Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W2969/2025/1
Applicant	Chairay Sustainable Plastic Co Pty Ltd
ACN	631 751 703
Application number	APP-0029075
Premises	Chairay Sustainable Plastic Warehouse A, 204 Bannister Road CANNING VALE WA 6155 Legal description - Part Lot 165 on Plan 13436 Certificate of Title Volume 1589 Folio 88 As defined by the premises maps attached to the issued works approval
Date of report	26 November 2025
Decision	Works approval granted

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W2969/2025/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary and overview of premises

On 25 March 2025, the applicant (Chairay Sustainable Plastic Co Pty Ltd) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to a plastic reprocessing facility (category 61A: solid waste reprocessing) at the premises. The premises is in the industrial area in Canning Vale. The applicant shares the Lot with ICD Superalloys Australia Pty Ltd (W6968/2024/1). The Lot is split into two warehouses. Chairay occupies Warehouse A at the front of the Lot.

The premises relates to the categories and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W2969/2025/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W2969/2025/1.

The applicant is a recipient of a grant from the Recycling Modernisation Fund to support the development of new plastic reprocessing infrastructure in the Perth metropolitan region. The applicant proposes to construct a plastic reprocessing facility in an existing warehouse. This facility will reprocess used Polyethylene Terephthalate (PET), High-Density Polyethylene (HDPE), and Polypropylene (PP), and mixed plastics (including Polyvinyl Chloride and other plastics that are not a single resin or polymer type). This will involve the installation of plastic sorting, flaking, washing, extruding and pelletising lines. The reprocessing of plastic will involve cleaning the shredded plastic. Chairay will construct and install a wastewater treatment plant (WWTP) to treat this wastewater. At present the facility does not have the electrical capacity to run the required infrastructure. Two diesel generators will be installed on the premises to provide the necessary power. The facility will operate from 7:00 to 17:00.

The applicant is seeking 6 months of environmental commissioning and 6 months of time limited operations.

2.2.1 Plastic reprocessing plant

Chairay will construct a plastic reprocessing line made up of an:

- Automatic baling machine
- Automatic sorting machine (automated optical sorting, a manual picking line, and a magnetic sorter capable of removing metals from the plastic line)
- Plastic crusher

- Single shaft shredder
- Plastic washing machine (for the cleaning of the shredded plastic material)
- Dehydrator (drying machine)
- Stripping machine
- Flaking machine
- Plastic pelletiser (capable of pelletising PET and HDPE resin)

This line is also made up of several screw belts and conveyor belts which assist in moving the material through the line. The plastic reprocessing line has several separation and collection points for the sorted plastics and residual wastes. The reprocessing line involves cleaning the shredded plastic which will produce wastewater. Chairay notes that the steam/vapours given off from the pelletising process will be diverted through pipework, pass through cold water to produce condensate inside the pipework, and the final emission 'bubbled' through water to collect the condensate. All wastewater will be transported via pipeline to the wastewater treatment plant located on the premises. A simplified process map of the reprocessing line is shown below in Figure 1. As shown some virgin plastic is required to be mixed in with the reprocessed plastic to maintain the integrity of the final product.

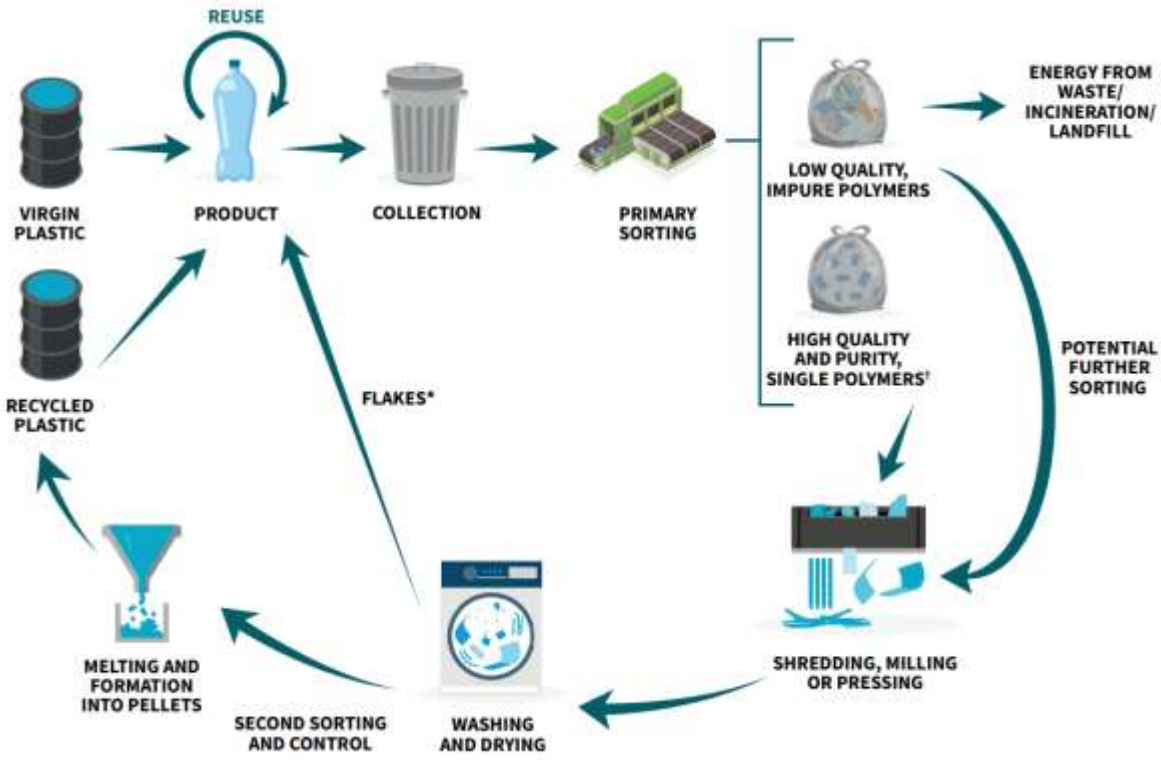

Figure 1: Reprocessing of plastic life cycle (supplied by Chairay)

Used plastics will be sourced from the Container Deposit Scheme, and Material Recovery Facilities in Western Australia. Baled plastic will be transported from these premises to Chairay where it will be stored before reprocessing on site. The facility will roughly take in the quantities of plastics outlined in Table 1 below and produce the outputs and associated waste products.

Table 1: Expected inputs and outputs from plastic reprocessing (per annual period)

Inputs	Outputs	Waste products
• HDPE 3,600 tonnes • PET 5,400 tonnes • MP 6,000 tonnes • Water for plastic reprocessing 30 ML year	Reprocessed plastic: • HDPE: 4,200 tonnes • PET: 6,000 tonnes • PP: 1,800 tonnes	• Plastic residue 3,000 tonnes • WWTP wastewater 30 ML • WWTP sludge 600 tonnes

Un-recoverable plastic waste from the reprocessing/sorting will be stored on site before being transported offsite for final disposal. The reprocessed plastic product will be available for non-food-grade industrial use.

2.2.2 Wastewater treatment

It is expected that around 60 m^3 of wastewater will be produced per day through the plastic reprocessing plant which will then move to the wastewater treatment plant. This activity is regulated by the works approval but is not listed as a category on the works approval (i.e. a category 61: liquid waste facility) as the wastewater is produced on the premises. Wastewater will be treated onsite to Water Corporation trade waste requirements before being discharged into the onsite sewer connection.

Chairay's wastewater treatment plant involves physical, chemical and biological treatment. This process is outlined below in Figure 2. As required as part of the treatment process; chemical storage tanks, bacteria storage tanks and mixing tanks will be on site.

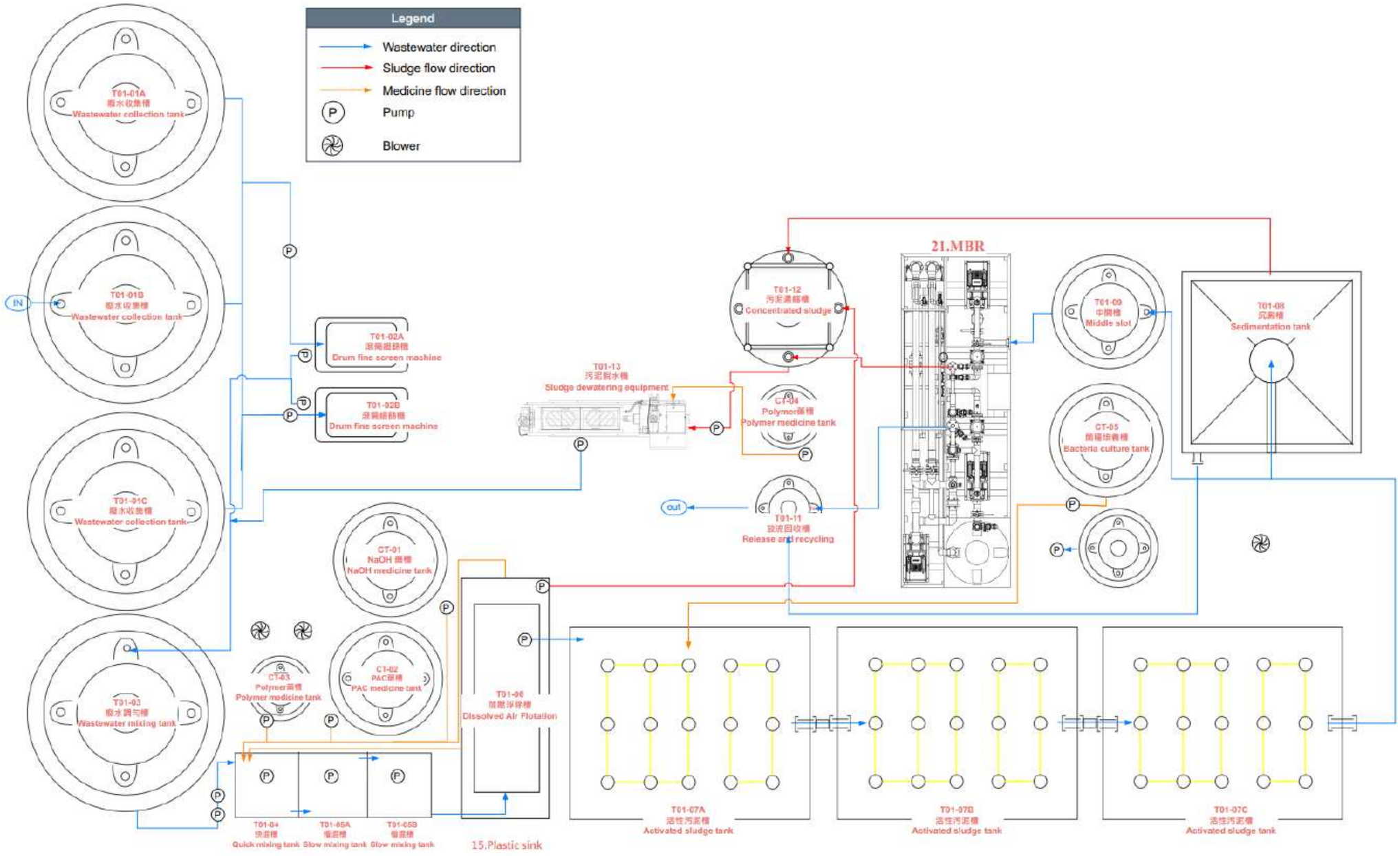

Figure 2: Wastewater treatment plant process

Sludge produced as a byproduct of the wastewater treatment will be dewatered and stored on site before being collected and transported for appropriate disposal. Expected sludge production varies depending on the retention time in the sludge tanks. Dry weight of sludge produced per day is expected to vary from 180 to 108 kg. Monitoring of the sludge settling and concentration in the sedimentation tank allows Chairay to adjust bacteria levels to optimize retention time and output. Assuming a 70% moisture content maximum, sludge production is expected to be 600 kg per day (at 180 kg dry weight with a 3 day retention).

Chairay is in the process of applying for a trade waste permit from Water corporation. The trade waste requirements are shown below:

(i) Biochemical Oxygen Demand of < 145 mg/L

(ii) Total suspended solids < 275 mg/L

(iii) pH of 6 -9

2.2.3 Diesel generators

As noted above Chairay requires additional energy production to run the plastic reprocessing line and the wastewater treatment plant. Chairay has contacted Western Power to organise upgrade works to the premises to increase electrical output. In the interim Chairay will install two diesel generators as per AS/NZS ISO 14001 Standards, in the parking lot of the premises. There will be no fuel storage tanks on the premises, routine refueling will occur directly to the generators.

The generators were not included in the initial acoustic assessment Chairay provided to the department. Chairay reports that the C750D5P diesel generators are equipped with a sound-attenuated enclosure and achieve a noise level of 75 dB at 1 meter under full load. The applicant has stated that noise reduction screens will be installed around the generators.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction / operation which have been considered in this decision report are detailed in Table 2 below. Table 2 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 2: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Installation of WWTP and plastic reprocessing equipment	Air / windborne pathway	• Separation distance to residential receptors • Installation and construction activity to occur within the warehouse • Premises operations occurring on a concrete hardstand (minimal dust generation)
Noise	Installation of WWTP and plastic reprocessing equipment Vehicle movements	Air / windborne pathway	• Separation distance to residential receptors • Installation and construction activity to occur within the warehouse
Commissioning and Time limited operations			
Dust	Sorting and reprocessing of plastic	Air / windborne pathway	• Premises operations occurring on a concrete hardstand (minimal dust generation)
Odour	Acceptance and storage of waste Sorting and reprocessing of plastic Operation of WWTP and production of sludge Storage of treated sludge	Air / windborne pathway	• Weekly air quality monitoring will be undertaken during commissioning to determine baseline emissions of volatile organic carbons from the pelletising plant, and indoor air quality for volatile organic compounds (VOCs) within the facility processing building • Keep all roller doors closed as much as possible during operation of fixed machinery/equipment and mobile plant inside the warehouse • Vapour collection / carbon filtration on the pelletising line to capture VOCs
Noise	Sorting and reprocessing of plastic Operation of diesel generators	Air / windborne pathway	• Acoustic assessment to be conducted on noise emissions of operating premises • Ensure the performance of the soundproofing for the shaft shredder, crusher, horizontal dehydrator and stripping machine are performing as expected • Keep all roller doors closed as much as possible during operation of fixed machinery/equipment and mobile plant inside the warehouse • Avoid noise-generating fixed plant and mobile equipment operating

Emission	Sources	Potential pathways	Proposed controls
			simultaneously as much as practicable • Ensure the performance of the specified installed soundproofing for shaft shredder, crusher, horizontal dehydrator and stripping machine is as per currently expected performance • Premises operating hours are from 07:00 to 17:00 (including operation of generators) • Comply with the *Environmental Protection (Noise Regulations 1997* • Undertake commissioning testing of individual noise generating equipment to ensure their noise emissions are not excessive when compared with the noise modelling assumptions • Undertake compliance monitoring at nearby sensitive receptors once the facility is fully operating, to ensure overall operational noise compliance, and through implementation of relevant improvement measures, if required • Install screen to mitigate noise emissions from diesel generators
Pelletised plastic / plastic fibres	Acceptance and storage of waste Sorting and reprocessing of plastic	Overland flow to stormwater drains	• Membrane filtration to remove suspended solids from wastewater • Bunding to be constructed on the premises to contain 781,000 L of fire water • All storage tanks on the site will be within a bunded area
Wastewater/ sludge	Reprocessing of plastic Treatment of wastewater Spills/leaks of wastewater or sludge	Seepage to soil and groundwater Overland flow to stormwater drains	• Maintenance works to warehouse to occur to repair cracks and defects in the hardstand, as well as waterproofing and bunding of electrical connection points and wastewater inspection openings • Wastewater treatment plant to be constructed and installed with a designed flow rate capacity of 60 cubic metres per day • Wastewater treated to meet a discharge standard of: (i) Biochemical Oxygen Demand of < 145 mg/L (ii) Suspended solids < 275 mg/L (iii) pH of 6 -9 • Sludge to be periodically removed from

Emission	Sources	Potential pathways	Proposed controls
			the premises by a licensed carrier • Monitoring devices installed at the discharge point which continually monitor flow rate, suspended solids and biological oxygen demand, and alert of any abnormalities and irregularities • All storage tanks on the site will be within a bunded area • Spill kits maintained on site and material used for spill clean up appropriately disposed
Spills and leaks of chemicals /diesel	Operation of diesel generators Treatment of wastewater	Seepage to soil and groundwater Overland flow to stormwater drains	• Diesel will not be stored in storage tanks on the premises
Contaminated stormwater	Storage of waste plastic	Seepage to soil and groundwater Overland flow to stormwater drains	• Unprocessed plastic material stored within the premises warehouse which is covered • Warehouse area is a concrete hardstand • Maintenance works to warehouse to occur to repair cracks and defects in the hardstand, as well as waterproofing and bunding of electrical connection points and wastewater inspection openings • Three interconnected soak wells in the loading bay area to be sealed to prevent infiltration to groundwater • Installation of submersible pump for the interconnected soak wells to transfer stormwater to the existing civil stormwater drain system with an automatic cut off in a fire event to contain firewater
Toxic smoke, gas, fire	Storage of waste plastic	Air / windborne pathway	• Sprinkler system to be installed in the warehouse • Fire hydrants installed along perimeter of warehouse • Fire water tanks on site (30,000 L)
Firefighting wash water	Fire suppression	Seepage to soil and groundwater Overland flow to stormwater	• Maintenance works to warehouse to occur to repair cracks and defects in the hardstand, as well as waterproofing and bunding of electrical connection points and wastewater inspection openings • Bunding to be constructed on the

Emission	Sources	Potential pathways	Proposed controls
		drains	premises to contain 781,000 L of fire water • Installation of submersible pump for the interconnected soak wells to transfer stormwater to the existing civil stormwater drain system with an automatic cut off in a fire event to contain firewater • Contained firefighting wash water will be removed offsite for disposal at an appropriately licensed treatment facility

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 and Figure 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental Siting* (DWER 2020)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	**Distance from prescribed activity**
Residential premises	• 490 north-west of premises boundary • 1.1 km south of premises boundary
Industrial premises	Surrounding the premises
Environmental receptors	**Distance from prescribed activity**
Rights in Water and Irrigation Act 1914 proclaimed areas	Located in Perth Groundwater area
Threatened ecological communities	• Within 500 m of the premises boundary
Threatened and priority flora	• Within 800 m of the premises boundary
Conservation wetlands	• 1.3 km south-west of the premises boundary • 2.8 km north-east of the premises boundary
Bush Forever sites	• 1.3 km south-west of the premises boundary • 2.8 km north-east of the premises boundary

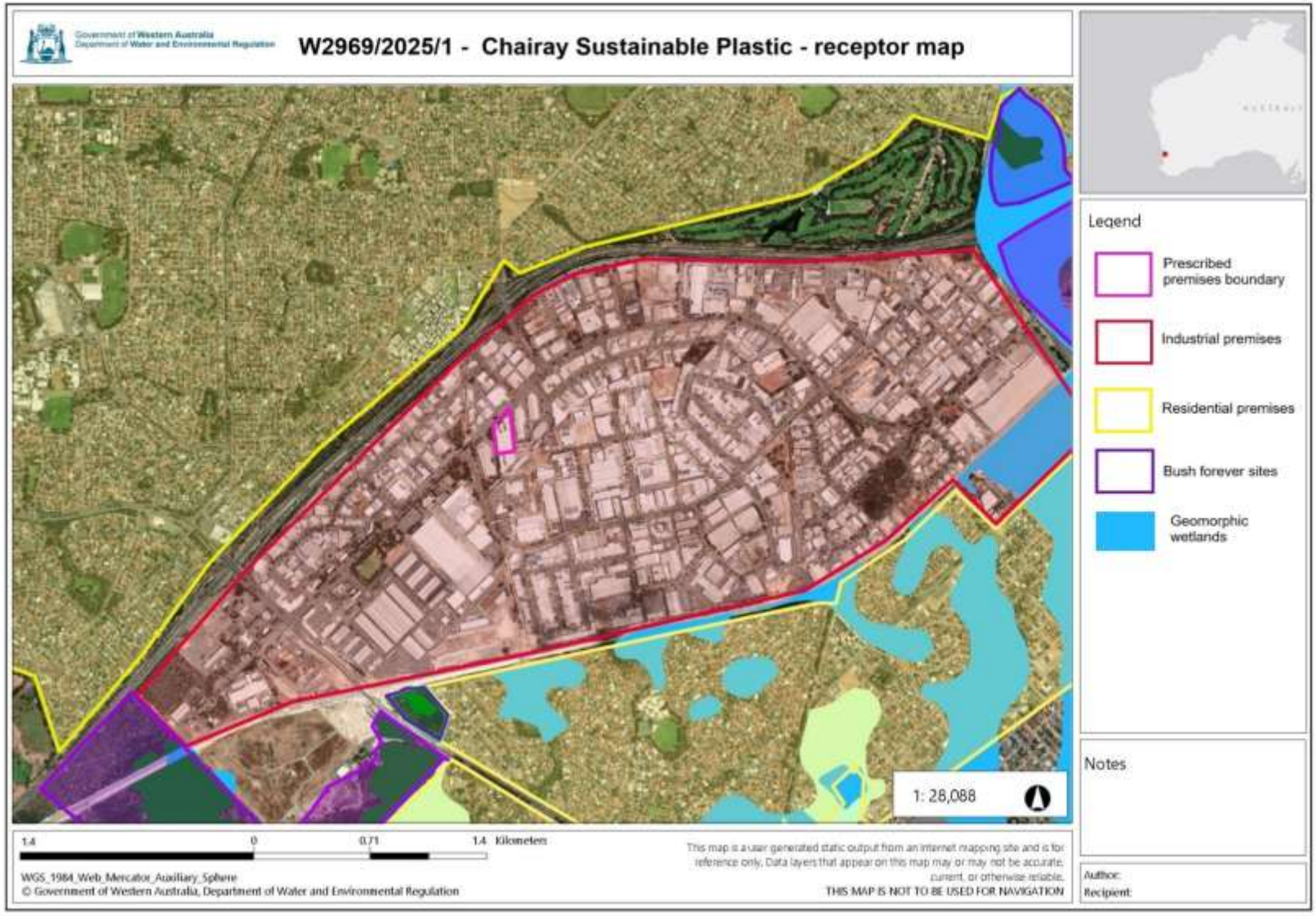

Figure 3: Chairay Sustainable Plastics and surrounding receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

Works approval W2969/2025/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. plastic reprocessing activities. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 4: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Installation of plastic reprocessing and sorting equipment Vehicle movements	Dust	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	• Residences 490 north-west and 1.1 km south of premises boundary • Industrial premises surrounding the premises	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	N/A	Dust generation from construction/installation activities is likely to be minimal. It is also noted that these activities will occur within the premises warehouse and are likely to be contained. The delegated officer considers that the provisions of section 49 of the EP Act (causing pollution and unreasonable emissions) is sufficient to regulate dust emissions from construction activities.
	Noise/ vibration			Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	N/A	The premises is located in an industrially zoned area. The delegated officer considers the provisions of the *Environmental Protection (Noise) Regulations 1997* are sufficient to regulate noise emissions from construction activities.
Operation (commissioning and time-limited-operations)								
Vehicle movements Operation of a plastic reprocessing plant Acceptance and storage of plastic material Operation of diesel generators	Dust	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	• Residences 490 north-west and 1.1 km south of premises boundary • Industrial premises surrounding the premises	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 14	The delegated officer notes the distance to sensitive receptors which are separated by vegetation barriers along the roadside. Fugitive dust emissions which may occur during reprocessing will be managed on the premises through the doors being closed during operations.
	Odour	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	• Residences 490 north-west and 1.1 km south of premises boundary • Industrial premises surrounding the premises	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	N	Condition 14 **Conditions 1, 21**	Chairay has noted there is no data for odour emissions from the pelletising process. The risk of odour to residential receptors is mitigated by the distance and separation by a multi lane road. The delegated officer considers that there may be risk of odour emissions to the surrounding industrial receptors. Vapors containing VOCs are expected to be produced from the melting aspect of pelletising where plastic is heated to 300 degrees. The applicant has proposed steam/vapour capture during the pelletising process, with these vapours being diverted and condensed for treatment in the WWTP. Chairay also notes that carbon filtration may be opted for in addition to capture VOCs. The delegated officer has conditioned vapor capture/filtration to allow for the applicant to adjust their methods based on performance (condition 14). A scrubber has also been conditioned to be installed and maintained on the pelletising lines to remove VOCs (condition 1, 14). Applicant controls have been conditioned relating to closing the roller doors during plastic reprocessing (condition 14). This will assist in reducing any fugitive odour emissions escaping the warehouse. The applicant has proposed the monitoring of VOC emissions during commissioning. This data will be requested and considered for the related licence application. This will allow for adjustments to odour controls to be implemented. As the impact of VOC emissions at this stage is unknown, the delegated officer has added a more generic odour emission condition to ensure that odour does not impact nearby receptors (condition 21). The delegated officer has excluded the applicant's employees, visitors, and contractors from its odour risk assessment. Protection of these parties is provided for under other state legislation.
	Noise	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	• Residences 490 north-west and 1.1 km south of premises boundary • Industrial premises surrounding the premises	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	Conditions 1, 10, 14 **Conditions 15, 16, 17, 33**	The delegated officer notes the proximity to industrial and residential receptors. The applicant has proposed to keep the roller doors to the warehouse closed during operations. This has been conditioned during operations, with exceptions being made during the deliveries (condition 14). It is noted that the diesel generators were not included in the initial acoustic modelling which was provided to the department and that the diesel generators are to be located outside of the premises. The applicant has proposed the installation of screens to reduce noise from the generators which have been conditioned (condition 1). Requirements to operate infrastructure in line with the *Environmental Protection (Noise) Regulations 1997* have also been conditioned (condition 10). The delegated officer supports the applicant's controls to conduct a third-party acoustic assessment of the operations during time limited operations which will assess the noise generated from all operating equipment. This is to occur during time limited operations as to more accurately assess the noise emissions occurring when the facility is running at or close to capacity. This assessment will require noise emissions for all activities to be in line with the Noise Regulations. If the noise emissions exceed the Noise Regulation then a report which includes measures to reduce the emissions in line with the Noise Regulation has been conditioned (condition 15, 16, and 17). Any complaints received regarding noise are required to be recorded under condition 33, these concerns can be addressed in the licence application.
	Windblown waste	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	• Residences 490 north-west and 1.1 km south of premises boundary • Industrial premises surrounding the premises	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	N	Condition 14 **Conditions 22, 26**	Plastic processing and storage will occur within the warehouse with roller doors to be closed during operations (condition 14). Waste plastic received will be baled prior to processing, and processed plastic will be stored in bulka bags prior to offsite removal (condition 14). Security condition 26 also requires the roller doors to be locked when the premises is not operating and unattended, preventing the escape of windblown waste. A windblown waste condition (condition 22) has also been added to the works approval. The delegated officer considers these conditions sufficient to manage the risk of windblown waste.
	Diesel spills / leaks of diesel	**Pathway:** Overland flow and subsurface seepage	• Underlying groundwater • Threatened ecological communities within 500 m of premises boundary • Threatened and priority	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Conditions 1, 10, 23, 24	The delegated officer notes the diesel generators will be periodically refueled and there will not be a fuel storage tank on the premises. Applicant controls have been conditioned and are deemed sufficient to manage the risk of diesel spills. The generators are to be installed on an impermeable hardstand (condition 1) and maintained in good operational condition free of leaks/defects (condition 10). Spill kits will be maintained on site and used spill material to be disposed of appropriately (condition 23 and 24).

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		Impact: Human health, soil and groundwater quality	flora within 800 m of premises boundary • Conservation wetlands and bush forever sites 1.3 km south-west and 2.8 km north-east of the premises boundary					
	Contaminated stormwater	**Pathway:** Overland flow and subsurface seepage **Impact:** Human health, soil and groundwater quality	• Underlying groundwater • Threatened ecological communities within 500 m of premises boundary • Threatened and priority flora within 800 m of premises boundary • Conservation wetlands and bush forever sites 1.3 km south-west and 2.8 km north-east of the premises boundary	Refer to Section 3.1	C = Moderate L = Rare **Medium Risk**	Y	Condition 1, 14 **Condition 10, 22**	Pellets and shredded/flaked plastic produced by Chairay's plastic reprocessing pose an environmental risk if they make their way into waterways and the natural environment. This pathway would be through the stormwater drains on the premises. Large plastic litter leaving the premises is captured by conditions targeting windblown waste (condition 22). The plastic reprocessing plant is located within the covered warehouse and therefore stormwater, mobilising stored or processed plastic (which will be stored in the warehouse, condition 14) is unlikely. Repairs to the warehouse and hardstand (condition 1) will also ensure stormwater cannot enter the warehouse and drain from the hardstand. Spills of processed plastic (nurdles) on the premises have also been considered. The delegated officer has conditioned plastic screens on the stormwater drains on the premises (condition 10). Regular checking and cleaning/replacing of the screen is also required. Spills of nurdles when the product is taken from the premises and transported to be used are not regulated by this works approval as they are outside of the departments remit. Processed plastic (flaked and pelletised) is required to be stored in bulka bags prior to transport offsite which will reduce the likelihood of spills during storage (condition 14).
	Fire - toxic gas, smoke, odour	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	• Residences 490 north-west and 1.1 km south of premises boundary • Industrial premises surrounding the premises	Refer to Section 3.1	C = Severe L = Unlikely **High Risk**	N	Conditions 1, 10 **Conditions 14, 26, 27, 28, 29**	Standard fire conditions have been added to the works approval ensuring no waste is burnt on the premises and notifying the CEO of any fire on the premises (condition 27, 28). DFES Guidance Note 04 (GN04) notes that the storage of plastic is a high fire risk due to the burn temperature of stockpiled plastic (1,200°C). The guidance notes that a stockpile height of 4.8 metres should not be exceeded. To be conservative, stockpile highs of 4 m have been conditioned (condition 14). Stockpiles have further been conditioned in line with DFES guidance with a maximum width of 20 metres for internal stockpiles and maximum size of 1,000m^3. As noted in GN04, for buildings with a sprinkler system, stockpiles must have a minimum 6 m separation distance from the walls of the warehouse and other stockpiles. The applicant has also proposed having fire management equipment including fire extinguishers, fire hose reels, sprinklers, fire/smoke detectors as well as two pre-existing water tanks with a total 300,000 L capacity. This has been conditioned under condition 10, including maintaining the volume in these tanks to ensure there is adequate water supply to the sprinklers/fire hose reels. The development and implementation of a fire and emergency management plan for the premises detailing how fires will be prevented, detected, responded to, suppressed, contained and controlled on the premises. This also includes ensuring that all relevant information is made available to first responders at the entrance of the facility if a fire event occurs (condition 29). This plan will also include the operation of a fire detection system and requirements to minimise the size of stockpiles. Vandalism / arson to the facility has been considered. Lockable gates and entrance to the premises have also been conditioned (condition 26). The delegated officer notes that the diesel generators are outside of the warehouse away from the stockpiles of processed and unprocessed plastic. Diesel is an accelerant and conditions to maintain the generators free of leaks/defects have been added (condition 1 and 10).
	Firefighting wash-water	**Pathway:** Overland flow and subsurface seepage **Impact:** Human health, soil and groundwater quality	• Underlying groundwater • Threatened ecological communities within 500 m of premises boundary • Threatened and priority flora within 800 m of premises boundary • Conservation wetlands and bush forever sites 1.3 km south-west and 2.8 km north-east of the premises boundary	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	Condition 1 **Conditions 27, 28, 29, 30**	Chairay has calculated fire water hydraulic demand for a fire at the premises to be 781,000 L. The construction of bunding to contain this level of firewater has been conditioned as part of condition 1. In addition, works will be conducted to the existing soak wells in the loading bay area of the premises so they are capable of containing fire water in the event of a fire. The pump which connects the soak wells to the civil stormwater system will have an automated shut off in the event of a fire (condition 1). Fire water contained in these soak wells can then be pumped out as required. Chairay notes a number of maintenance and repair works are required on the premises to waterproof and repair defects to the hardstand. These have been conditioned as per condition 1 and will aid in preventing infiltration of firewater to groundwater. The fire and emergency management plan that has been conditioned is also to include control and containment methods for firewater (condition 29, 30). Standard fire controls have also been added to the works approval (condition 27 and 28) to instruct there is to be no waste burnt on the premises and if fires do occur to immediately notify the department.
Operation of a wastewater treatment plant	Odour	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	• Residences 490 north-west and 1.1 km south of premises boundary • Industrial premises surrounding the premises	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	N	Condition 14 **Conditions 10, 21, 32**	The delegated officer notes that most aspects of the WWTP are located in the warehouse. The risk of odour is also mitigated by the distance to residential receptors and separation by a multi lane road. The delegated officer considers that there may be risk of odour emissions to the surrounding industrial receptors. Applicant construction conditions have been strengthened to require WWTP infrastructure to be covered to prevent stormwater ingress (condition 10) this will also reduce the likelihood of fugitive odour emissions from the WWTP. Roller doors to the premises are also to be closed except during deliveries which will reduce odour emissions (condition 14). Monitoring of VOCs during commissioning (targeted at the pelletising process) will also pick up ambient VOCs that are not contained from the WWTP. This commissioning data will be requested and considered for the related licence application. This will allow for adjustments to odour controls to be implemented. Functional tests on the WWTP during commissioning will also confirm that it is operating as expected. A general odour emission condition to ensure that odour does not impact nearby receptors has also been conditioned (condition 21). Any complaints regarding odour made by receptors are required to be recorded under condition 32, these concerns can be addressed in the licence application.
	Spills/ leaks of wastewater/ sludge and chemicals Contaminated stormwater	**Pathway:** Overland flow and subsurface seepage **Impact:** Human health, soil and groundwater	• Underlying groundwater • Threatened ecological communities within 500 m of premises boundary • Threatened and priority flora within 800 m of premises boundary • Conservation wetlands and bush forever sites	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	Conditions 1, 4, 5, 23, 24 **Condition 10, 22, 25**	Pellets and shredded/flaked plastic produced by Chairay's plastic reprocessing pose an environmental risk if they make their way into waterways and the natural environment. Wastewater used to wash the waste plastic will be transferred to the WWTP. This wastewater will contain solid residue, including plastic fines. The applicant proposes to capture this through the WWTP processes (membrane batch reactor and the fine screening machine, constructed under condition 1). Treated wastewater discharged to the sewer connection has been conditioned to meet trade waste specifications (condition 1), functionality of the WWTP will be confirmed during environmental commissioning (condition 4 and 5). It is possible that if there are issues with the treatment process plastic fines and other solid waste residue may be discharged to the sewer connection. The delegated officer has conditioned a plastic filter screen to be installed on the outlet pipe discharging treated wastewater to the sewer outlet (condition 10). Regular checking and cleaning/replacing of the screen is also required and has been conditioned.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		quality	1.3 km south-west and 2.8 km north-east of the premises boundary					WWTP infrastructure has been conditioned to be covered to prevent stormwater ingress (condition 10) this will prevent stormwater from entering the WWTP and causing an overflow. The WWTP will be constructed on an existing concrete hardstand. Works to the warehouse to repair defects in the hardstand and waterproof electrical/wastewater connection points proposed by the applicant have also been conditioned (condition 1). There is also a possibility that the finished plastic product (nurdles) may spill outside of the warehouse. The delegated officer has conditioned plastic screens on the stormwater drains on the premises (condition 10). Larger plastic litter which may be present on the site and could contaminate stormwater is managed as per condition 22. A standard stormwater condition has also been added to require the works approval holder to prevent stormwater contamination (condition 25). Chemicals are also required to be stored in line with Australian Standard AS/NZ 3780. Spill kits are required to be maintained on the premises for use if spills of sludge/wastewater occur (conditions 23 and 24). Sludge has been conditioned to be stored in impermeable containers/bulka bags prior to offsite removal and disposal (condition 10). Bunding around the WWTP has been conditioned as well as bunding around the sewer connection to prevent spills from entering the drainage network (condition 1).

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 17 June 2025	Refer to appendix 1.	Refer to appendix 1.
Local Government Authority – City of Canning advised of proposal on 17 June 2025	City of Canning approval was provided to the department by the applicant on the 15 August 2025.	The department has noted that the City of Canning has approved the generators on the premises for 24 months. The approval also requires an acoustic assessment to be conducted within 3 months of the commencement of the development. The City has also required Chairay to submit a set of the approved plans to the Department of Fire and Emergency Services (DFES) for assessment.
DFES Built Environment was contacted for comment on 31 July 2025	No comment received.	n/a
Applicant was provided with draft documents on 29 October 2025	Applicant accepted the draft documents and provided comment on how flammable materials will be stored on the premises on 21 November 2025.	The delegated officer has added a regulatory control requiring flammable chemicals to be stored within a bunded, locked area.

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Fire and Emergency Services (DFES), 2020, Guidance Note 04: Fire Prevention and Management in a Recycling Facility. Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
4. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of public consultation period submissions

Summary of public consultation submission	Department's response
The storage of unprocessed plastic on site is a fire risk. The proposal includes the storage of up to 1,000 tonnes of unprocessed plastics on site at any one time. • What are the mechanisms in place to prevent storage of highly flammable materials near the plastics storage area? • How will vandalism at the premises be prevented? • How will an over-supply of feedstock and product be managed, if it cannot be stored within the building or in proximity to the sprinkler systems? Nurdles are known to be a significant source of plastic pollution in marine and freshwater systems. Spills can be difficult to control and the source of nurdle pollution can be difficult to determine. Once nurdles enter the environment, they can persist for hundreds of years as a source of contamination. Nurdles are mistaken by wildlife as food and ingested; they add toxins to the foodchain; they can alter wildlife habitat; and they are environmentally persistent. • Mechanisms should be implemented to secure the containment of pelletised plastics (nurdles) from production through to transportation. • Product identification methods should be applied to enable the 'polluter pays principle', in the event of an environmental release of pelletised plastics.	Flammable chemicals will be stored within the concrete bunded area containing the Waste Water Treatment Plant which will be locked. The main security features protecting the site (and access to the flammable chemicals) from unauthorised access are: 1) CCTV monitoring. 2) All doors to site locked. 3) Yard is gated. 4) Roller doors to the yard can only be opened from inside the building. 5) Flammable chemicals stored within concrete bunded area which will be locked off. 6) Additionally, chemicals that require further securing will be stored within a locked specialised chemical cabinet within this bunded area. Processed and unprocessed plastic has been conditioned to only be stored in the locked warehouse. To address vandalism a security condition has been added to the works approval (condition 26). Condition 10 also requires that the warehouse is locked when the premises is unattended. Stockpile dimensions and separation distances between stockpiles have been conditioned which limit the amount of plastic material which can be stored in the warehouse. The height of the warehouse has been considered in the setting of a maximum stockpile height. The Department of Fire and Emergency Services (DFES) were consulted and did not provide comment. A fire and emergency management plan has been conditioned to be developed and implemented which includes minimising the size of stockpiles on site. Regarding the storage and accidental release of nurdles, pelletised plastic must be stored in bulka bags in a designated area in the warehouse prior to offsite removal. A condition has been added to ensure the warehouse floor must be kept clean of loose plastic material (processed and unprocessed). The prevention and collection of

Summary of public consultation submission	Department's response
	windblown waste (which may be made up of pelletised plastic) has been conditioned. The discharge outlet to the sewer connection has been conditioned to have a mesh screen capable of capturing plastic fibres/nurdles. Screens have also been conditioned on the surrounding stormwater drains on the premises to capture plastic fibres. All screens are to be routinely checked, cleaned and replaced as required. The transportation of pelletised plastics is outside of the departments remit and has not been conditioned on the works approval.