
Plan version: Issue 1

Date of plan: 30/09/2025

0. Introductory Note

0.1. Site details

Site name: DEScycle Metals Recovery Installation

Site address: DEScycle TDA, Wilton Centre, Pioneer Group, Wilton, Lazenby, Redcar TS10 4RF

Operator name: Argo Natural Resources Limited Trading as DEScycle

0.2. Who this plan is for

0.2.1. The following persons must read and understand the Fire Prevention Plan (“FPP”):

- all site staff including nominated Fire Wardens; and
- all contractors.

0.2.2. A copy of the FPP will also be shared with the local Fire and Rescue Service (“FRS”). A laminated copy of the Fire Prevention and Mitigation Plan (DESC.01.01-04) will be located at the site entrance so that it is available out of hours.

TABLE OF CONTENTS

0. Introductory Note	1
1. Types of combustible materials	3
2. Using this fire prevention plan	5
3. Fire prevention plan contents	6
4. Manage common causes of fire	8
5. Prevent self-combustion	15
6. Manage waste piles	17
7. Prevent fire spreading	18
8. Quarantine area	19
9. Detecting fires	20
10. Suppressing fires	21
11. Firefighting techniques	22
12. Water supplies	23
13. Managing fire water	24
14. During and after an incident	25
15. Closure	27

LIST OF TABLES

Table 1:LoW to be Accepted	3
Table 2: Other Combustible Materials	4
Table 3 Summary of Surrounding Land Uses	7
Table 4: Waste Piles	17
Table 5: Water Supply Requirement Calculations	23

1. Types of combustible materials

1.1. Combustible waste

- 1.1.1. DEScycle is proposing to accept hazardous and non-hazardous waste under an Environmental Permit.
- 1.1.2. DEScycle will accept a maximum of 21,000 tonnes of waste per annum. The List of Waste (“LoW”) codes to be accepted at the Installation are detailed in Table 1.

Table 1:LoW to be Accepted

Code	Description
16	Other wastes from industrial processes
16 02	Electrical and electronic equipment
16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 15*	hazardous components removed from discarded equipment
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
20	Municipal waste and similar materials from commerce and industry
20 01	Separately collected fractions (except 15 01)
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35

- 1.1.3. The locations of operational and storage areas are shown on Site Layout Plan (DESC.01.01—02) contained within Appendix I of this FPP.

1.2. Persistent organic pollutants

- 1.2.1. Persistent organic pollutants (“POP’s) are assumed to be in all waste being accepted at the Installation, unless a WM3 Assessment has been undertaken on the waste to demonstrate otherwise.
- 1.2.2. Should there be a fire, the Fire and Rescue Service (“FRS”) will be informed immediately that there are wastes containing POPs on site. If there is a fire, the residues from the fire may contain POPs and so will need to be segregated and treated following the POPs regulations. This may include firefighting water.

1.3. Other combustible materials

1.3.1. The other combustible materials stored at the installation are listed in Table 2.

Table 2: Other Combustible Materials

Material	Storage Arrangements	Maximum Amount Stored
Ethylene glycol	Liquid storage area, IBC or 210 l drums	10 tonnes
Choline chloride	Liquid storage area, IBC or 210 L drums	10 tonnes
Iron chloride	Oxidiser storage area, lined plastic drums	5 tonnes
Iron	Solid storage area, lined plastic drums	1 tonne
30% Sodium hydroxide	Alkali storage area, IBC or 210 L plastic drums	5 tonnes
Hydrochloric acid (conc)	Acid storage area IBC or 210 L plastic drums	5 tonnes
Sodium chlorate	Oxidiser storage, lined plastic drums	1 tonnes
Iodine	Special solids, lined cardboard or plastic drums	1 tonne
Activated carbon	Solid storage area, lined plastic drums	2 tonnes
Hydrogen peroxide	Secure area oxidiser storage (permitted access, 25 or 50 L carboy	50kg

2. Using this fire prevention plan

2.1. Where the plan is kept and how staff know how to use it

- 2.1.1. A copy of the FPP will be kept within the site office, as well as being electronically saved on DESCycle's server which all employees can access.
- 2.1.2. The Plant Manager will ensure there is always a sufficient number of staff on site when the site is operational in order to ensure the FPP is followed.
- 2.1.3. All staff and contractors on site will be made aware and understand the contents of the Fire Prevention Plan and the procedures that are in place in the event of a fire on site. This familiarisation training will be undertaken as part of the induction process. Additionally, spot checks will be carried out once a month by the Technically Competent Manager ("TCM") and noted in the site diary. All training records will be maintained on site.

2.2. Testing the plan and staff training

- 2.2.1. A fire drill will be held every 6 months to simulate the processes which would be undertaken in the event of a fire or other similar emergency, this will include deployment of appropriate firewater containment measures. Findings from the drill will be discussed and an action plan to address any opportunities for improvement will be implemented if necessary. Moreover, a detailed fire procedures inspection and procedural assessment will be undertaken annually. This will entail the testing of relevant procedures, analysing how the procedures are implemented and the staff involved.
- 2.2.2. Training will be provided to all site personnel in relation to how to prevent fires on site, how to identify fire risks and how to identify fires on site. Staff members will undertake a fire awareness course and refresher training will be provided at regular intervals.
- 2.2.3. New starters will be given basic fire instruction within the first three days of commencing employment, which will include:
 - appropriate procedure if a fire is discovered;
 - appropriate procedure if the fire alarm sounds; and
 - roll call procedures.
- 2.2.4. New starters and seasonal hires will be included in the general employee training programme (including FPP training) at the earliest opportunity, as a maximum within 12 months.

3. Fire prevention plan contents

3.1. Activities at the site

3.1.1. DEScycle are developing a novel recycling process that uses a deep eutectic solvent (“DES”) to extract base and precious metals from electronic waste. This involves extracting metals from the waste, recovering the metals and finally recycling the solvent. Prior to treatment in the DES process printed circuit boards (“PCBs”) are subjected to a two stage process to reduce the material size to less than 3mm, with a specifically designed shredder, and then to less than 0.1mm. in a Microniser

3.1.2. It should be noted that the process operates as a batch plant and has been designed so that single pieces of equipment can undertake multiple process steps, for example the slurry vessel can undertake DES 1 leaching, cementation, precipitation, DES 1 evaporation, DES 2 leaching and DES 2 evaporation. Intermediate storage is provided between the steps in dedicated storage tanks

3.2. Site plan and location

3.2.1. The Installation is centred on National Grid Reference (“NGR”) NZ 58221 20719 and the Environmental Permit boundary shown in green is provided on the Site Location Plan (DESC.01.01-01) which is contained in Appendix I of this document.

3.2.2. The Installation is located at the Wilton Centre’s Redcar Technical Development Area (“TDA”), TS10 4RF. The Installation occupies an approximate area of 0.2 hectares.

3.2.3. The immediate surroundings encompassing the Installation are made up of industrial and commercial activities. The wider site setting consists of Wilton Industrial Estate to the north and northwest, housing within 1km to the south and southwest and a golf course, reservoirs, open countryside and farmland within 1km to the east and south of the Installation.

3.2.4. The Lower River Tees and the North Sea are sited approximately 4.7km northwest and 5km north to northeast of the Installation, respectively.

3.2.5. Access to the Installation is accessed via the Security Lodge on Golden Rose Lane. The access points, in addition to the wider road network, are illustrated on the Site Location Plan (DESC.01.01-01), which is contained within Appendix I.

3.2.6. The closest Fire Station is Grangetown Community Fire Station located at Slip Road Church Lane/Trunk Road, TS6 9AA. This station is located approximately 4 miles (9 minute drive) from the Installation.

3.2.7. The Installation will benefit from security fencing and lockable gates. Rise and fall barriers will be in place with an ANPR intercom at the site entrance. All access doors have controls and are locked at the end of each working day. Additionally, the Installation will benefit from Closed Circuit Television (“CCTV”) cameras which will be strategically positioned through the site. Footage will be monitored at the Facility.

3.2.8. The locations of operational, treatment and storage areas are shown on Site Layout Plan (DESC.01.01—02) contained within Appendix I of this FPP.

3.3. Plan of sensitive receptors near the site

3.3.1. The immediate surroundings encompassing the Installation are made up of industrial and commercial activities. The wider site setting consists of Wilton Industrial Estate to the north and northwest, housing within 1km to the south and southwest and a golf course, reservoirs, open countryside and farmland within 1km to the east and south of the EP boundary.

3.3.2. A summary of the immediate environmental site setting is provided in Table 1.

Table 3 Summary of Surrounding Land Uses

Direction	Description
North	The wider Wilton Industrial Estate Area
East	The wider Wilton Industrial Estate Area
South	Housing and golf course
West	The wider Wilton Industrial Estate Area

3.3.3. The potential sensitive receptors within a 1km radius of the Environmental Permit (“EP”) boundary that could be affected by a fire are shown on the Sensitive Receptors Plan (DESC.01.01-03) which is contained in Appendix I of this document.

4. Manage common causes of fire

4.1. Common Causes of Fire

4.1.1. As per the EA's FPP online guidance, the following potential sources of fire risk have been identified, based on the hypothetical scenario of the absence of any risk management measures and strategies being employed:

- **Arson:** Industrial Estates and factories can commonly be affected by arson, which is a serious issue as the ensuing fire can easily spread to another unit. This is particularly true of sites where proper fire control measures have not been employed.
- **Plant and equipment:** When not properly maintained, plant and equipment can pose a serious fire hazard. This is particularly true of mechanical equipment, due to the potential for friction to develop between moving parts of the equipment.
- **Electrical Faults (including damaged or exposed electrical cables):** Faulty electrics and non-compliant electrics are one of the most common causes for fires in the workplace. The main hazards include wiring not meeting the relevant standards, exposed wiring, overloaded circuits and power outlets, extension cords, and static discharge. These have the potential to generate a spark, which has the potential to act as an ignition source.
- **Discarded smoking materials:** Smoking materials have the potential to ignite a fire if they come into contact with flammable or combustible materials.
- **Hot works:** Hot works, commonly including welding and torch cutting, have the potential to cause a fire as a result of the sparks and molten material which are generated during their operation. These can become hot, and could ignite a fire if they come into direct contact with flammable/combustible materials.
- **Industrial heaters:** Industrial Heaters can become a potential fire hazard if a fault develops, allowing issues such as over-heating to develop within the device. This hazard is worsened by the heaters being left turned on and unattended.
- **Hot exhausts and engine parts:** The settling of dust on hot exhausts and hot engine parts can cause a fire as a result of the heating up of the materials. This could become a hazard both during operation and post-operation.
- **Ignition sources:** Other ignition source such as naked flames must be kept away from combustible or flammable materials.
- **Batteries:** batteries are safe during normal use but present a risk when over-charged, short-circuited, submerged in water or damaged.
- **Leaks and spillages of oils and fuels:** Oils and fuels are flammable (and potentially explosive), therefore if they leak or are spilled within the site's EP boundary they are liable to present a risk of fire should an ignition source interact with it.
- **Build-up of loose combustible waste, dust and fluff:** Loose combustible waste creates more opportunity for interaction with potential ignition sources, increasing the likelihood of a fire starting.
- **Reaction between Wastes:** If incompatible wastes are stored together, they have the potential to react and potentially lead to a hazardous situation. Common outcomes of the mixing of hazardous wastes include heat generation, flammable gas generation, explosions or fire.
- **Hot loads:** wastes at elevated temperatures or containing contaminants can lead to ignition.
- **Hot and dry weather:** external heating of waste during hot and dry weather can increase the risk of fire occurring.

4.2. Arson

- 4.2.1. The Installation will benefit from a perimeter security fence with a lockable sliding gate.
- 4.2.2. The access doors and gates are permanently locked out of hours and can only be opened by a limited number of site personnel to restrict unauthorised access.
- 4.2.3. The Installation will be covered by CCTV for security purposes and monitored 24/7 who shall alert senior management to any unusual activity, such as movement from intruders. Senior Management will also be able to view live footage of the CCTV. Out of hours arrangements are in place for duty managers to attend site immediately if required. The CCTV cameras will survey all areas of the site including entrance gate, buildings and waste operational areas. The exact locations are not shown on the site plans as this document will be made available on the public register and therefore, would be a security concern if exact CCTV locations are marked.
- 4.2.4. A visitor sign-in system will be in place. In the event of a breach of security at the Facility, the cause will be investigated and appropriate mitigation measures implemented.
- 4.2.5. Records will be maintained and will include inspections and maintenance of security fencing and doors, breaches of security, investigations and actions taken. In the event that damage or deterioration is sustained to site infrastructure, repairs will be made by the end of the working day. If this is not possible, suitable measures will be taken to prevent any unauthorised access to the Facility and permanent repairs will be made as soon as practicable.

4.3. Plant and equipment

- 4.3.1. It is envisaged that mobile plant is limited to two forklift trucks and a vacuum transfer system.
- 4.3.2. Plant and equipment are located away from combustible materials, including mobile plant when not in use.
- 4.3.3. Only trained operators will be authorised to operate plant and equipment.
- 4.3.4. Site vehicles will be kept to a minimum.
- 4.3.5. Vehicles will be fitted with fire extinguishers.
- 4.3.6. A number of measures will be implemented to prevent fuel and combustible liquids leaking or trailing from site vehicles:
 - vehicles are subject to annual servicing and maintenance checks;
 - daily checks, such as evidence of obvious leaks, hydraulic fluid levels, operating systems, are undertaken on site vehicles prior to use;
 - there is a procedure for reporting any faults or maintenance concerns to prevent any foreseeable breakdowns or leaks; and
 - there is a procedure for immediate reporting of fuel leaks or spillages.
- 4.3.7. In the unlikely event of a fuel leak, spill kits will be deployed to clean up any fuel spillage and prevent escape off-site.

- 4.3.8. Any delivery vehicles allowed entry onto site must be serviced and MOT road worthy. Any evidence of leaks from these vehicles will be recorded and communicated. Further entry to site will be refused until repairs have been made.
- 4.3.9. Operatives will be required to complete inspection records for all plant on a regular basis. All plant will be operated, maintained and serviced in line with manufacturer's recommendations and instructions. Instruction Manuals for plant and equipment will be held on site.
- 4.3.10. A service schedule, as well as records of all servicing and maintenance will be held in the site office.
- 4.3.11. Inspection of plant and equipment will be undertaken on a weekly basis to check for faults and ensure appropriate safeguards are in place.
- 4.3.12. Training will be provided to staff in the safe operation of plant and equipment relevant to their role.
- 4.3.13. In the event of a failure on a piece of equipment or plant, the operator will ensure that the equipment is shut off in a safe manner and not used until the equipment can be repaired or replaced. Any repairs will be made within 24 hours and actions will be recorded and held by the maintenance team.
- 4.3.14. At the end of the working day, mobile plant will be stored away from any stocks of waste materials.

4.4. Electrical faults including damaged or exposed electrical cables

- 4.4.1. Regular safety checks and daily site inspections will be recorded.
- 4.4.2. All buildings electrics will be fully certified by a qualified electrician and inspected on an annual basis.
- 4.4.3. Annual Portable Appliance Testing ("PAT") testing of any portable electrical appliances will be carried out.
- 4.4.4. Any electrical panels will be boxed and will be included in the weekly site inspection.

4.5. Discarded smoking materials

- 4.5.1. Smoking is prohibited inside the permitted area and employees must adhere to the strict smoking policy. Smoking is only permitted in designated areas externally, a significant distance from waste storage areas.

4.6. Hot works safe working practices

4.6.1. Hot works will only be undertaken in relation to maintenance activities. Any hot works/use of cutting tools will be carried out by subcontractors at a safe distance from combustible materials. If this is not possible, sources of combustible material will be covered by a fire blanket or screen and/or damped down. DEScycle will operate a Permit to Work system to control high risk activities, such as hot works. Only a Competent Person, one that is adequately trained and experienced, is authorised to undertake the welding and cutting on site. The control and preventative measures stipulated on the Permit to Work will be rigorously followed by the Competent Person and the other members of the team. The area will be made safe before the work starts and all the prescribed preventative precautions will be taken whilst the work is in progress.

4.6.2. On completion of the hot work, the area will be cleared and checked. The Competent Person or deputy will re-visit the work area, after a suitable period of time. This will be undertaken one hour after the activity has ceased and at the end of the working day. This is known as a fire-watch and ensures no signs of smouldering embers or hot surfaces are evident which could potentially cause a fire. At regular intervals during working day, as well as at the end of the working day, a fire watch will be carried out.

4.7. Industrial heaters

4.7.1. A procedure will be developed for the maintenance and inspection of industrial heaters used at the Installation.

4.7.2. Measures to minimise the risk of ignition are used which include:

- regularly inspecting and maintaining heating equipment;
- ensuring proper ventilation to prevent the buildup of flammable vapours;
- implementing lockout/tagout procedures for electrical and mechanical equipment;
- using only non-flammable cleaning products; and
- separating heating equipment from combustible materials.

4.8. Hot exhausts and engine parts

4.8.1. Vehicles will be turned off when not in use. Consideration will be given to the high-risk time for hot exhausts (one hour after switch off when dust can settle on hot surfaces) and vehicles will be given time to cool down prior to site staff leaving site at the end of each day; and Flammable/combustible materials will be stored in designated areas away from frequent vehicle movements.

4.9. Fire watch procedures

4.9.1. See paragraph 4.6.2 for Fire Watch Procedures.

4.10. Ignition Sources

4.10.1. Sources of ignition will be kept at least 6 metres away from combustible and flammable materials.

4.11. Batteries

4.11.1. No batteries will be accepted at the Installation.

4.12. Leaks and spillages of oils and fuels

4.12.1. See Section 4.3 for details of control measures for leaks and spillages of oils and fuels from plant and equipment.

4.12.2. Any potentially polluting spillages will be subject to the robust spill emergency response procedure. Spill kits including absorbent granules and pads will be used to contain and capture any spillage. The locations of the site spill kits are illustrated on Drawing DESC.01.01-04. The spill kit will be checked every 3 months by site personnel and will be replaced as per the manufacturer's defined expiration dates if provided or alternatively, when on visual inspection, it is deemed necessary. All staff will be trained in the spill emergency response procedure.

4.12.3. Spillage containment equipment storage areas are located such that the materials can be retrieved quickly.

4.13. Build-up of loose combustible waste, dust and fluff

4.13.1. The Installation will undergo daily inspection and cleaning to prevent the build-up of loose combustible waste, dust and fluff. At the end of each working day the Installation will be visually inspected, and cleaning will be undertaken if required.

4.14. Reactions between wastes

4.14.1. Strict waste acceptance procedures will be implemented to ensure only permitted materials are accepted at the Installation.

4.14.2. All loads are covered by appropriate waste documentation. Employees are under instruction to reject the load if incoming waste or materials have been identified which have not been previously agreed and included within the Permit. If the non-conforming waste cannot be rejected immediately, it will be removed to the dedicated Quarantine Area prior to removal from site within 14 days.

4.14.3. The Installation will only receive a limited number of waste codes which are all similar in nature, it is therefore unlikely that there would be occasion where incompatible wastes would come into contact. However, to ensure that the risk continues to be minimised, DEScycle will:

- consider each waste stream that is due to come onto the site, in terms of what it is likely to contain based on a visual inspection;

- determine whether there is potential for combustible material within the waste stream and what potential reactions could occur if the material came into contact with other materials on the site in order to evaluate any potential risks to ongoing activities;
- store incompatible wastes away from any known incompatible materials;
- accept waste into the specified quarantine area when there is any potential issue or where the potential issues may be unknown at the point of material acceptance.
- waste streams and appropriate control measures implemented to limit the reaction;
- if there is any evidence of chemical reactions with the materials accepted, the materials will be moved to the quarantine area immediately and appropriate control measures implemented to limit the reaction.

4.15. Waste acceptance and deposited hot loads

4.15.1. See Table 4 for volumes of waste stored on site any one time and the associated dimensions of the waste storage areas / waste types. Markers will be drawn onto bay walls/floors to indicate maximum waste storage areas/ sizes.

4.15.2. Waste will be stored in designated areas as indicated on the Fire Prevention Plans (Drawing Reference DESC.01.01-04).

4.15.3. All wastes will be stored on impermeable surfacing.

4.15.4. Maximum waste storage times are detailed in Table 4. The aim is to process the incoming material and arrange for its treatment as soon as practically possible to minimise over-stocking which in-turn minimises the risk of overheating and spontaneous combustion.

4.15.5. All waste will be tracked with date received and will be processed in date order.

4.15.6. Waste will be checked and monitored on a daily basis by the Site Manager.

4.15.7. No waste will be stored on site longer than 3 months.

4.15.8. Site operatives will undergo training on the management of waste, including, recognising hot spots within waste and managing hotspots.

4.15.9. The following action will be taken should a hotspot be identified:

- the waste will be turned to bring the hotter areas to the surface to cool;
- water sprays will be utilised if required;
- in order to ensure waste within the storage areas are sufficiently rotated and waste storage time is minimised, site operatives will ensure that the oldest materials is always processed and removed and a clear method to record and manage the storage of all waste on site is adhered to; and
- waste will be visually inspected throughout the day and where appropriate findings logged within the Site Diary at the end of each working day as a minimum.

4.15.10. No burning, reactive/reacting or visibly hot (producing steam or heat) loads will be accepted on site. Loads will be visually inspected at the site entrance to ensure compatibility minimising prohibited wastes. In the very unlikely event that a hot load is identified on delivery, it would be

rejected and therefore, not accepted onto site. If this is not possible, the waste would be moved to the fire prevention plan quarantine area where it will be spread out and damped down using the on-site water bowser. The material will then be removed from site to a suitably licenced facility or installation.

4.16. Hot and dry weather

- 4.16.1. During period of hot and/or dry weather short turnaround times will limit external heating (2 days to less than 3 months storage time for waste).
- 4.16.2. All processed waste will be stored within in the building with limited sunlight infiltration. The incoming waste stored externally is stored within a container, during periods of hot weather the container can be left open to reduce the internal temperature.

5. Prevent self-combustion

5.1. Self Combustion

5.1.1. The wastes to be accepted at the Installation are unlikely to self-combust. However, self-combustion is minimised by managing storage times, pile volumes and height, and the temperature of the wastes.

5.2. Manage storage time

5.2.1. Effective stock management limits the likelihood of the self-combustion of materials stored on site. DESCYCLE will have waste acceptance and stock management procedures which are followed by all employees.

5.2.2. Stocks of waste materials will be managed as follows, to minimise self-combustion:

- waste volume, height and storage times will be minimised on site and hence stored materials will be rotated whilst held on site; and
- where possible and practicable, material is stored in its largest form prior to processing.

5.2.3. The following measures will be implemented on site to reduce self-combustion:

- separation of materials;
- isolation of combustible materials;
- wastes are stored for no longer than 6 months; and
- restricting storage times by processing waste on a first in first out principle.

5.3. Monitor and control temperature

5.3.1. This section applies to waste that is stored for 3 months or more.

Reduce the exposed metal content and proportion of fines

5.3.2. A DSEAR assessment has been undertaken and considered the risks from shredding. Materials are stored in sealed drums therefore there is little to no risk of fire within the sealed drums.

Monitoring Temperature

5.3.3. The temperature of the waste pile generated from the shredder and Microniser will be monitored using a temperature gun to monitor the external temperatures of the drums. Should a temperature greater than 40°C be measured then a fire blanket will be placed over the drum as a precautionary measure.

Controlling Temperature

- 5.3.4. Any heat generated during the shredding will be allowed to be released so that the waste is cool before it is placed into drums for storage.
- 5.3.5. Waste piles will be periodically turned to ensure they remain cold and any localised warming is dissipated quickly.

Dealing with hot weather and heating from sunlight

- 5.3.6. All wastes are stored within the confines of the building and will not be exposed to sunlight.
- 5.3.7. The door to the waste storage container can be opened during hot weather.

Waste bale storage

- 5.3.8. Waste is not stored in bales.

6. Manage waste piles

6.1. Storing waste materials in their largest form

- 6.1.1. Incoming waste materials are stored in 1 tonne bags within a shipping container. As the waste is stored in a shipping container, maximum pile sizes do not apply.
- 6.1.2. Post shredding, metal containing plastic waste is stored in drums in piles no bigger than 201m³. Post Microniser, plastic waste is stored in drums in piles no bigger than 626m³. Table 4 provides further detail on the waste piles. All storage locations are shown on ECL Drawing DESC.01.01-04 in Appendix A.

Table 4: Waste Piles

Waste stream	How it is stored	Max. length m	Max. width m	Max. height m	Volume / m ³	Max. time it will be stored
Incoming Waste	Shipping Container	N/a – pile sizes do not apply				
Post Treatment waste	207l drum	5.8	5.8	3	101	Up to 12 months
Shredded/ Micronized waste	207l drum	6	6	3	108	Up to 12 months

- 6.1.3. All in containers therefore max pile sizes as specified in the FPP guidance do not apply.

6.2. Accessibility and Movement of containers

- 6.2.1. All containers are accessible from at least one side so a fire can be extinguished.
- 6.2.2. In the event of a fire, the shipping container will be closed.
- 6.2.3. In the event of a fire the 207l drums will be moved with the forklift.

7. Prevent fire spreading

7.1. Separation distances

7.1.1. Separation distances between piles of waste can prevent fire spreading between waste piles and allow active firefighting to take place. For the materials to be stored a separation distance of at least 6m must be maintained between waste (whether in piles or containers) and the site perimeter, any buildings, or other combustible or flammable materials.

7.1.2. Separation distances are shown on ECL Drawing DESC.01.01-04 in Appendix A. This demonstrates that separation distances are achieved.

7.2. Fire walls construction standards

7.2.1. Where separation distances can not be achieved (between waste storage areas and external walls) the landlord has confirmed that the walls are fire walls.

7.3. Storing waste in bays

7.3.1. Where waste is stored in bays, site operatives will be trained to:

- carry out full and frequent stock rotation, ensuring a waste is treated on a first in, first out basis;
- will check the temperatures of all the waste within the bay to ensure checks are representative of the entire volume of the pile;
- ensure a clear a 'freeboard' space of 1m minimum is maintained at the top and sides of the walls at all times to prevent fire spreading over and around the walls; and
- will quickly and effectively remove wastes at risk of ignition to the quarantine area to isolate any bays with burning waste during an incident.

8. Quarantine area

8.1. Quarantine area location and size

- 8.1.1. The proposed location is shown on the Fire Prevention Plan (Drawing Reference DESC.01.01-04) and can be used to place burning wastes for it to be extinguished.
- 8.1.2. The Fire Prevention Plan Quarantine Area has a storage capacity of 54m³ which is 50% of the volume of the largest waste storage area and is surrounded by a firewall/has a separation distance of 6m from the nearest waste storage area.

8.2. How to use the quarantine area if there is a fire

- 8.2.1. The Fire Prevention Plan Quarantine Area will be used in the event of a fire on site and will be kept clear at all times. Any waste that has been quarantined will be removed off site within 14 days. It is therefore unlikely that with the strict waste pre-acceptance and acceptance procedures in place at the Installation that the area would ever be occupied.

8.3. Procedure to remove material stored temporarily if there is a fire

- 8.3.1. In the event of a fire, the quarantine area will be used to isolate waste which are smouldering to allow safe dissipation of the heat. Alternatively, it will be used as a temporary storage area for wastes which are stored in piles/containers near any material that may be affected by a fire to prevent the fire spreading to adjacent piles.
- 8.3.2. It should be noted that waste will only be moved to the quarantine area if the Site Management co-ordinating the Fire Response or the Fire Rescue Service deem it safe to do so.

9. Detecting fires

9.1. Detection systems in use

9.1.1. The detection system is proportionate to the nature and scale of waste management activities being undertaken. This system used at the Installation is an combination of automated/manual system which comprises:

- smoke and heat detectors including temperature guns; and
- CCTV.

9.1.2. The design, installation and maintenance is covered by an appropriate third party certification scheme such as UKAS, or meets an appropriate recognised standard such as a British Standard and formal certification will be provided following installation.

9.2. Certification for the systems

9.2.1. You must provide evidence of certification in your fire prevention plan. If you do not meet a recognised standard or accreditation, you must demonstrate that you can still meet the 3 objectives.

10. Suppressing fires

10.1. Suppression systems in use

- 10.1.1. The fire suppression systems that will be installed within the building will include:
 - hose reels;
 - fire blankets; and
 - fire extinguishers.
- 10.1.2. In the case of an out of hours fire, all internal and external areas of the site benefit from a 24 hour remotely accessible motion sensor CCTV system. The motion sensors will detect any sudden movement i.e. a piece of falling waste, animals, intruders or trespassers. Senior management including the site manager and directors have access to CCTV footage via mobile devices, outside of operational hours the CCTV system will automatically send notifications to senior management to alert them of any of the above detections.
- 10.1.3. The CCTV also benefits from flame detection systems installed around the site. The flame detection system can detect rises in temperatures and flames allowing for early detection of a fire. If there are any raises in temperatures or flames detected it would result in an automatic alarm call to the operator and the FRS.
- 10.1.4. Portable fire extinguishers compliant with BS 53006 will be provided in designated points on site and within all site mobile plant.
- 10.1.5. Nominated personnel will be trained in the use of such equipment.
- 10.1.6. The fire extinguishers will be serviced as part of an annual inspection contract. All extinguishers will also be checked as part of the site inspection programme.
- 10.1.7. The locations of the firefighting equipment are shown on the Fire Prevention and Mitigation Plan (Drawing Reference DESC.01.01-04).

10.2. Certification for the systems

- 10.2.1. The design, installation and maintenance of all automated detection systems are covered by an appropriate UKAS-accredited third-party certification scheme

11. Firefighting techniques

11.1. Active firefighting

11.1.1. The Installation has been designed to allow for active firefighting and to allow a fire to be extinguished within 4 hours.

11.1.2. The following procedures will be in place which will be followed in the event of a major fire onsite:

- Senior Management, the Site Manager, the FRS and adjacent businesses will be notified immediately, the EA will be notified as soon as practicable;
- the Site Manager and Fire Marshalls shall co-ordinate the fire emergency response;
- the burning area will be isolated and attempts will be made to extinguish the fire utilising the onsite fire extinguishers and manual water sprays if safe to do so;
- the storage container will be moved to an appropriate area within the permitted area which will be dependent on the location of the fire at the Installation. The storage container will be moved as soon as reasonably practicable to prevent the fire from spreading;
- the Site Manager or nominated deputy will divert incoming wastes to alternative sites during a fire;
- firewater will be contained either within the building or externally as the Installation benefits from impermeable surfacing. Any firewater held will be tested before removal offsite to a suitably licensed Facility/Installation once the fire has been extinguished.
- if possible, waste that is unburnt will be dampened down to prevent the fire from spreading further and any contaminated runoff will be held within the temporary storage tanks/areas;
- if possible, unburnt material will be separated from the fire using site plant; and
- depending on the scale of the fire, the site and adjacent business premises will be evacuated.

11.1.3. Should fire compromise the stability or integrity of the building, all personnel on site will be immediately evacuated and the FRS will be contacted.

12. Water supplies

12.1. Available water supply

- 12.1.1. Sembcorp/Cleveland FRS has confirmed that water to actively fight a fire will be available from the fire hydrant located to the east of the building (See ECL Drawing DESC.01.01-04). It conforms to BS 750, are all routinely inspected and pressure tested. The hydrant (Number 907) runs a 1,520l/min at 6 bar.
- 12.1.2. The Fire and Rescue Services Act 2004 states that under Section 38 Duty to Secure Water Supply etc., the FRS authority must take all reasonable measures for securing that an adequate supply of water will be available for the authority's use in the event of a fire and that the FRS authority may use any suitable supply of water for the purposes of extinguishing a fire or protecting life or property in the event of a fire (but must pay reasonable compensation for the water).
- 12.1.3. The Installation is accessed via the Security Lodge on Golden Rose Lane and the main access points are approximately 4m wide with no height restriction providing adequate space for the FRS appliances (water tender or high reach vehicle).
- 12.1.4. The emergency service route is displayed on the Fire Prevention and Mitigation Plan Drawing DESC.01.01-04 contained in Appendix I.

12.2. Water Supply Calculation

- 12.2.1. The water supply requirement calculations are provided in Table 5. It is clearly shown that there is enough water available for firefighting to take place and to manage a reasonable worst-case scenario.

Table 5: Water Supply Requirement Calculations

Maximum pile volume	Water supply needed	Overall water supply needed over 3 hours	Total water available onsite
108m ³	Pile volume x 6.67 720.36 litres/minute	Water supply per minute x 180 129,668 litres	Fire hydrant flow rate available to site: 1,520 litres/minute

13. Managing fire water

13.1. Additional Considerations

13.1.1. From a review of the site location, the Installation is not located in an area:

- that is within a groundwater SPZ1, SPZ2 or SPZ3;
- where there are any private drinking water abstractions within 50 to 100m of the site; nor
- where the groundwater vulnerability maps flag that the site is in a high, medium-high or medium risk category.

13.2. Containing the run-off from fire water

13.2.1. Any potentially contaminated firewater runoff will be contained and prevented from reaching sensitive receptors and causing pollution to the environment as it will be captured within the Sembcorp Drainage system and thus contain all firewater. In the event of a fire, Sembcorp will be notified immediately and the drainage system will be diverted to the holding tanks. All firewater will then drain into the Sembcorp combined drainage system and be held within the drains and storage tanks. The system has the capacity to store 12,000,000 litres, thus far more than the 129,668 litres required over 3 hours as calculated for the largest external waste pile proposed (108m³).

13.2.2. All waste will be stored within the Installation boundary, all areas of which benefit from impermeable surfacing, therefore, no downward migration of potentially contaminated firewater to either land or groundwater will occur.

13.2.3. All potentially contaminated firewater will remain in the containment area until contamination testing has been carried out and the firewater can be removed off-site to an appropriately licenced Facility or Installation.

13.2.4. All site personnel will be trained in the use of firewater containment measures. The FPP exercise drills will include differing fire scenarios.

14. During and after an incident

14.1. Dealing with issues during a fire

14.1.1. The Installation will not continue to accept waste if there is an active fire on site. Waste will be diverted to a nearby suitably permitted site and, if possible, waste producers will be notified in advance to prevent delivery vehicles arriving on site. A DEScycle representative will be stationed at the entrance on the main road to divert any delivery vehicles which were on route when the fire began.

14.2. Notifying Residents and Businesses

14.2.1. A Site Information and Key Contacts List is provided in Appendix II of this document which provides the contact details of internal and external contacts to notify in the unlikely event of a fire on site. Out of hours telephone contact numbers are also provided. It is the responsibility of the Senior Management and the Site Manager to undertake the necessary liaison with the relevant stakeholders and local community.

14.2.2. An emergency pack including a copy of the Fire Prevention and Mitigation Plan will be located at the main entrance enabling the FRS to quickly access the information required should the site be unattended out of hours. A copy of the FPP will also be provided to the FRS for their records.

14.3. Clearing and decontamination after a fire

14.3.1. The extent of the fire damage will be assessed by Senior Management, the Site Manager and depending on the scale of the fire; the FRS may also be present.

14.3.2. Should damage be determined to be sufficient to prevent the site from being able to accept and store waste, DEScycle will cease accepting waste and will divert to a suitably permitted site.

14.3.3. Depending on the scale of the fire, smoke particles may have been transported and deposited onto various surfaces on adjacent buildings. The thermal degradation of certain material can cause corrosive deposits to be omitted within the smoke particulates. It is therefore important that such deposits are effectively neutralised.

14.3.4. A specialist company will be commissioned to undertake post fire clean up and smoke damage decontamination.

14.3.5. The structural stability of fire damaged infrastructure will be assessed and approved by a professional prior to re-entry onto the site.

14.3.6. The FRS may have also isolated gas, electric and water supplies. These will be reconnected by a registered gas engineer, electrician or plumber. The integrity and functionality of the drainage system will also be assessed and approved by a professional prior to recommencement of operation.

- 14.3.7. A visual assessment will be carried out by the Site Manager to determine how waste can be dealt with on site. Wherever possible, unburnt wastes will be separated from fire damaged areas of waste. If waste has become mixed, then the waste will be removed from site to a suitably permitted facility.
- 14.3.8. Any quarantined waste, waiting for removal from site, will be stored in a designated area to prevent the contamination of unburnt wastes on the site, as illustrated on the Fire Prevention Plan (DESC.01.01–04).
- 14.3.9. Burnt waste will be removed off site as soon as practically possible. The Quarantine Area will benefit from 6m of separation from the nearest waste pile and a firewall to aid separation and management of wastes during an incident. Site staff will be trained in how to safely move quarantined waste to this area.
- 14.3.10. During a fire waste material containing POPs may release the POPs into the air or water course. If any of the POPs waste is involved in the fire, all residues from that fire may contain POPs and must therefore be treated in line with the POPs Regulations.

14.4. Making the site operational after a fire

- 14.4.1. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented on site will be incorporated within this Fire Prevention Plan and the EMS as required.
- 14.4.2. Once this work has been undertaken, Senior Management and the Site Manager will visit the Site to ensure all of the above have been undertaken and operations can recommence. The EA will be kept informed throughout this process.

15. Closure

15.1.1. This FPP is considered to be a 'working' document that will be reviewed and updated annually or as required should any of the following occur:

- a fire on site;
- a change or review of legislation;
- if the site is instructed to do so by the EA; or
- a change to the contacts detailed in Appendix II.

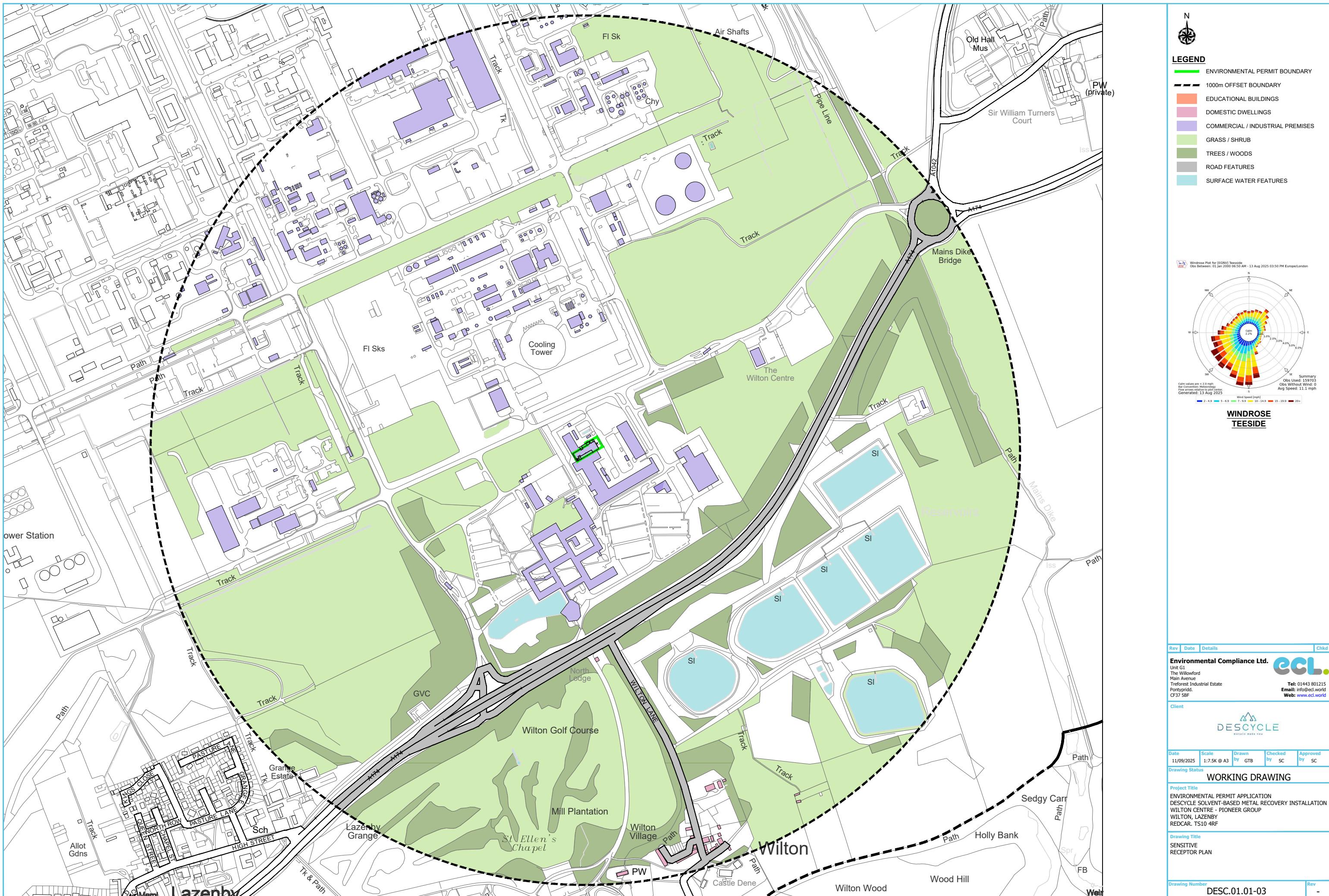
15.1.2. It will be the responsibility of the Site Manager to maintain this FPP and to ensure it is adhered to in the event of a fire on site. This includes the measures to follow as outlined in the plan.

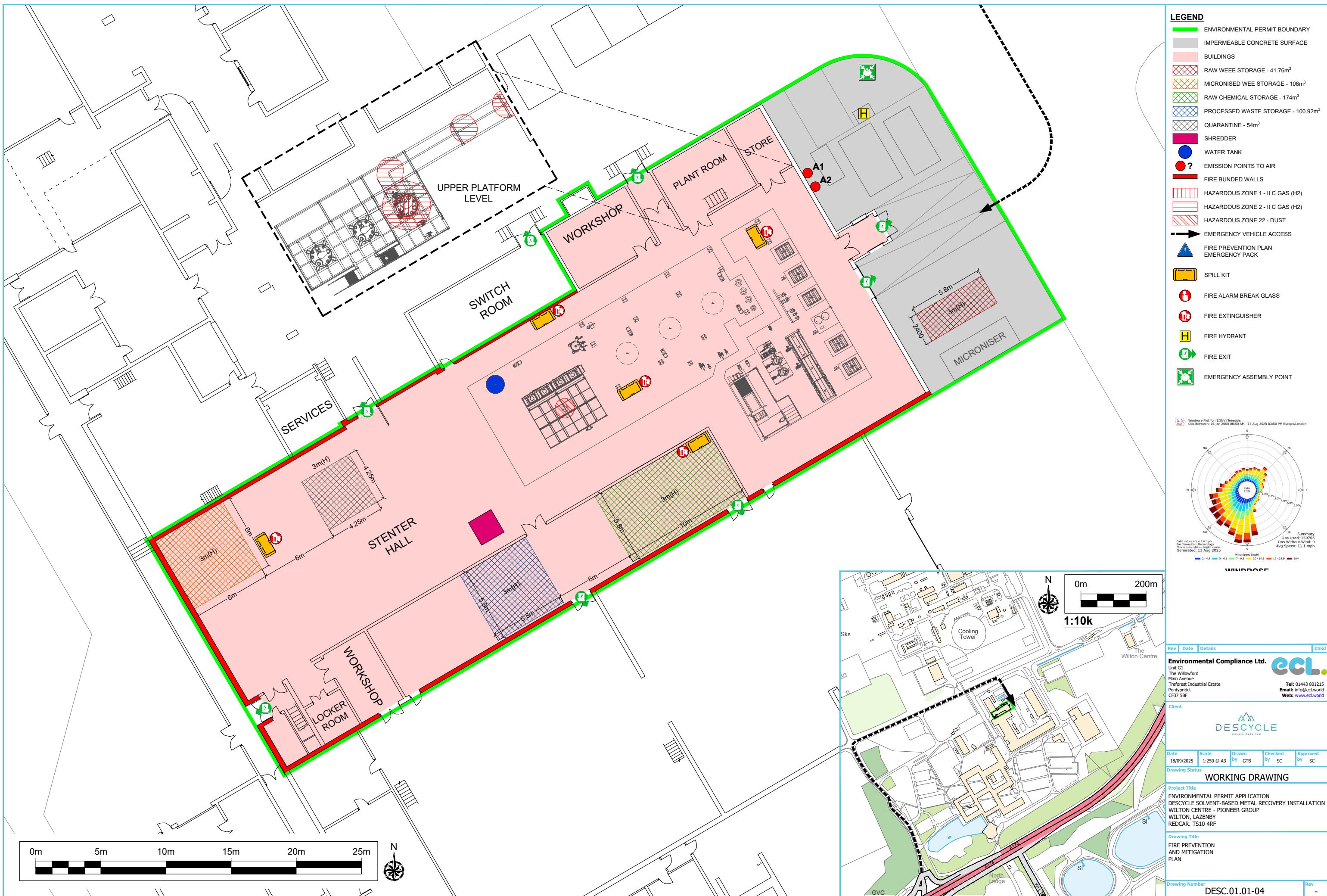
APPENDIX I

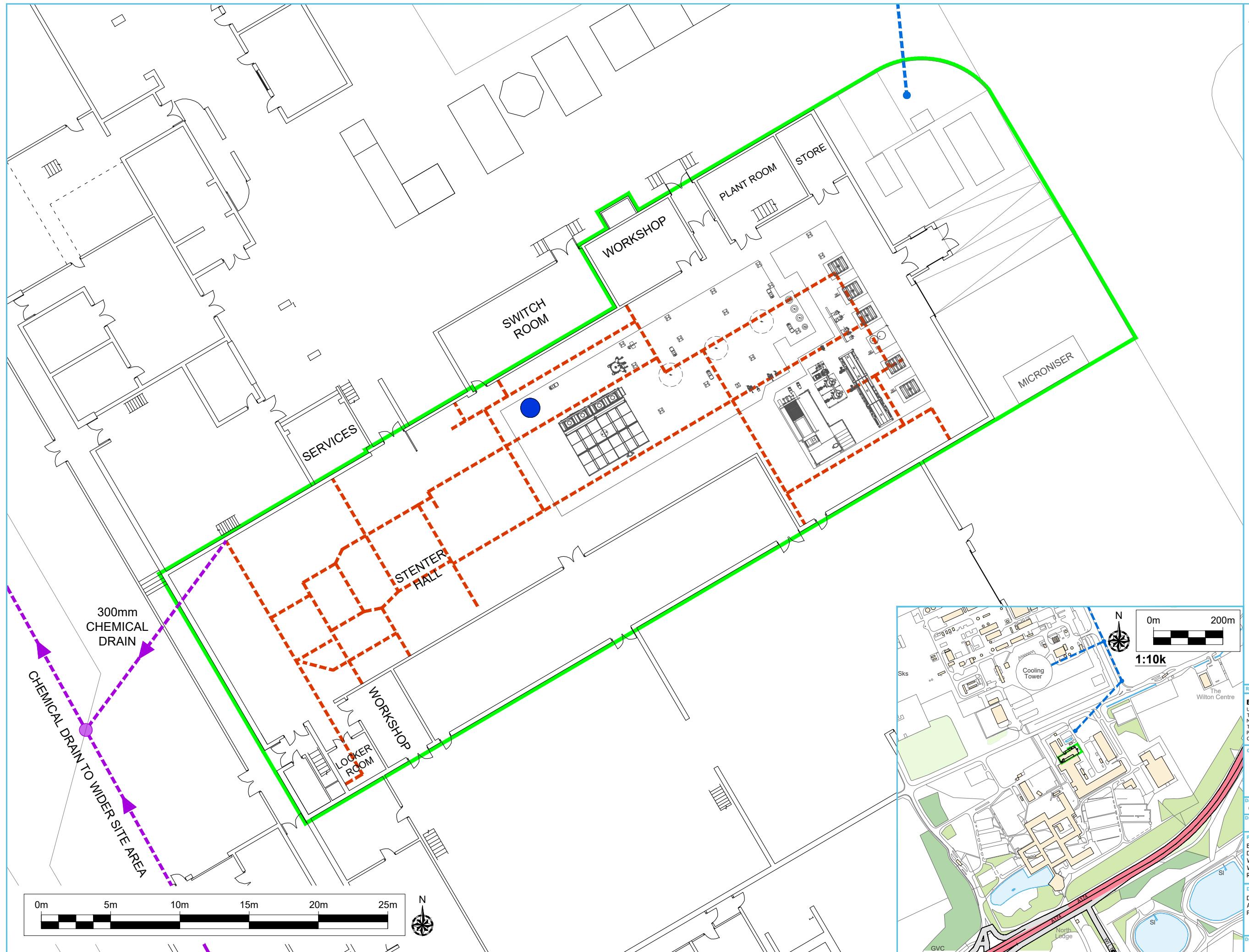
DRAWINGS











APPENDIX II

SITE INFORMATION AND KEY CONTACTS LIST

Site Address	DESCycle TDA, Wilton Centre, Pioneer Group, Wilton, Lazenby, Redcar TS10 4RF		
Site Operator	Argo Natural Resources Limited Trading as DESCycle		
Contact	Description	Office Hours	Out of Hours
Internal			
Paul Hewett	Plant manager	07966382499	07966382499
Leo Howden	Managing Director	07809339347	07809339347
Aaron Evans	Engineering Manager	07932403674	07932403674
External – Emergency Services			
Fire and Rescue Service	Fire - Emergency	999	
	Fire - Non-emergency	01642 431210	
Medical Assistance	Ambulance Service	999	
	(emergency only)		
Police	Non-Emergency	111	
	Police - Emergency	999	
	Police - Non-Emergency	101	
External - Regulator			
Environment Agency	Environmental Regulator	0800 80 70 60	
	24 Hour Hotline		
Health and Safety Executive	Site Inspector	TBC	-
	Health and Safety Regulator		
	Incident Hotline	0345 300 9923	n/a
	(Fatal or Major Injury)		
External – Key Contacts and Services			
Sembcorp	Utilities Supplier and Site Services	TBC	TBC
National Grid Electricity Distribution	UK Power Network - Energy	TBC	TBC
Neighbouring Sites	Wilton Centre	01642 438000	
	Universal Matter	01642 438214	