent to an appropriate disposal facility.

Field testing used as follows:

Contaminant	Field test method
Marine growth	Visual
Metals in scale (Mg to U)	Handheld XRF
Mercury vapour	Nippon instruments Corp EM3 mercury vapour analyser
Multi-gas detection (LEL, O ₂ , SO ₂ , H ₂ S, CO)	Handheld IR/Catalytic handheld gas meter Ventis Pro5
VOC detector	Handheld photoionization detection (PID) tiger check
Norm	SE International radiation meter

- Unloading & storage

Unloading bathtub or flatbed

- Materials handler used to unload
- Exclusion zone of 12 m diameter from the slew axis of the materials handler to be established.



Photo 4: Bathtub truck

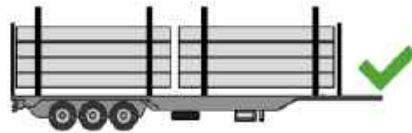


Photo 5: Flatbed with bolsters

Unloading sea container

- Will occur in the designated quarantine area.
- Tipping chassis or grab-mounted excavator used to unload.
- Pipes will be temporarily stored to no more than 10m high on the sealed hardstand in designated marked-out bays in the storage area and away from any drainage sumps.
- End fittings are removed and collected in skip bins for recycling.
- Pipes pass through a series of machines and instruments to separate, sort and class components

Contingency planning:

- An area has been designed for ad hoc and if required 'hot works' should attached metal be required to be cut from the pipes. This will not occur often and the area is designated on an as needs basis only. Metal will be extracted using cutting equipment with an oxy torch, and metals will be sent for recycling.

SURF Recycling Plant process:

The pipes are processed using a range of fragmentising technologies (including stripping, materials separation technologies, sortation, granulation technologies) to remove metals and polymers. The processing system comprises a series of units designed to remove the specific layers of the flexibles.

Pipes loaded into fragmentation equipment

- Pipes are fragmented
- Components are conveyed to processing technologies via a covered conveyor belt

Removal of steel

- Steel is removed by materials separation technologies and conveyed via a covered belt to the external quality control process
- Steel is collected in bins for product distribution
- Waste is disposed in bins for disposal to the appropriate licenced facility

Removal of light fraction

- Light fractions are removed by sortation equipment and conveyed via covered belt to bins for disposal at an appropriately licenced facility

Removal of other steel

- Steel & other metals are removed by sortation equipment, conveyed on rubber belts and collected in bins for product distribution
- Waste is disposed to bins for disposal to an appropriate licenced facility

Sortation, grading and classification of polymers

- Polymers go through a series of instruments to sort, grade and class into different streams including PE, TPE, PP, PA.

Note: No chemicals, hazardous or dangerous goods (DGs) are used in the sorting and grading processes.

3.2.5 Emission and discharge points

An assessment of potential emissions has been conducted and are shown in Figure 4.

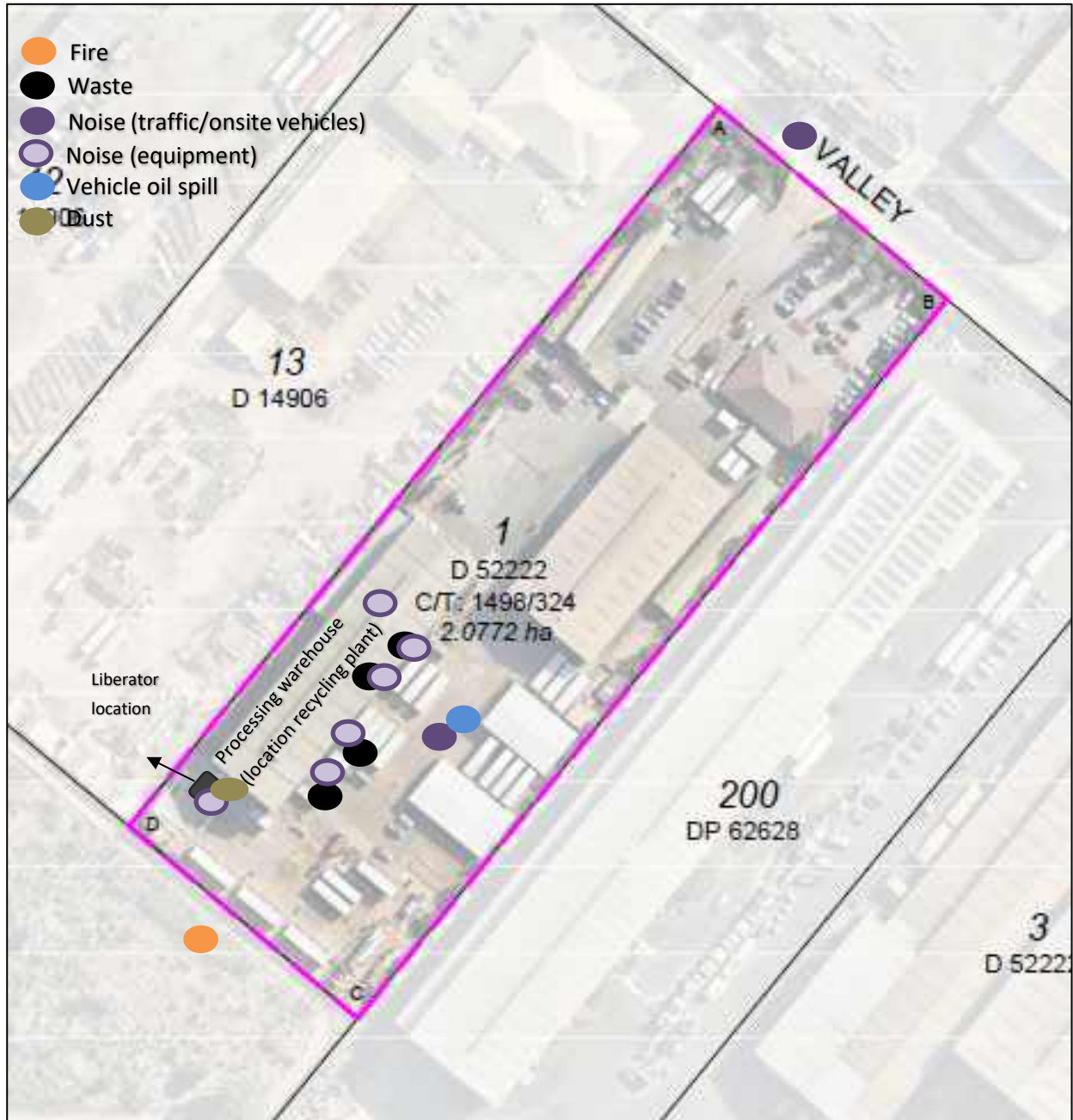


Figure 4: Potential emission points during operational activities

4 Attachment 6A

4.1 Site Environmental Assessment

A review of environmental aspects commissioned by Hayes Recycling and undertaken by Encycle is summarised in Table 3. Recommendations for the management of fire / bushfire from the bushland to the southern boundary, operational noise and dust were made.

Table 3: Summary of main environmental aspects for the site

Environmental aspect	Summary of finding	Recommendations for management
Groundwater	– Site not located in / on priority Public Drinking Water Source Area.	– None.
Surface water	– - There are no flowing surface water features on or near the site Drainage infrastructure is on site.	– Drainage sumps to be bunded near pipe storage area.
Fire	– Bushland is located to the southern boundary of the site	– Fire Management Plan – Bushfire attack level rating.
Noise & dust	– No sensitive residential receptors within 2 kms of the site boundaries – Long Swamp and Beelihar Park located within 1 km of the site.	– Noise and boundary dust mitigation measures to be implemented i.e. placement of barrier (sea containers) – Assessment of noise.
Traffic movements	– Site designed for heavy vehicle / truck access.	– Assessment of waste vehicles traffic movements, access to site and use of major roads.
Planning approvals	– Approval for “resource recovery” land use approval in place for the site.	– None.

The ‘Attachment 8A-47 Hope Valley Road Work Plan’ documents management measures from potential environmental emissions during construction and installation activities. The following sections document management measures for ongoing operations to be incorporated into Hayes Recycling site specific environmental, safety and operational plans and for assessment by DWER for this Works Approval application.

4.2 Site Environmental Management Measures

The following measures will be employed for overall site environmental management:

- Site personnel undertake a site-specific induction including use of Personal Protective Equipment
- Routine housekeeping practices is employed to ensure that spillages and other materials do not accumulate within the Premises boundary
- Routine maintenance of machinery is carried out to ensure efficient operation (to minimise exhaust particulate emissions)
- All personnel (including contractors) to be informed of their responsibilities and the importance of minimising ambient dust levels during site inductions
- Site speed limit <10kms to be adhered to
- Training: All Hayes Recycling employees will be required to undergo a site-specific induction outlining operational activities and controls in relation to the 'Environmental Management Plan' for the site
- Toolbox meetings: Will be held to communicate any practices / measures to be implemented
- Any complaints received will be registered on the 'Environmental Complaints Register' and will trigger a review of the relevant dust management measures by the Site Supervisor as a basis for development and implementation of appropriate modified practice/s.

4.3 Attachment 6A: Operational potential emissions and proposed controls

Table 4: Emissions and Discharges

Ops	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls	Location
Receival	Transport of used flexibles, rigids and scrap metal to site	Noise / amenity from trucks	45 trucks / week (c.20t)	<ul style="list-style-type: none"> - There is good road access to the site including from a main arterial route via Rockingham Road that links with major roads of Anketell Road and Thomas Road, both with direct access to the Kwinana Freeway. - Trucks do not use or go through any residential routes and roads. - Site is in a general industrial zone. - Contractors / clients instructed not to idle if the facility is not open, to adhere to relevant speed limits and to service trucks to mitigate noise impacts. - Appropriate signage to be erected, <10kms on site. - Appropriate vehicle ingress / egress plans are in place that accommodate trucks. - Staff / visitor parking areas are in designated parking bays. 	External roads Figure 4
Storage of pipes	Unloading	Noise	Up to 1,200 t/week (continuous processing)	<ul style="list-style-type: none"> - Clear instructions to logistics companies on handling of pipes on site via bulk tipper. - Receival & unloading undertaken between 7am & 7pm in line with noise regulations. - "Croakers" fitted to mobile equipment & vehicles to mitigate noise. - Mobile equipment & vehicles regularly maintained. Note: Hayes Recycling SOP to be followed. - Unloading area buffered by enclosed warehouse buildings to the north, west, east, and bushland to the south. - Speed limit of <10kms on internal site roads. 	Buildings Figure 2

Ops	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls	Location
Storage of pipes	Unloading	Vehicle oil spills		<ul style="list-style-type: none"> - Sump near storage area to be bunded (refer Attachment 8A for example of type of bunding). - All spills to be cleaned up immediately using onsite spill kits & transferred to a lidded bin for disposal to an appropriately licensed facility. - The entire site is virtually covered with a concrete pad. - Central drainage systems drain towards a series of concrete sumps and is separate from the street stormwater system. 	Pipe storage Figure 4
	Storage	Bushfire impacts		<p>Fire Management Plan developed by TESH (refer to Attachment 8D); measures to be followed.</p> <ul style="list-style-type: none"> - Container wall to be erected on southern boundary, barrier to the exterior fire break road. - Fire hose reels and extinguishers in warehouses & all buildings on site. - Fire hydrant access & good access to site for DFES vehicles. - Hope Valley Fire & Rescue Service located within 15 minutes of site. - Hayes Recycling will comply with the Fire Brigades Act 1989 & regulations & induct staff. - Hayes Recycling will implement relevant fire precautions for 'hot work permit', assessment of ignition sources in line with Safe Work Method Statement/s etc. - Fire hoses, extinguishers, and pumps available on site. 	External bushland to southern boundary Figure 2

Ops	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls	Location
SURF Recycling Plant	Pipes loaded into equipment	Noise & vibration		<ul style="list-style-type: none"> - Activity occurs in line with noise regulations between 7am and 7pm. - Equipment located internally in the processing warehouse. - Operations predominantly occur in enclosed warehouses from sites (facilities) adjacent to and opposite the Hayes Recycling facility. Hayes Recycling facility, adjacent & opposite sites have been landscaped for amenity and would offer some noise attenuation capacity. - The hydraulic power unit is enclosed within the building. - Equipment fitted with hood. - Structural engineer assessment to determine any requirement for special concrete layer under equipment to be undertaken - Regular maintenance schedule. Note: Hayes Recycling SOP to be followed. 	Figure 2 & Figure 4
		Dust		<ul style="list-style-type: none"> - In addition to above controls for noise: - Sealed hardstand across all the site. - Equipment fitted with mist (spray) nozzles for dust suppression. - Fencing surrounding site for capture of any windblown litter. - Implement good site maintenance & housekeeping practices. 	Figure 4
		Waste water		<ul style="list-style-type: none"> - Evaporates during processing. - No chemicals etc. Additives; water spray only. 	
	Metal removed	Noise		<ul style="list-style-type: none"> - Equipment located internally in processing warehouse. - Processing operations to occur within noise regulations, between 7am and 7pm. 	Figure 4

Ops	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls	Location
				<ul style="list-style-type: none"> - Equipment regularly maintained with schedule maintenance regime. - Covered conveyor to mitigate noise conveying metals externally to quality assurance station. Picking lines to be built to acoustically 'deaden' noise for worker health & safety and to mitigate environmental noise emissions. 	
		Waste		<ul style="list-style-type: none"> - Waste transferred on covered conveyors externally to waste disposal bins. Waste disposed to appropriately licenced facilities. Where appropriate, waste will be disposed to waste to energy as a preferred alternative to landfilling, and in line with the WA Waste Strategy. All wastewater generated dries as result of operational processes ensuring no wastewater is generated from the process. 	
	Removal light fraction	Waste		<ul style="list-style-type: none"> - Waste transferred on covered conveyors externally to waste disposal bins. Waste disposed to appropriately licenced facilities. Where appropriate, waste will be disposed to waste to energy as a preferred alternative to landfilling, and in line with the WA Waste Strategy. 	
	Removal other metals	Noise		<ul style="list-style-type: none"> - Equipment located internally in processing warehouse. - Processing operations to occur within noise regulations, between 7am and 7pm. - Equipment regularly maintained with schedule maintenance regime. Note: Hayes Recycling SOP to be followed. 	

Ops	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls	Location
				<ul style="list-style-type: none"> - 'Noise impact assessment' undertaken by VIPAC in July 2024 on construction activities and running of processing equipment and vehicles on industrial receptors. Refer Attachment 8E-VIPAC Noise Impact Assessment. - Covered conveyor to mitigate noise conveying metals externally to picking line. Quality assurance station to be built to acoustically 'deaden' noise for worker health & safety, and to mitigate environmental noise emissions. 	
		Waste		<ul style="list-style-type: none"> - Waste transferred on covered conveyors externally to waste disposal bins. Waste disposed to appropriately licenced facilities. Where appropriate, waste will be disposed to waste to energy as a preferred alternative to landfilling, and in line with the WA Waste Strategy. 	
	Polymers extracted & classified	Noise		<ul style="list-style-type: none"> - Equipment located internally in processing warehouse. - Processing operations to occur within noise regulations, between 7am and 7pm. - Equipment regularly maintained with schedule maintenance regime. Note: Hayes Recycling SOP to be followed. - 'Noise impact assessment' undertaken by VIPAC in July 2024 on construction activities and running of processing equipment and vehicles on industrial receptors. Refer Attachment 8E-VIPAC Noise Impact Assessment. 	
		Waste		<ul style="list-style-type: none"> - Waste collected in bins and disposed to appropriately licenced facilities. Where appropriate, waste will be disposed to waste to energy as a preferred alternative to landfilling, and in line with the WA Waste Strategy. 	

Ops	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls	Location
	Distribution of product from site	Noise / amenity from trucks transporting products from site	At full capacity 45 trucks / week (scheduled and dependant on waste acceptance)	<ul style="list-style-type: none"> - There is good road access to the site including from a main arterial route via Rockingham Road that links with major roads of Anketell Road and Thomas Road, both with direct access to the Kwinana Freeway. Trucks do not use or go through any residential routes or roads. - Site is in a general industrial zone. - Contractors / clients instructed not to idle if the facility is not open, to adhere to relevant speed limits and to service trucks to mitigate noise impacts. - Appropriate signage to be erected, <10kms on site. - Appropriate vehicle ingress / egress plans are in place that accommodate trucks. - Sea containers containing products loaded via crane onto trucks. 	Figure 2

4.4 Attachment 6B: Waste acceptance

Hayes Recycling has developed a 'Recycling Management Plan' for the receipt of pipes and scrap metal on to site. Note: the steps below are outlined as part of this Plan, which is a working operations procedure subject to continual improvement reviews as part of Hayes Recycling ISO accreditations and processing operations in Perth.

Objectives

- To manage waste and material accepted in line with relevant DWER licence conditions
- To mitigate disposal of hazardous waste materials to site.

Responsibilities

- Admin
- Site supervisor / designated staff

Load and Inspection Measures

- Collection
 - Waste is transported to the facility by a third party
 - Pipes must conform to measures and certifications to ensure they have been thoroughly washed and cleaned by the waste generator
- Receipt
 - Admin to be advised in advance of the type of vehicle (i.e. sea container, bathtub, flatbed truck) transporting pipes so appropriate equipment and procedures can be identified and arranged prior to arrival
- Load Registration and Inspection
 - Upon arrival at the Premises:
 - Each load is weighed
 - A customer 'signing' document is completed
 - Information about the waste type being received is recorded and 'signed off'
 - A 'declaration of waste' being non-hazardous is obtained
 - Vehicles (pipes) are inspected before being allowed to proceed into the facility
 - Non-conforming loads are rejected, and admin informed
- Unloading and Inspection
 - Loads are tipped at designated unloading and pipe storage area
 - Staff supervise unloading
 - Non-conforming loads are rejected and admin informed

Equipment

- Field equipment used is:

Contaminant	Field test method
Marine growth	Visual
Metals in scale (Mg to U)	Handheld XRF
Mercury vapour	Nippon instruments Corp EM3 mercury vapour analyser
Multi-gas detection (LEL,O ₂ ,SO ₂ ,H ₂ S,CO)	Handheld IR/Catalytic handheld gas meter Ventis Pro5
VOC detector	Handheld photoionization detection (PID) tiger check
NORM	SE International radiation meter

4.4.1 Declaration of Clearance

This activity occurs offsite and is undertaken by a specialist contracted cleaning company.

All used pipes received at the site must be accompanied by a 'Declaration of Clearance' to inform Hayes Recycling that they have been thoroughly washed and cleaned and do not contain hazardous substances.

The process for cleaning flexible pipes will vary across companies who are contracted to undertake this work but generally involves industrial cleaning methodologies like high pressure water jetting or chemical cleaning process.

5 Attachment 7: Siting and Location

The site is zoned ‘General Industry’ under the City of Kwinana Town Planning Scheme No.2 and ‘Industrial’ under the Metropolitan Region Scheme. The site has appropriate zoning and planning approvals to allow for “resource recovery” activities by the City of Kwinana.

The prevailing wind direction across the site is south-west and is influenced by the Fremantle Doctor Seasonality. Wind direction and speed may be impacted by factors including vegetation to the southern boundary of the site, infrastructure on and surrounding the site, as well as the site topography.

Data from the Bureau of Meteorology Garden Island Weather Station⁵ (Table 5) shows highest monthly mean rainfall over 2001/2024 was recorded for June to August (115.5, 125.7, 93.3 mm). Highest mean maximum temperatures over 2001/2024 were recorded for January to March (27.5, 28.4, 27.1 °C).

The site is buffered by degraded vegetation to the southern boundary of the site, with Rockingham Road to the west boundary industrial warehouse facilities located adjacent to the west and east, and opposite to the north. Refer Table 6 and Attachment 8E-Receptors Map.

Table 5: Mean monthly temperature and rainfall - Garden Island weather station

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years	
Temperature															
Mean maximum temperature (°C)	27.5	28.4	27.1	23.8	21.4	19.0	17.9	18.1	19.0	21.0	23.9	25.8	22.7	22	2001-2024
Mean minimum temperature (°C)	19.0	19.4	18.4	16.0	13.8	12.1	11.4	11.2	12.0	13.6	15.7	17.4	15.0	22	2001-2024
Rainfall															
Mean rainfall (mm)	12.3	15.0	16.4	38.5	73.8	115.5	125.7	93.3	62.4	27.9	20.0	9.2	591.8	22	2001-2024
Decile 5 (median) rainfall (mm)	1.0	3.0	13.6	33.1	67.2	125.6	120.0	92.8	66.2	25.1	17.0	4.2	600.2	22	2001-2024
Mean number of days of rain ≥ 1 mm	1.1	1.1	2.5	4.9	8.2	12.0	15.5	12.8	10.7	5.7	3.3	1.9	79.5	22	2001-2024

5.1 Receptors

The potential receptors to site are outlined in Table 6, Figure 5 and in Attachment 8E-Receptors Map.

⁵ Available: <http://www.bom.gov.au/climate>, Accessed: May 2024

Table 6: Potential receptors to the site

Receptors	Description
Sensitive receptors	No residential communities in proximity to the site.
Industrial receptors	Industrial premises consisting of engineering and asset management businesses, commercial shipping vessel manufacturing and surface coatings manufacturer.
Ecological receptors	Beelihar Regional Park. Long Swamp.



Figure 5: Site and potential receptors within 2 kms

6 Attachment 11: Commercial in Confidence

The following Attachments are to be treated 'commercial in confidence':

Section / Attachment	Reason
Noise assessment details, VIPAC (Attachment 8G).	The assessment also documents and details sensitive aspects of the SURF Recycling Plant equipment that is highly sought after by competitors.