UMBRELLA ENVIRONMENTAL

PROTECTING YOUR BUSINESS

Dust Emission Management Plan

Umbrella Environmental
9 Goldington Road
Bedford
MK40 3JY
Company Number:
13446157

Website: www.umbrella-environmental.co.uk
Email: andrew@umbrellaenvironmental.co.uk
Mob: 07498 671713

CIWM

Affiliated Organisation 2024

Together, we stand for a world beyond waste

Site Address:

3R Technology UK Limited

Unit 21-22 Roman Way
Longridge Road
Preston
PR2 5BB

Registered Office:
Unit 21-22 Roman Way
Longridge Road
Preston
PR2 5BB

Application Reference:
EPR/TP3602SH/V001
Document Reference:
027.1_05_008
Issue Date:
04/02/2026

Document Control

Document Title	Reference	Client	Status
Dust Emissions Management Plan	027.1_05_008	3R Technology UK Limited	FINAL

Document History

Version	Issue date	Author	Checked	Description
D1	16/05/2025	AIL	AIL	Drafted for permit variation on behalf of client.
V1	04/02/2026	AIL	AIL	Approved by client

CONTENTS

Tables

Figures

Drawings

Appendices

Terms and Definitions

Not all terms will be used in this document.

Term	Definition
Auditor	Person with the competence to conduct an audit.
Continual improvement	Recurring process of enhancing the environmental management system in order to achieve improvements in overall environmental performance.
Corrective action	Action to eliminate the cause of a detected nonconformity.
Document	Information and its supporting media.
Environment	Surroundings in which site operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.
Environmental aspect (EA)	Elements of sites activities or products or services that can interact with the environment.
Environmental impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from sites environmental aspects.
Environmental management system (EMS)	Part of sites management system used to develop and implement its environmental policy and manage its environmental aspects.
Environmental objective	Overall environmental goal, consistent with the environmental policy.
Environmental performance	Measurable results of sites management of its environmental aspects.
Environmental policy	Overall intentions and directions of sites related to its environmental performance.
Environmental target	Detailed performance requirement applicable to site or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
Interested party	Person or group concerned with or affected by the environmental performance of site.
Internal audit	Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the environmental management system audit criteria set by site are fulfilled.
Nonconformity	Non-fulfilment of a requirement.

Term	Definition
Organisation	Site/Operator
EP	Environmental Permit.
NTS	Non-technical Summary.
ERA	Environmental Risk Assessment.
SCR	Site Condition Report.
EMS_OT	Environmental Management System and Operating Techniques. Compliant with Permit Condition 1.1.1.
FPP	Fire Prevention Plan.
NVMP	Noise and Vibration Management Plan.
OMP	Odour Management Plan.
Appropriate Measures	Appropriate measures are the standards that operators should meet to comply with their environmental permit requirements.
Site	Location of waste activities.
EA	Environment Agency
HSE	Health and Safety Executive
TCM	Technically Competent Manager

1 INTRODUCTION

This Dust Emission Management Plan (DEMP) accompanies the application for a variation to an exisiting bespoke waste installation EPR/TP3602SH/V001 at Unit 21-22 Roman Way Longridge Road, Preston, PR2 5BB. The site location is shown on plan 027.1_09_001 an aerial image provided inFigure 1 Site Location (Aerial Photo).

The site was historically an industrial unit. The site will receive various types of hazardous waste plastics from Waste Electrical and Electronic Equipment (WEEE) containing Brominated Flame Retardants (BFR's) as well as WEEE. These consist of Persistent Organic Pollutants (POPs) of global environmental concern.

The site will accept loads of waste from various different suppliers all with a booking to control the rate of input and storage levels.

The site is designed to operate a Waste Electrical and Electronic Equipment (WEEE) sortation plant. The facility is equipped with purpose-built machinery designed to perform density separation, effectively segregating mixed WEEE shredder output into multiple recyclable streams. Some waste will just be accepted as apart of a waste transfer activity.

1.1.1 Site Location

The site is approx. 5949 m^2 and is located at Unit 21-22 Roman Way Longridge Road, Preston, PR2 5BB. NGR SD 58158 32772, What Three Words: shops.tubes.risks.

Site is accessed by the north eastern gate for deliveries located on Roman Way.

Figure 1 Site Location (Aerial Photo)

1.2 Sensitive Receptors

Table 1 Distances to selected, Representative Locations**Error! Reference source not found.** shows all the sensitive receptors around the site. Most at risk receptors are those located within 500 m and east of the site.

Table 1 Distances to selected, Representative Locations

TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M)	DIRECTION
HUMANS & PROPERTY	-	Site Workers	On site	-
	-	Site Visitors	On site	-
		COMMERCIAL		
	1	Units at Roman Way Industrial Estate	0 m	E, S, W
	2	Multiple Units at Astra Business Centre	0 m	NW
	3	Distribution Centre off Longridge Road (ANBO International)	154 m	SW
	4	Multiple Units at Rough Hey Industrial Estate	157 m	NW

TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M)	DIRECTION
	5	Multiple Units at Red Scar Business Park	322 m	WSW
	6	Solar Farm off Longridge Road	490 m	ENE
		RESIDENTIAL		
	1	Multiple Residential Properties off Longridge Road	357 m	N
		ROADS & RAILWAYS		
	-	Roman Way	0 m	E, S
	-	B6243	154 m	NW
		PUBLIC USE		
	1	Preston Crematorium	368 m	SSE
WATER		**SURFACE WATER**		
	-	Pond off Longridge Road	215 m	WSW
	-	Multiple Ponds within Arable Land east of Longridge Road	462 m	ENE
		GROUNDWATER		
	-	Bedrock Geology - Principal Aquifer	On site	-
	-	Superficial Layer - Secondary A Aquifer	On site	-
ENVIRONMENTALLY SENSITIVE		**DESIGNATED SITES**		
	4	Ancient Woodland - Big Wood	1555 m	E
		NON-DESIGNATED SITES		
	1	BAP - Pockets of Deciduous Woodland off Longridge Road	122 m	NW
	2	BAP - Pockets of Deciduous Woodland at Preston Crematorium	266 m	S
	5	BAP - Pockets of Deciduous Woodland adjacent to Turn Brook	1050 m	E
	11	BAP - Pockets of Deciduous Woodland between Turn Brook & River Ribble	1542 m	E
		HERITAGE SITES		

Table 2 Sources of Dust and/ or other Emissions

Company	Address	Type of Business	Distance from site boundary (m)
Techni -Grind Machining Ltd (TGM Ltd)	23, Roman Way Industrial Estate, Roman Way, Longridge Rd, Ribbleton, Preston PR2 5BB	Engineering/Machining/Metal Treatment	0
HiQ Tyres & Autocare Preston	Unit 26 Roman Way, Longridge Rd, Ribbleton, Preston PR2 5BD	Tyre Replacement	41
Mobiletron	80, Roman Way Industrial Estate,	Manufacturer Of Automotive Electronics	45

	Ribbleton, Preston PR2 5BE		
Simvionics Ltd	unit B, Roman Way, Ribbleton, Preston PR2 5AP	Electronics Manufacturer	22
Ashton Video & TV Services	11, Astra Business Centre, Roman Way, Ribbleton, Preston PR2 5AP	Rental and maintenance of electronic equipment.	0
Pyroglass Limited	Unit 5, Astra Business Centre, Ribbleton, Preston PR2 5AP	Manufacturer	56
Royal Flush Vape	Unit 7 Roman Way, Ribbleton, Preston PR2 5BB	Vaporiser Shop	60

2 OPERATIONS

The site is operated as a waste operation in accordance with the Environmental Permitting (England and Wales) Regulations 2016 (as amended).

The site operates a WEEE sortation plant. Purpose built equipment to carry out density separation to produce a number of recyclable streams from mixed WEEE shredder output that is likely to be classified as hazardous waste following the revised POPs classification on WEEE waste. Specialist equipment separates the heavy and light fractions of WEEE plastic to enable the light fraction to be sent for recycling whilst the heavy – POPs – fraction is disposed of at high temperature incineration. The separation process also include other materials removed from the feedstock including metals, paper, etc

The site Environmental Permit (EPR/TP3602SH) refers to permitted waste operations described in the permit.

2.1 Incoming Waste

Waste to be accepted to site must conform with permit. If it is not on this list then it is rejected. Waste arrives on site delivered by third party haulage. And is accepted in accordance with the waste acceptance procedure in 027.1_05_004 EMS_Op Ins.

If any waste is identified as non-conforming then firstly the site manager shall be informed. The waste must be identified and the decision made whether it can be handled on site; if it can (i.e. listed in table of wastes) then it shall be deposited in the correct container else-where on site. If waste cannot be identified or is suspected as or non conforming the waste shall by isolated in a container and removed from site to an appropriately authorised site.

The Team leader will get advice on how best to deal with the material and manage it accordingly. All non-conforming wastes will be kept separate on site from other wastes and moved (providing it is safe to do so) to a designated quarantine area. All non-conforming wastes will be removed from site within 7 working days, or as soon as reasonably practicable using specialist contractors. All instances of non-conforming waste will be recorded. All instances of non-conforming waste will also be notified to the TCM to allow for preventative actions to be put in place

2.2 Waste Unloading and Inspection

During unloading the site operative will visually check to ensure no ‘non-compliant’ waste is present.

Any spillages will be cleared in accordance with 027.1_05_004 EMS_Op Ins.

2.3 Non-conforming loads

Waste is unlikely to be non-conforming as loads are pre booked prior to tipping. Customers are informed of what can be accepted, drivers check loads prior to collection and reject any visible contamination or the load is sent to another authorised site to tip, waste acceptance is well established.

In the unlikely event that non-conforming waste is delivered to site the waste will be returned to producer if this is not possible it will be isolated in an appropriate way for the waste type and sent to an appropriately authorised waste site.

2.4 Overview of Waste Processing Dust and Other Emission Controls

The permit authorizes the operation of a plastics recycling facility specialising in hazardous waste plastics from Waste Electrical and Electronic Equipment (WEEE), particularly those containing Brominated Flame Retardants (BFRs) and Persistent Organic Pollutants (POPs). Accepted plastics are in accordance with the permit and are inspected upon arrival.

Treatment

The process involves loading waste into a bunker, separating out non-plastic materials using an airknife, grinding plastics to 15 mm, and density sorting via a float sink tank. Light plastic fractions are sent for recycling, while heavy fractions containing POPs are destroyed by high temperature incineration or similar methods. Water used in the sorting process is filtered to remove contaminants, which are also disposed of by incineration.

The treatment process has the potential to produce dust at various stages. However all processing occurs internally under localised dust extraction see Appendix 5 Extraction System.

Transfer

Certain waste streams will only be accepted to transfer, such as batteries and accumulators.

Table 3 Typical Waste Accepted

European Waste Code(EWC)	Product Description	Tonnes/ week	Destination within facility		
			Transfer All undercover. Area	Shredding All in main building Area	Location ID
16 02 09*	transformers and capacitors containing PCBs	0.11		✓	3
16 02 10*	discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09	0.10		✓	4
16 02 11*	discarded equipment containing chlorofluorocarbons, hydrochlorofluorocarbons and hydrofluorocarbons	0.24			5
16 02 12*	discarded equipment containing free asbestos	0.1	✓		6
16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	0.08		✓	7
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	0.14		✓	8
16 02 15*	Hazardous components removed from discarded equipment – plastics only	38.4		✓	9
16 02 16	Components removed from discarded equipment other than those mentioned in 16 02 15	24		✓	10
19 02 04*	Premixed wastes composed of at least one hazardous waste	125		✓	13
19 12 04	Plastic and Rubber	24		✓	
19 12 11*	Other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances	24		✓	15

19 12 12	Other wastes (including mixtures of materials) from mechanical treatment other than those mentioned in 19 12 11	9.6		✓	16
20 01 23*	discarded equipment containing chlorofluorocarbons	9.6	✓		17
20 01 35*	Discarded Electrical and Electronic Equipment other than those mentioned in 200121 and 200123 containing hazardous components	120.2		✓	18,18a
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	96		✓	19,19a
Total		**471.8**			

Site layout is shown in Drawing 2 Site Plan all processing occurs inside and all waste is stored internally or containerized

During the processing of the waste there is localized extraction.

The site is designed to reduce the double handling of waste and minimise the disturbance of waste providing short transfer distance from one part of the process to the other. Other than loading and unloading (on to transport to leave site or when it arrives on site) the doors to the building will remain closed.

2.5 Mobile Plant and Equipment

The following table lists the type, mobile and emission ratings for the mobile plant and equipment used on site:

Table 4 Mobile Plant

DESCRIPTION	MAKE	MODEL	EMISSION RATING
Forklift	Green power	Eco 18 2	Electric
Forklift	Green Power	Eco 25 4.8m	Electric
Forklift	Green Power	Eco 25 6.6m	Electric
Forklift*	Still	RX 20-20	Electric
Forklift*	Doosan	GSS 33	Diesel – stage IV emission reg.
Forklift	BYD	20	Electric
Forklift*	BYD	25	Electric
Forklift*	BYD	25	Electric

**HIRED Equipment*

All plant and equipment are maintained strictly in accordance with manufacturers' recommendations, including scheduled servicing and all applicable statutory inspections such as LOLER. Maintenance requirements are managed through a formal Planned Maintenance Management (PMM) system, developed and overseen by the Operations Manager in collaboration with the on-site maintenance team. Maintenance of forklift trucks (FLTs) is primarily undertaken by approved and competent external suppliers. Where plant or equipment replacement is necessary, environmentally responsible options are prioritised, with preference given to low-emission and electric equipment wherever practicable.

3 DUST AND PARTICULATE (PM_{10}) MANAGEMENT

3.1 Responsibility for Implementation of DEMP

The TCM shall be responsible for the implementation onsite, training of relevant persons and the annual review of the DEMP. The site's Environment Management System will be updated to incorporate these changes.

Refresher training and additional support may be provided by external competent persons as required.

All records of training and document reviews will be retained by the operator.

Site supervisor will be the designated person of responsibility after the TCM. Training of the DEMP will take the form of tool box talks covering the person individual job role and the relation to the DEMP.

Training will be provided as a part of the induction programme for a new employee and a refresher training session provided once every two yeas.

3.2 Sources and Control of Fugitive Dust/Particulate Emissions

Table 5 Source-Pathway-Receptor-Routes and Table 6 Measures to Control Dust/Particules (PM10) and other Emissions and other Emissions identify the Source-Pathway-Receptor routes of the dust and particulates from the process and describes the proposed dust abatement/control measures to be employed at site.

Table 5 Source-Pathway-Receptor-Routes

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Tracking dust on wheels and vehicles, then mud dropping off wheels/vehicles when dry	Humans and Property	Visual soiling, also consequent resuspension as airborne particulates	Remove mud/debris before vehicles before they leave site. A road sweeper to clear haul/access road as and when required.
Debris	Falling off lorries	Humans and Property	Visual soiling, also consequent resuspension as airborne particulates	Remove mud/debris before vehicles before they leave site. If required hire a road sweeper to clear haul/access road as and when required. Self contained wheel was installed.
Tipping, storage and sorting of wastes inside	Atmospheric dispersion	Humans and Property	Visual soiling and airborne particulates	Waste is unloaded from vehicles using fork lift trucks.
Vehicle exhaust emissions Non-road going machinery exhaust emissions	Atmospheric dispersion	Humans and Property	Airborne particulates	Plant and delivery vehicles maintained in accordance with manufacturers guidance all with upward facing exhausts.

Processing	Atmospheric dispersion	Humans and Property	Airborne particulates	Localised extraction throughout processing.

Table 6 Measures to Control Dust/Particules (PM10) and other Emissions

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Preventative Measures			
Enclosure within a building	All storage and processing enclosed within a building except for discharge of metal in to metal skip. Building provides a physical barrier between source and receptor.	Very effective despite costs and the high potential for disruption to already operational sites. Full enclosure from start of operation except for metal skip.	From start of operation.
Dust Extraction Systems	Localised extraction provides mitigation at the most high risk areas for particulate release.	Implemented as a requirement for occupational health and safety, benefits local environment by preventing release of particulate matter.	From start of operation.
Site / process layout in relation to receptors	All processing and majority of storage internal to the building except for metal skip which is covered by tarpaulin.	Designed of site to be enclosed from day 1 of operations except for one metal skip.	From start of operation.
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Speed limit enforced on site No idling of vehicles or mobile plant. Mobile Plant and delivery vehicles maintained in accordance with manufacturers guidelines.	Easy to implement as part of good practice.	Will be used all the time that the site is operational and applied as 'best practice'
Minimising drop heights for waste. Use of enclosed chutes for waste drops/end of conveyor transfers and covered skips /	Waste arrives in containers, pallets or loose and is unloaded via forklift truck reducing potential for emissions.	Managed by Environmental Management System.	From start of operation.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
storage vessels.			
Good house-keeping	Regular house keeping Removal of dust and particulate build up on mobile and static plant as well as clearing site surface of debris.	Daily site inspections at start and end of the day to inspect housekeeping of the site, targets where cleaning is required. Including site surface, haul/access road, weigh bridge and site perimeter. End of day clean down of equipment. Deeper cleans e.g. filters and cabs in accordance with manufacturers guidelines.	Site will carry out these inspections/ cleaning processes daily.
Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Waste arriving and dispatched waste are not known to be overly dusty.	From start of operation.
Hosing of vehicles on exit	Vehicle washed down using a hose to remove dust, dirt and other particular matter as required.	Vehicle washed down as and when required. Extra focus in winter months for debris.	Inspections will be carried out on every vehicle as part of day to day operations as best practice. Self contained wheel was installed.
Ceasing operation during high winds and/or prevailing wind direction	During extreme wind weather conditions operations to cease to prevent dust being whipped up to reduce pollution events and or lower peak of pollution events.	Likely to reduce dust and particulate emissions, however, not a long-term solution.	Cessation of operation instructed when 'Gale' or 8 on the Beaufort scale is reached see **Error! Reference source not found.**.
Easy to clean concrete impermeable surfaces	Site surface made of impermeable concrete pad with sealed drainage system. Regular housekeeping prevents build-up of loose debris/dusty material.	Dust and particulate reduction due to site surface and regular housekeeping Regular maintenance for site surface as other permit requirements require an impermeable site surface.	Infrastructure installed during construction of site and maintained as part of critical infrastructure for permit compliance.
Minimisation of waste storage heights and volumes on site	Waste height and volume is controlled by Fire Prevention Plan requirements.	Part of daily operations.	From start of operation.
Remedial Measures			
On-site sweeping	On site housekeeping, sweeping of site surface and	Part of daily and weekly checks recorded in site diary.	A part of normal daily and weekly operations.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
	cleaning of equipment, Road sweeper as required.		
Dust and particulate monitor with trigger alarm	Visual dust monitoring during operations as well as monitoring for PM2.5/PM10 carried out by static monitor see Drawing 4 Monitoring Locations and Appendix 3 Monitor.	Trigger level of 75 ug/m3 (over a 5 min average) for PM10	A part of normal daily and weekly operations.

3.3 Other Considerations

3.3.1 Water usage/ availability:

Water is not apart of the dust mitigation methods for the site.

3.4 Enclosure of Waste Processing and Storage Areas

All processing on site occurs internally. All pre processing storage occurs internally. See Drawing 2 Site Plan.

3.5 Visual Dust Monitoring

Visual inspections will be undertaken by trained site staff for dust, particularly along the downwind site boundary on a daily basis. Observations will be recorded in Appendix 4 Visual Monitoring Check Sheet . This will occur after a dry period of 3 working days and or if the wind speed is in excess of beaufort 5.

Monitoring points shown in Drawing 4 Monitoring Locations.

If dust is identified then then activities will stop until dust can be mitigated or the course can be found and stopped..

4 DUST EXTRACTION SYSTEM

There is a dust extraction system located on site. It is located above high risk areas which are all internal. The high risk areas are those that have the highest risk to employee health and safety as well as the environment. The extraction is located over the processes where the waste is most agitated see Drawing 2 Site Plan the emission points are located externally shown on Drawing 5 Emission Monitoring Point.

The extraction system specification is shown in Appendix 5 Extraction System.

5 PARTICULATE MATTER MONITORING

Site management and staff will monitor dust on an informal basis throughout the day. Any adverse observations and details of the action taken will be recorded and retained in the Site Diary/Site Event Log.

All plant will be inspected daily and be regularly cleaned to prevent the build-up of dust on machinery parts.

No dust monitoring will occur when site is non-operational as none should be generated.

All dust monitoring results will be recorded and retained in the site office along with dates, times, weather conditions, wind direction and the name of the individual carrying out the monitoring event.

Where dust emissions are continually identified as an issue at the site boundary and complaints are received as a result, the TCM will review the mitigation measures (Table 6 Measures to Control Dust/Particules (PM10) and other Emissions) and monitoring techniques detailed in this DEMP in order to improve detection and prevent emissions being discharged from the site.

The TCM shall be responsible for the implementation onsite, training of relevant persons and the annual review of the DEMP. The site's EMS will be updated to incorporate these changes.

Refresher training and additional support may be provided by external competent persons as required.

All records of training and document reviews will be retained by the operator.

5.1 Monitoring Location

Dust will be monitored onsite by all operatives informally during the working day. As part of daily checks, boundaries will be visually monitored as part of daily checks and during operations see Drawing 4 Monitoring Locations 2 and 3 are chosen as they are up wind and downwind of the prevailing wind direction **Error! Reference source not found.**.

5.2 PM2.5/PM10 Monitoring

Data will be collected on a 5 minute averaging period and that levels should be below 75µg/m3 for this period at the site boundary.

Monitoring equipment will be calibrated every 6 months.

The monitors location will be south west of the site on the boundary as the prevailing wind is from the west south west. The inlet of the monitor will be sited at least 2 m above the ground and the inlet will not be obstructed/shielded by buildings and or other obstructions.

5.3 Operation of the PM Monitoring Equipment

The TCM is responsible for the management and operation of the system. The data is reviewed monthly and trends identified however this may need to occur quarterly to identify trends as monthly may only reflect stand alone issues.

At present there is no point source emission held within the permit so no submission of data to the EA is required.

If 75µg/m3 over a 5 minute period is exceeded action will be taken. A light a top the monitor will flash if this exceedance is met to inform staff/TCM action needs to be taken such as ceasing operations, providing extra localized suppression or waiting until wind has reduced.

Data trends will be reviewed to identify trends. If trends are identified then the associated activities will be received and amended for example change of location, speed of processing.

These trends and actions will be recorded in the site diary and as apart of an annual review of this management plan any changes made will be incorporated in to business as usual activities moving forward.

5.4 Quality Assurance/Quality Control and Record Keeping

5.4.1 Equipment and Data Management

The monitoring equipment will be maintained by a third party contractor. They will record.

- The make and model of the monitoring equipment
- The serial number of the monitoring equipment;
- When and how the data is checked
- When the equipment is calibrated;
- How the equipment is calibrated;
- They will provide qualifications and training records of who carries out the calibration
- When the equipment is routinely inspected;
- If the equipment is damaged and/or no longer able to collect reliable data.

5.5 Reporting of Data

Information is not required to be reported to the EA but will be available on request of a requesting officer.

5.6 Additional Detailed Monthly Reporting

If 75µg/m3 over a 5 minute period is exceeded repeatedly then a root cause investigation will be carried out by the TCM and or director and a sch 5 notice submitted to the EA including but not limited to a review Table 5 Source-Pathway-Receptor-Routes

6 ACTIONS WHEN ALARM LEVEL IS TRIGGERED

6.1 Visual Monitoring

Trigger levels visual dust identified by a member of staff or TCM during normal operational parameters or a complaint received either from a member of the public or EA.

1. The TCM assesses yard activities and the nature of the waste handling and deliveries immediately prior to the alarm being activated, to work out what has caused the alarm to be activated.
2. If the source cannot be ascertained with 100% confidence, the TCM on duty suspends the **likely** dust/particulate generating activities, i.e. processing or blending.
3. If the source is within the site's control, the TCM on duty takes appropriate action in terms of dust abatement, to ensure that the alarm is not re-activated. This may take the form of the following;

(a) Investigating the source of the dust/particulates to prevent a re-occurrence.
(b) Suspending operations which are not being conducted using best-practice controls as set out in Table 4 Mobile Plant Additional use of the dust abatement measures.
(c) Logging findings of a – c in the diary and also in the reporting template within the relevant appendix of the Environmental Permit.

Once dust has been mitigated a review will take place to identify the overall cause of the incident and or recommendations to improve process and or mitigation methods.

6.2 PM10 Monitoring triggers

Should dust emissions cause complaints and are identified as an issue at the site boundary then more formal monitoring using equipment will be carried out with the following actions taken:

1. The Site Manager assesses yard activities and the nature of the waste handling and deliveries immediately prior to the alarm being activated, to work out what has caused the alarm to be activated.
2. If the source cannot be ascertained with 100% confidence, the Site Manager on duty suspends the **likely** dust/particulate generating activities
3. If the source is within the site's control, the Site Manager on duty takes appropriate action in terms of dust/particulate abatement, to ensure that the alarm is not re-activated. This may take the form of the following;

a) Investigating the source of the dust/particulates to prevent a re-occurrence.
b) Suspending operations which are not being conducted using best-practice controls as set out in Table 6 Measures to Control Dust/Particules (PM10) and other Emissions .
c) Additional use of the dust abatement measures.
d) Logging findings of a – c in the site diary, and also in the reporting template within the relevant appendix of the Environmental Permit.

If an effective abatement technique cannot be identified and implemented, and observed PM_{10} levels remain above the action level for 6 consecutive, 5-minute mean readings (i.e. 25 minutes) concurrent with recorded wind directions suggesting that the source of particulate could be from the site activities, then operations should be suspended until measured PM concentrations drop below the action level of 75 µg/m^3 for 6 consecutive, 5-minute mean readings.

In all cases, any new "lessons learnt" from the Site Manager's investigations are considered by the company directors and implemented into dust & particulate emission management plan (if not already included), to prevent a re-occurrence of the alarm.

The alarm is not the sole indicator of a dust event at the site; the continuous visual monitoring of potential dust sources and activities safeguard all play a very important part in managing dust and particulates.

6.3 Channelled emissions

Air extraction occurs over the high risk areas for dust. The extraction is blown back in to the building. Monitoring of this system will occur as per. See 027.1_05_008 EMP for further details

Table 7 Dust Monitoring

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
EMP1 Emissions control system exhaust (metal shredder and WEEE shredders)	Extraction System	Total suspended particulates (Dust)	5 mg/m^3	Hourly average	Once every six months	In accordance with BS EN 13284-1.

Due to the new channelled emission points (dust extraction system) with no previous data available in order to confirm the filter system is appropriate to prevent pollution monitoring of Table 8 General Point Source Emissions Monitoring will take place to demonstrate BAT

Table 8 General Point Source Emissions Monitoring

Substance/Pa	Standards	Treatment Process	Minimum monitoring frequency	Monitoring associated with
Brominated flame retardants	No EN standard available	Mechanical treatment in	Once every year	BAT 25

		shredders of metal waste		
Dust	EN 13284-1	Mechanical treatment of waste	Once every six months	BAT 25
Hg	EN 13211	Treatment of WEEE containing mercury	Once every three months	BAT 32
Metals and metalloids except mercury (e.g. As, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V) ([2])	EN 14385	Mechanical treatment in shredders of metal waste	Once every year	BAT 25
PCDD/F	EN 1948- 1, -2 and -3)	Mechanical treatment in shredders of metal waste	Once every year	BAT 25
TVOC	EN 12619	Mechanical treatment in shredders of metal waste	Once every six months	BAT 25

7 REPORTING AND COMPLAINTS RESPONSE

The TCM is responsible for responding to complaints and implementing the complaint procedure.

Upon receipt of a complaint, either directly from a neighbouring resident or indirectly via the Regulator. The following information will be requested but may not be provided in full:

- name;
- address;
- contact details;
- date(s) and time(s) to which the complaint relates; and
- nature of the complaint and any other details which may assist in the identification of the source, activity or circumstances which prompted the complaint.

The timings and description of the complaint will be analysed in conjunction with the activities and meteorological conditions logged on site without delay to identify the offending source or activity. The complainant may be asked to keep an ongoing log for correlation with the site operational log. Once the source or activity is identified suitable mitigation measures will be implemented immediately to prevent future dust emissions.

Where contact details are made available, the complainant will be contacted within 24 hours to check that the mitigation has been effective.

The complaints information and subsequent investigation will be recorded

7.1 Engagement with the Community

Neighbours will be provided with contact details to make complaints/provide feedback as shown in 7.3 Management Responsibilities below.

7.2 Reporting of Complaints

Appendix 2 Complaints Form provides details of how complaints will be noted and recorded. Following investigation of a complaint the complainant will be contacted to be informed what the source of the dust was, why the issue occurred and what mitigation measures have been implemented to prevent any re-occurrence.

7.3 Management Responsibilities

The nominated person responsible for responding to complaints and implementing the complaint procedure is the TCM.

Contact Details:

Name	Contact Details

Site Manager/TCM	Tel: 01772 790864
	Email: gary@3rtechglobal.com

8 RECORD KEEPING

As a minimum, the following records must be kept to ensure compliance with the requirements of the Environmental Permit:

- A copy of the permit
- Risk assessments
- Competence and training records
- Duty of Care documentation and Environment Agency waste returns
- Other legally required documents
- Operational procedures
- Compliance records
-

Records must be retained for 6 years unless they relate to off-site environmental or health effects, or the condition of the land or groundwater when they shall be retained until permit surrender.

9 MANAGEMENT PLAN REVIEW

The DEMP will be reviewed as a minimum at least annually or following any substantial change in site operations or complaint of dust, particulate matter emissions or at the request of the Environment Agency.

Other activities which may prompt review of the DEMP are variations to the environmental permit, accident, complaint, breach or a change in the site setting or sensitive receptors.

Where the review requires changes, this will be documented and maintained with the site records, for example, waste storage volumes, types of waste, changes to abatement measures, new or altered equipment.

10 AVAILABILITY DEMP

All site operational staff will be trained in the contents of the DEMP to ensure compliance and consistent operation of waste activities.

A copy of the DEMP will be made available at the site for reference purposes and is available on request to the Environment Agency and other interested parties.

11 SUMMARY

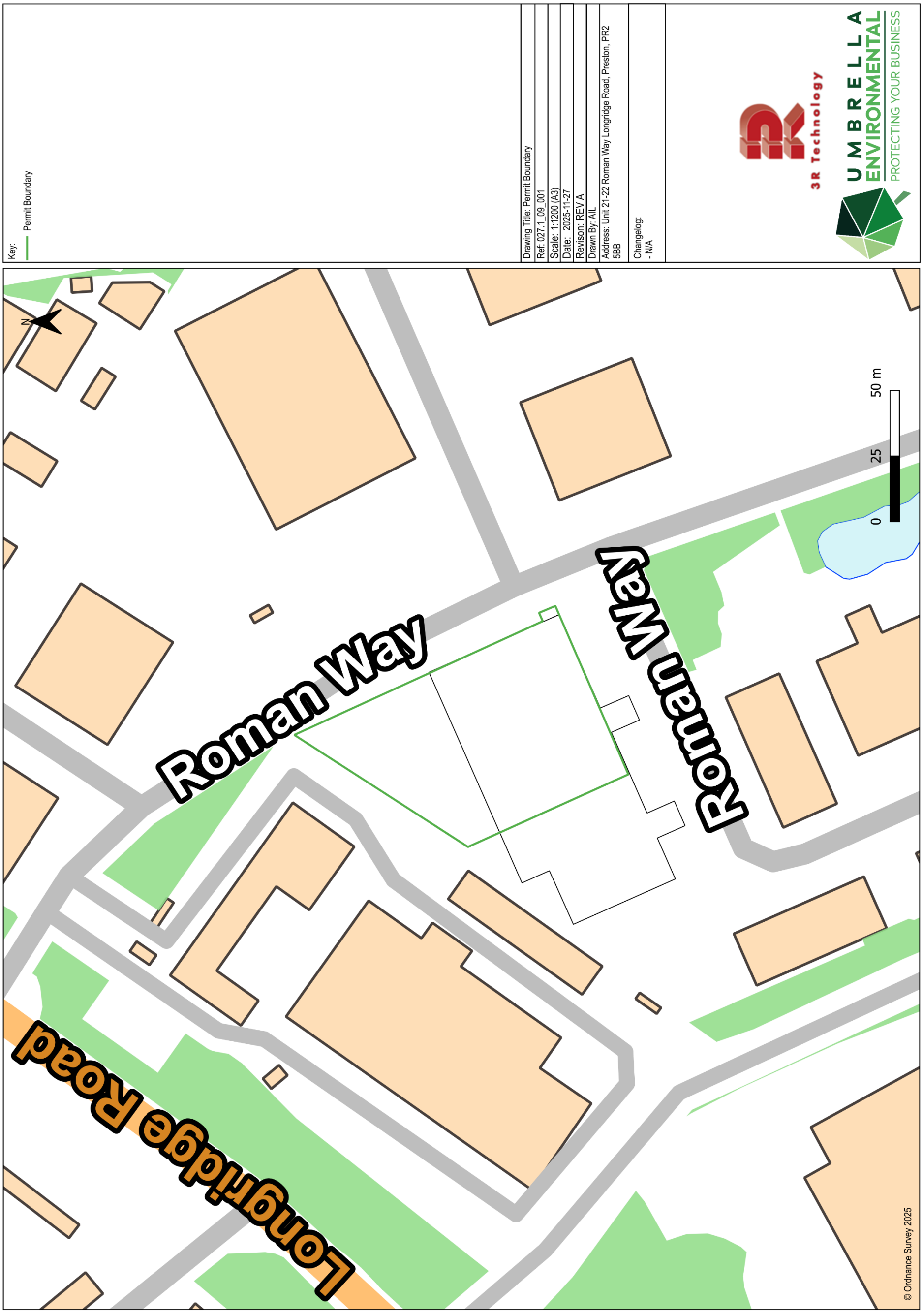
The DEMP seeks to ensure that by the adoption of industry best practice and appropriate measures, dust emissions are adequately controlled within the site and do not cause any significant impacts on amenity or the environment beyond the permit boundary.

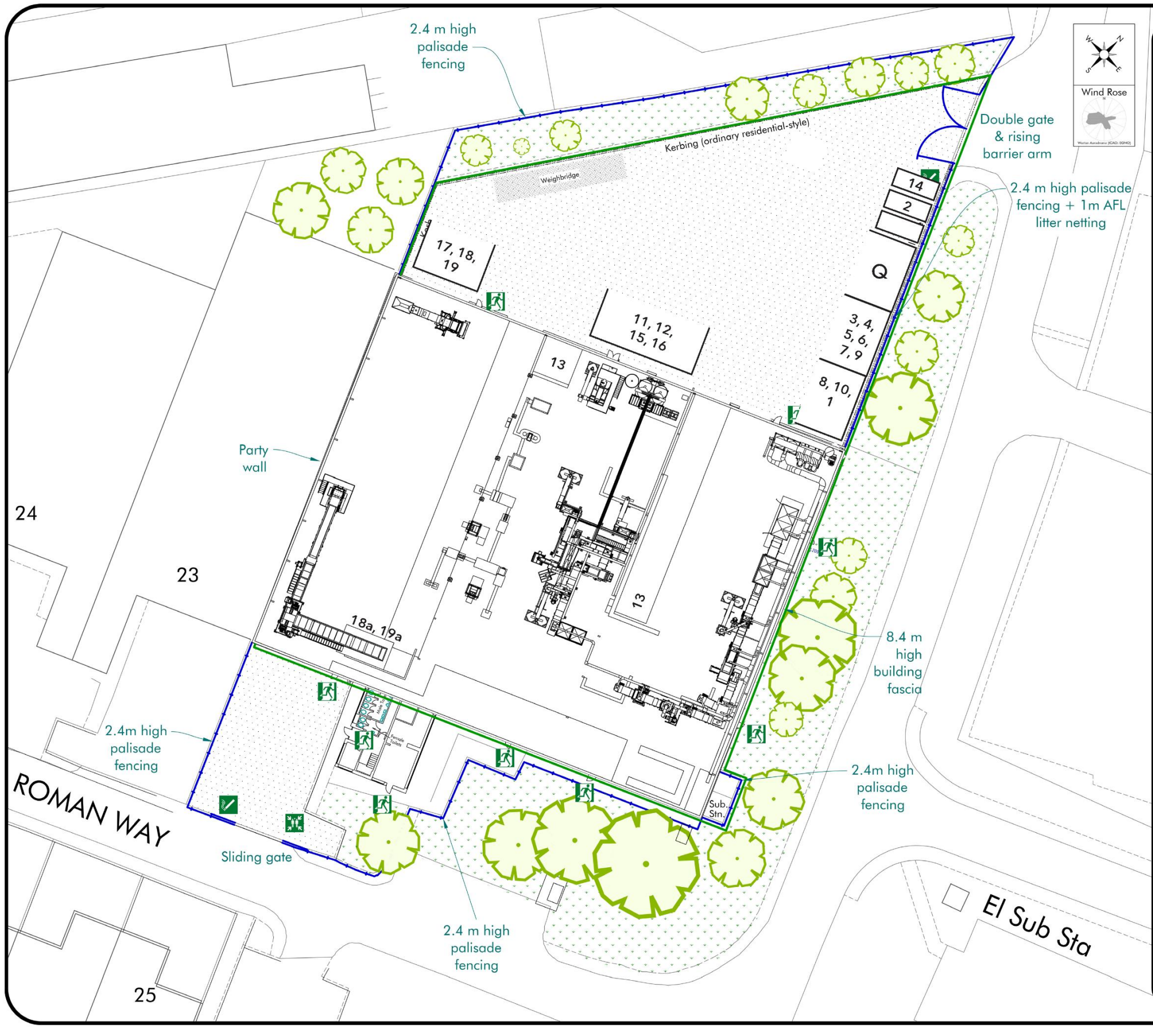
This DEMP describes how the operator is fully committed to operating responsibly and in compliance with the Environmental Permit.

The DEMP will be reviewed annually and in the event of any complaint regarding dust emissions to ensure its provisions remain effective.

12 DRAWINGS

Drawing 1 Permit Boundary





General Notes

KEY

Storage ID's EWC Code

Q Quarantine Area

1. 15-01-01	11. 17-04-10
2. 15-01-03	12. 17-04-02
3. 16-02-09*	13. 19-02-04*
4. 16-02-20*	14. 19-10-01
5. 16-02-11*	15. 19-12-11*
6. 16-02-12*	16. 19-12-12
7. 16-02-13*	17. 20-01-32*
8. 16-02-14	18. 20-01-35*
9. 16-02-15*	19. 20-01-36
10. 16-02-16	

5 0 5 10 15 20 25

Metres

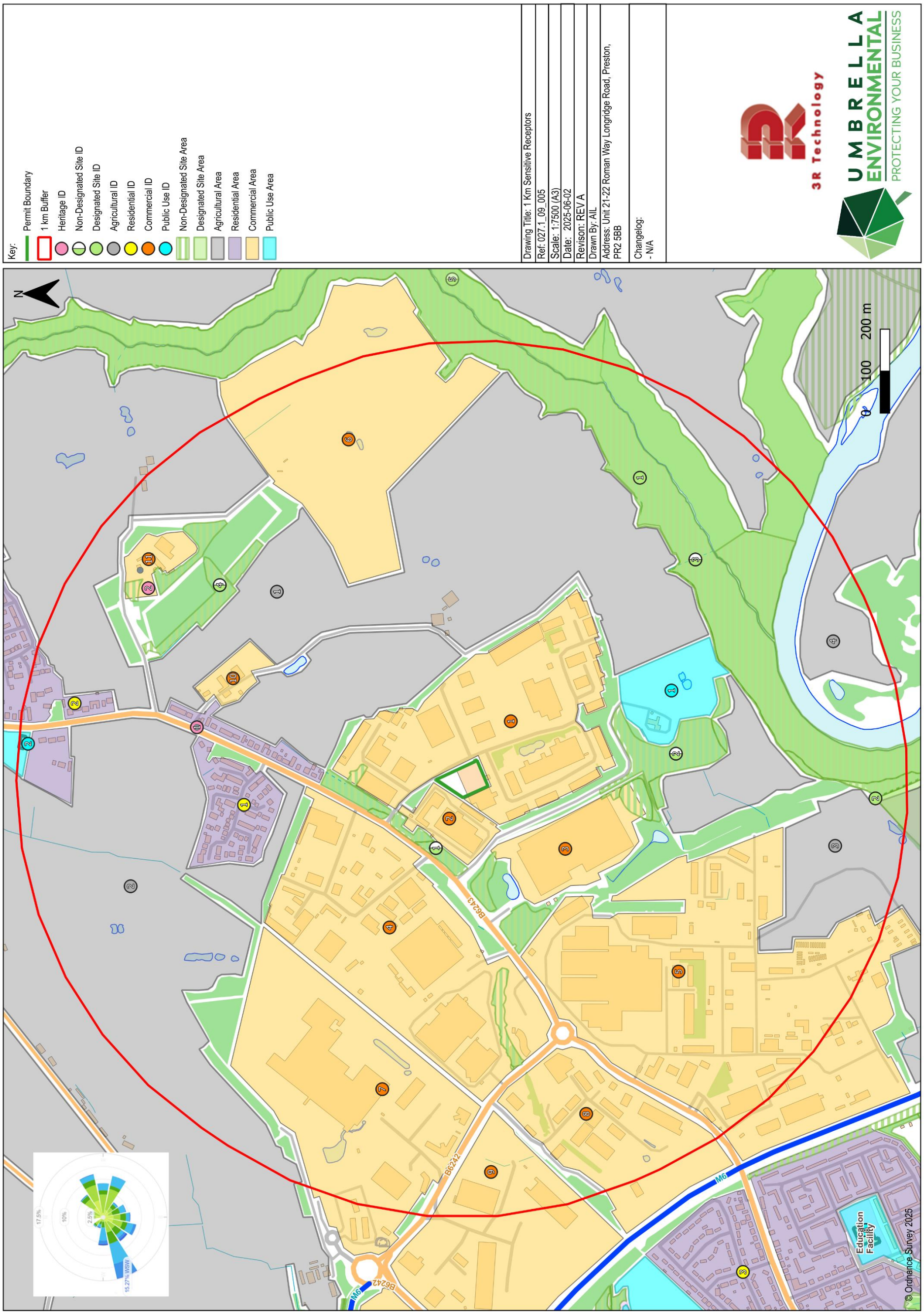
No.	Revision/Issue	Date

3R Technology UK

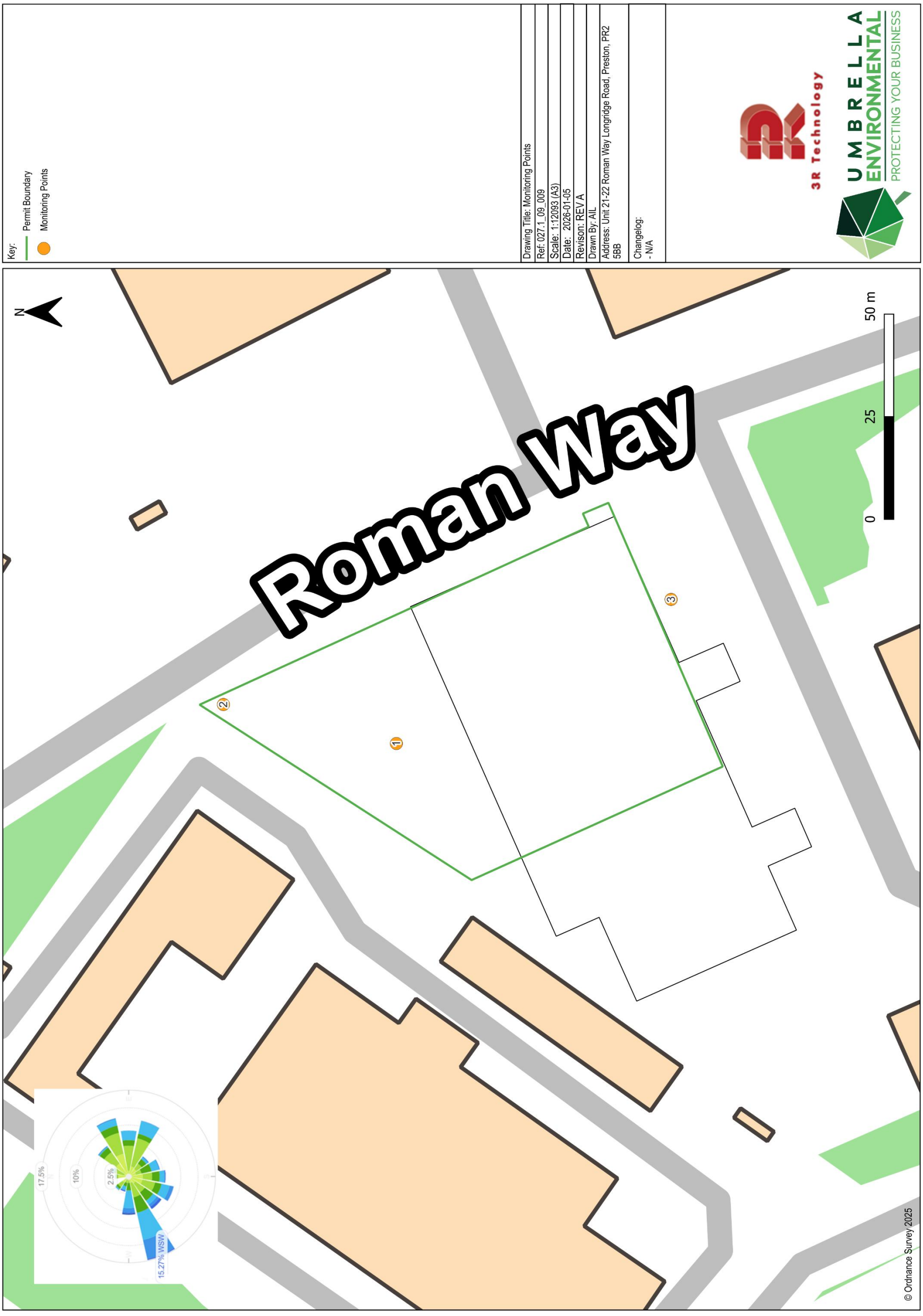
Drawing Title, Project Name and Address
Fire Protection Plan
3R Technology UK Ltd
Units 21 & 22, Roman Way Industrial Estate
Preston, Lancashire
PR2 5BB

Project: EA Permit Variation	Drg No: 02 -
Date: November 2025	
Scale:	

Drawing 3 1 km Sensitive Receptors



Drawing 4 Monitoring Locations



Drawing 5 Emission Monitoring Point

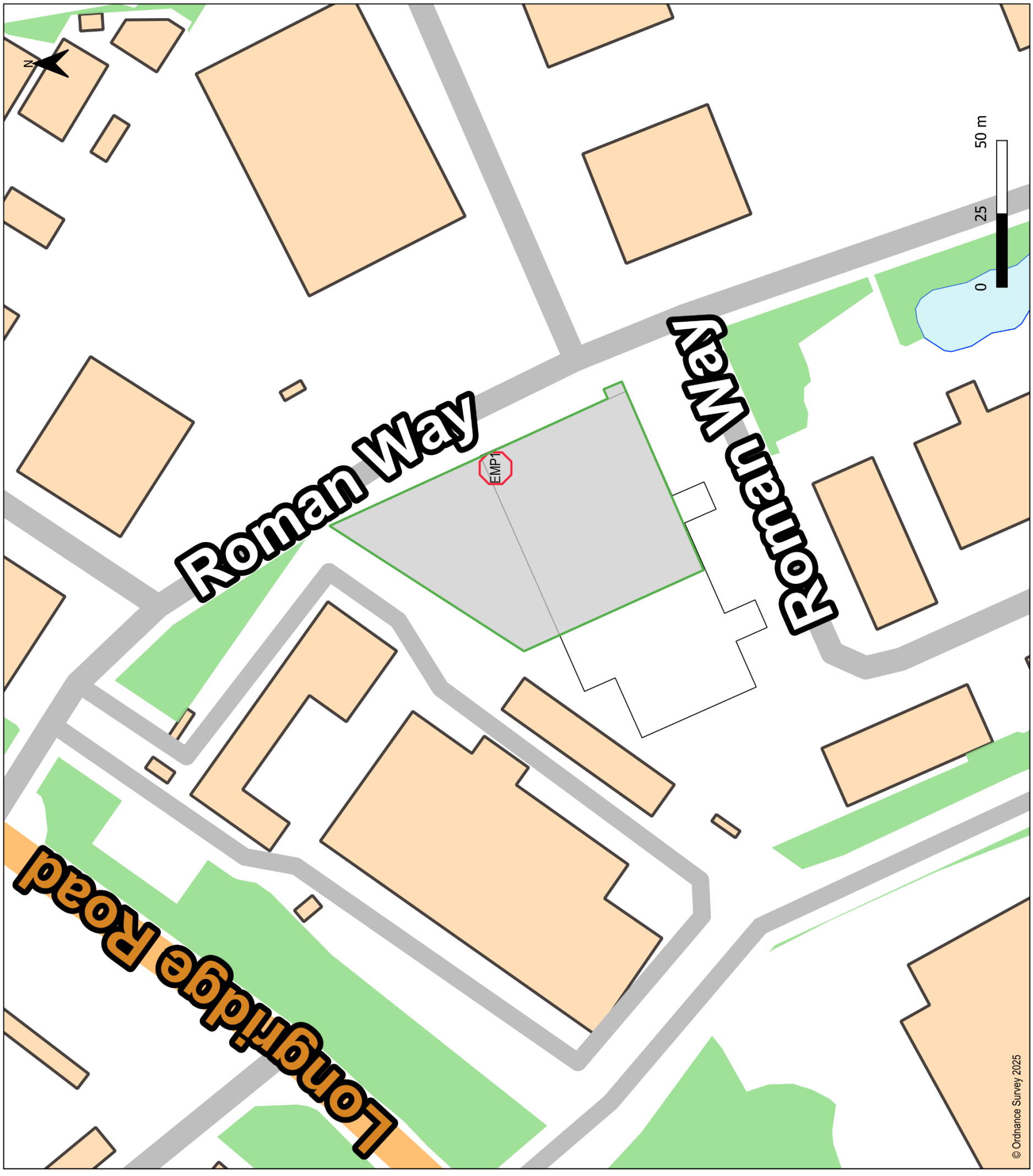
Key:
Permit Boundary
EMP 1
EMP1

Drawing Title: Emission Point
Ref: 027.1_09_008
Scale: 1:1200 (A3)
Date: 2026-01-05
Revison: REV A
Drawn By: AIL
Address: Unit 21-22 Roman Way Longridge Road, Preston, PR2 5BB

Changelog:
- N/A

3R Technology

UMBRELLA ENVIRONMENTAL
PROTECTING YOUR BUSINESS



13 APPENDICES

Appendix 1 Beaufort Scale

Beaufort wind scale	Wind Speed			Limits of wind speed			Wind descriptive terms
	Knots	mph	ms-1	Knots	mph	ms-1	
0	0	0	0	<1	<1.15	<1	Calm
1	2	2.3	1	1-3	1.15-3.45	1-2	Light air
2	5	5.75	3	4-6	4.6-6.9	2-3	Light breeze
3	9	10.35	5	7-10	8.05-11.5	4-5	Gentle breeze
4	13	14.95	7	11-16	12.65-18.4	6-8	Moderate breeze
5	19	21.85	10	17-21	19.55-24.15	9-11	Fresh breeze
6	24	27.6	12	22-27	25.3-31.05	11-14	Strong breeze
7	30	34.5	15	28-33	32.2-37.95	14-17	Near gale
8	37	42.55	19	34-40	39.1-46	17-21	Gale
9	44	50.6	23	41-47	47.15-54.05	21-24	Strong gale*
10	52	59.8	27	48-55	55.2-63.25	25-28	Storm
11	60	69	31	56-63	64.4-72.45	29-32	Violent storm
12	-	-	-	64+	73.6	33+	Hurricane

https://www.metoffice.gov.uk/weather/guides/coast-and-sea/beaufort-scale

*** Notes**

- The official term is Strong gale, however, the Met Office uses the descriptive term Severe gale
- To convert knots to mph multiply by 1.15, for m/s multiply by 0.514.

Appendix 2 Complaints Form

Customer Details	
Complainant Name	
Address – Postcode -	
Complainant Contact Details -	
Tel -	
Email -	
Date -	
Complaint Details -	
Investigation Details	
Investigation carried out by -	
Position -	
Date & time investigation carried out -	
Weather conditions -	
Wind direction and speed -	
Investigation findings -	
Feedback given to Environment Agency and/or local authority -	
Date feedback given -	
Feedback given to public -	
Date feedback given -	
Review and Improve	
Improvements needed to prevent a reoccurrence -	
Proposed date for completion of the improvements -	
Actual date for completion -	
If different insert reason for delay -	
Does the noise and Vibration management plan/Emissions Management Plan need to be updated -	
Date that the noise and Vibration management plan was updated -	
Closure	
Site manager review date	
Site manager signature to confirm no further action required	

Appendix 3 Monitor

English

Product Datasheet

Stock No: 1746575

Particle Mass Concentration Detector

EN

WiFi	
Connection Properties	802.11b, 802.11g, 802.11n(single stream) on channel 1-14@2.4GHz
Maximum Bit Rate	11Mbps@11b, 54Mbps@11g, 72Mbps@11n HT20
Encrypt	WPA2
Power	
Battery	2400mAh Recharge Li-ion Battery
Work Time	Able to continue work almost 5 hours
Charging	USB 5V/1A
Charging Time	Almost 2 hours when shutdown
Auto Sleep	Able to set auto sleep time
Others	
Display	3"TFT LCD Display, 240*400Pixels
Data Storage	5000 groups of sampling data
Work Temperature	0 to 50°C
Storage Temperature	-10 to 60°C
Size	85*75*155mm
Weight	360g

Attached

Air Quality Standard

Chat 1.1 PM2.5 Concentration and Corresponding Index Color Table

Color	Green	Yellow	Orange	Red	Purple	Deep Purple
Concentration	0 - 35$\mu g/m^3$	35 - 75$\mu g/m^3$	75 - 150$\mu g/m^3$	150 - 200$\mu g/m^3$	200 - 250$\mu g/m^3$	>250$\mu g/m^3$
Air Quality	Good	Normal	Mild Polluted	Middle Polluted	Heavy Polluted	Serious Polluted

Chat 1.2 PM10 Concentration and Corresponding Index Color Table

Color	Green	Yellow	Orange	Red	Purple	Deep Purple
Concentration	0 - 75$\mu g/m^3$	75 - 150$\mu g/m^3$	150 - 300$\mu g/m^3$	300 - 400$\mu g/m^3$	400 - 500$\mu g/m^3$	>500$\mu g/m^3$
Air Quality	Good	Normal	Mild Polluted	Middle Polluted	Heavy Polluted	Serious Polluted

Chat 1.3 PM10, HCHO, TVOC Concentration and Corresponding Index Color Table

Color	Green	Orange	Red
HCHO Concentration	0 - 0.05mg/m^3	0.05 - 0.1mg/m^3	0.1 - 5.00mg/m^3
TVOC Concentration	0 - 0.6mg/m^3	0.6 - 1.8mg/m^3	1.8 - 9.99mg/m^3
Air Quality	Good	Normal	Bad

2

Features

- Measure Mass Concentration of
- PM2.5/PM10/HCHO
- Measure HCHO
- Measure TVOC
- Measure Temperature & Humidity
- Wifi (Optional)
- 3"TFT LCD Display, 240*400 Pixels
- 5000 groups of sampling data

Specifications

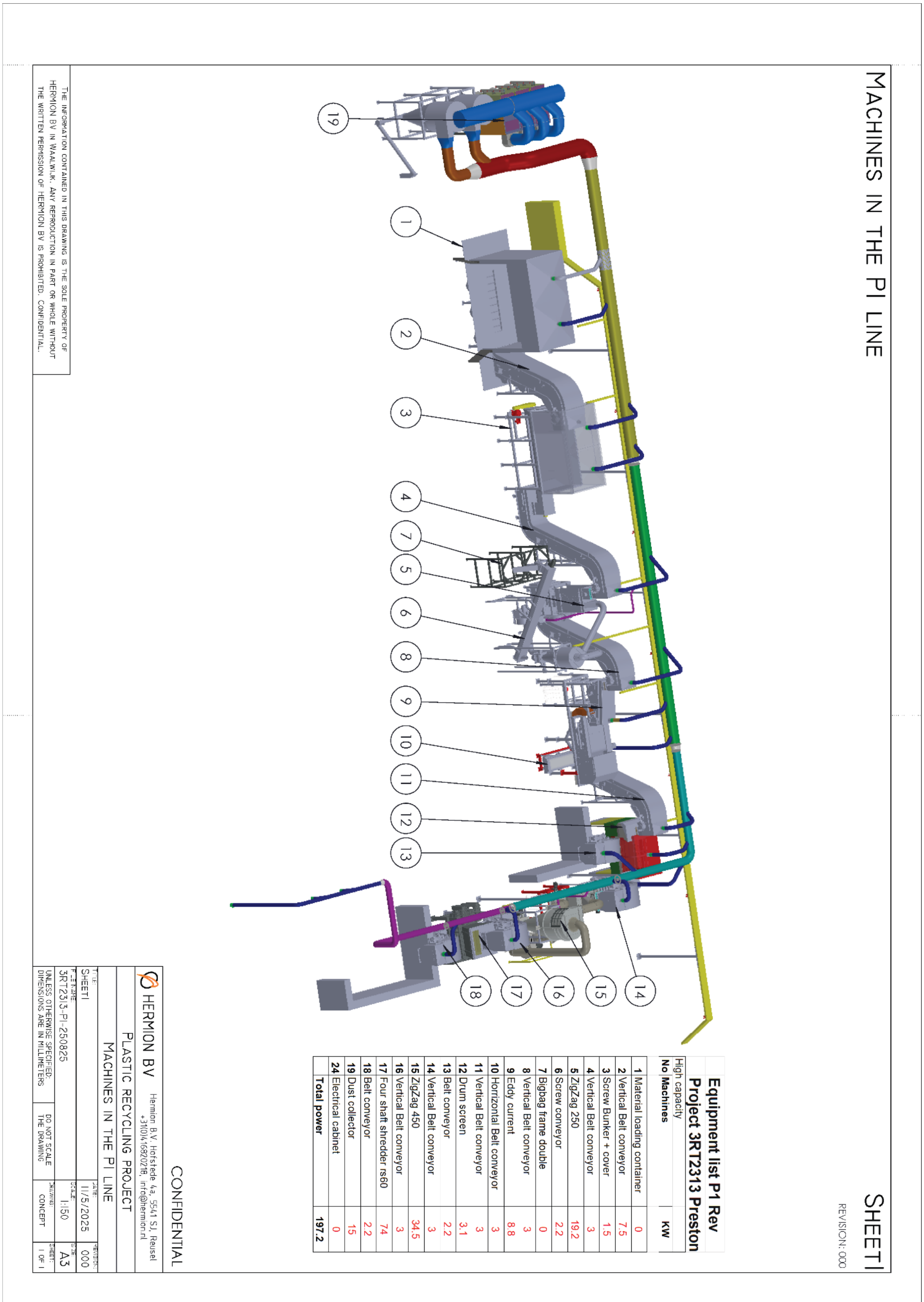
Particle Measure	
Particle Channels	PM2.5/PM10
Mass Concentration Range	0 to 2000$\mu g/m^3$
Resolution	1$\mu g/m^3$
HCHO	
Range	0.00 to 5.00mg/m^3
Accuracy	±5%F.S
Resolution	0.01mg/m^3
TVOC Measure	
Range	0.00 to 9.99mg/m^{3ww}
Accuracy	±5%F.S
Resolution	0.01mg/m^3
Temperature & Humidity Measure	
Temperature Range	-20 to 70°C (-4 to 158°F)
Temperature Accuracy	±2°C
Temperature Resolution	0.1°C
Humidity Range	0 to 100%RH
Humidity Accuracy	±3.5%RH(20 to 80%RH)
	±5%RH (0 to 20%RH or 80 to 100%RH)
Humidity Resolution	0.1%RH
Intelligent Sensor	
Noise Detect Sensor	A slight noise can awaken device

1

Appendix 4 Visual Monitoring Check Sheet

Investigation Details	
Investigation carried out by -	
Position -	
Date & time investigation carried out -	
Weather conditions -	
Wind direction and speed -	
Investigation findings -	
Comments	

Appendix 5 Extraction System



Equipment list P1 Rev
Project 3RT2313 Preston

High capacity

No	Machines	KW
1	Material loading container	0
2	Vertical Belt conveyor	7.5
3	Screw Bunker + cover	1.5
4	Vertical Belt conveyor	3
5	ZigZag 250	19.2
6	Screw conveyor	2.2
7	Bigbag frame double	0
8	Vertical Belt conveyor	3
9	Eddy current	8.8
10	Horrizontal Belt conveyor	3
11	Vertical Belt conveyor	3
12	Drum screen	3.1
13	Belt conveyor	2.2
14	Vertical Belt conveyor	3
15	ZigZag 450	34.5
16	Vertical Belt conveyor	3
17	Four shaft shredder rs60	74
18	Belt conveyor	2.2
19	Dust collector	15
24	Electrical cabinet	0
	Total power	**197.2**

UMBRELLA ENVIRONMENTAL

PROTECTING YOUR BUSINESS

9 Goldington Road Bedford MK40 3JY

www.umbrella-environmental.co.uk

andrew@umbrellaenvironmental.co.uk

Mob: 07498 671713