



Fire Prevention Plan

Hartcliffe Way Depot – Metal and WEEE Recycling Facility

Luke Bridges May 2021

Revision:	1.0	Approved by:	Andrew McCormack
Date Revised:	May 2021	Authored by:	Luke Bridges



1.0	INTRODUCTION.....	3
1.1	FIRE PREVENTION PLAN AND OBJECTIVES	3
2.0	SCOPE	3
3.0	REFERENCES.....	3
4.0	USING THIS FIRE PREVENTION PLAN.....	3
4.1	WHERE THE PLAN IS KEPT AND HOW STAFF KNOW HOW TO USE IT.....	3
4.2	TESTING THE PLAN AND STAFF TRAINING	4
5.0	SITE ACTIVITIES.....	4
5.1	SITE INFORMATION.....	4
5.2	WASTE ACTIVITIES AND WASTE TYPES	4
5.3	COMBUSTIBLE WASTE ACCEPTED ONSITE.....	5
5.3	NON-WASTE COMBUSTIBLE MATERIALS	5
5.4	PERMITTED ACTIVITIES	5
6.0	SITE LOCATION AND LAYOUT 6.1. SITE LOCATION	5
6.2.	SITE LAYOUT	5
6.3.	WASTE ACCEPTANCE AND HANDLING FACILITIES	6
6.4	WATER SUPPLY / HYDRANTS	6
6.5.	SITE DRAINAGE.....	7
7.0	SITE SETTING AND PROXIMITY TO SENSITIVE RECEPTORS.....	7
7.1	PLAN OF SENSITIVE RECEPTORS NEAR THE SITE	7
8.0	FIRE RISK AND PREVENTION	9
8.1	WASTE ACCEPTANCE CHECKS.....	9
8.2	COMMON CAUSES OF FIRE.....	9
8.3	SEPARATION DISTANCES.....	11
8.4	FIREWALLS	12
8.5	MANAGING STOCKPILES.....	12
8.6	WASTE BALE STORAGE	13
8.7	QUARANTINE AREA LOCATION AND SIZE	13
9.0	FIRE DETECTION AND MANAGEMENT PROCEDURE.....	14
9.1	FIRE DETECTION SYSTEMS.....	14
9.2	FIRE AND EVACUATION DRILLS.....	15
10	FIRE SUPPRESSION AND FIREFIGHTING TECHNIQUES.....	15
10.1	FIRE EXTINGUISHERS	15
10.2	FIRE SUPPRESSION SYSTEM	16
10.3	WATER SUPPLIES.....	16
11.0	MANAGEMENT OF ENVIRONMENTAL IMPACTS.....	17
11.1	FIREWATER	17
11.2	EMISSIONS TO AIR.....	17
11.3	EMISSIONS TO LAND.....	17
12.0	SITE CLEAN UP FOLLOWING A FIRE EVENT	18
12.1	CONTINGENCY PLANNING.....	18
12.2	MAKING THE SITE OPERATIONAL	18

1.0 INTRODUCTION

1.1 Fire prevention plan and objectives

1.1.1 This Fire Prevention Plan (FPP) has been prepared by MTS Environmental Ltd on behalf of ETM Recycling Ltd in accordance with Environment Agency guidance¹. The plan applies specifically to the storage of combustible and hazardous waste at the ETM Recycling Ltd facility located at 77 Hartcliffe Way, Bristol, BS3 5SB.

1.1.2 The purpose of this plan is to minimise the likelihood of a fire happening at the ETM Hartcliffe Way site. This plan meets the objectives of the Environment Agency's Fire Prevention Plan Guidance as it identifies the site operations that present a risk of fire and details prevention techniques and measures:

- to minimise the potential for a fire
- to control and extinguish any fire within 4 hours of it starting
- to control the spread of the fire to protect the site and neighbouring areas

1.1.3 This FPP will form part of the Environmental Management System (EMS) for the site and will be kept on site.

2.0 SCOPE

This FPP applies to the storage of any amount of combustible waste at the ETM Recycling site on Hartcliffe Way. It does not apply to hazardous wastes, excluding waste electrical and electronic equipment (WEEE), but including hazardous waste batteries accepted as a separate waste stream, covered by [Sector Guidance Note 5.06](#)².

The plan does not apply to non-waste materials such as gas cylinders, aerosols and combustible liquids as they are covered by addendum to Sector Guidance Note 5.06. However, these must be considered in this plan because they can cause or increase the severity of fire on site.

3.0 REFERENCES

1. Fire Prevention Plans: Environmental Permits
<https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits/fire-prevention-plans-environmental-permits> [used in conjunction with *Fire prevention plan consultation: summary of consultation responses and decisions, and Appendix 1: review of guidance and test results.*]
2. Sector Guidance Note S5.06: Recovery and disposal of hazardous and non-hazardous waste
3. Guidance for the storage and treatment of aerosol canisters and similar packaged wastes: addendum to S5.06

4.0 USING THIS FIRE PREVENTION PLAN

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

4.1.1 ETM Recycling Ltd will inform all site staff of the location of the FPP during induction training and regular fire drill exercises so that it is always easily accessible, including during a fire event. A copy of

the FPP will be kept in the Main Office on site for easy access by operatives and a second copy will be held off site.

4.2 Testing the plan and staff training

4.2.1 All site staff and contractors working onsite will be expected to view the contents of this FPP so that they know what they must do to prevent a fire occurring and how to react if a fire breaks out. To do this, ETM Recycling conducts exercises every month to test how well the plan works and to ensure that all staff understand their responsibilities.

4.2.3 All site staff and contractors are trained in safety, fire prevention and firefighting procedures during induction and routine safety and fire prevention awareness training depending on their work activities onsite.

4.2.4 Fire and evacuation drills are held at monthly intervals and are co-ordinated by the Site Manager. A training record will be maintained for each member of staff and will be stored in the site office and a designated member of staff will ensure that everyone has received the required induction and training. Each operative will sign and date the Toolbox Talk as confirmation that they have received the training.

5.0 SITE ACTIVITIES

5.1 Site information

5.1.1 The Site Manager, Andy McCormack is responsible for ensuring the FPP is always adhered to, including all monitoring. In the Site Manager's absence, a suitably qualified member of staff will oversee the management and application of the FPP.

5.1.2 The site is operated according to the hours specified below:

- Monday to Friday - 06:00 - 20:00
- Saturday – 07:00 – 12:00
- Sunday and Bank/Public holidays - closed

5.1.3 The plant/equipment used onsite in relation to the waste operations on site are listed below. Only trained operatives will be permitted to operate the plant/equipment.

- Telehandler Loader
- 360 Grab
- Metal shredder
- Granulator
- Concrete Batching Silo
- HGV's (movement of waste material to/from site)

5.2 Waste activities and waste types

5.1.1 This FPP considers the risks associated with fire at the ETM Recycling Hartcliffe Way site. The site is operated as a metal and WEEE recycling, and gully waste dewatering facility that accepts, stores and treats inert, non-hazardous and hazardous wastes. Waste treatment processes carried out onsite when this FPP was written include the following:

- Manual sorting (by bucket or by hand/picking line)
- Gully waste dewatering (in storage bays)
- Metal shredding (by shredding plant)
- Wire stripping (by manual stripping with pliers and granulators)
- WEEE sorting (by manual sorting)

5.3 Combustible waste accepted onsite

5.3.1 Combustible waste that is stored onsite and addressed in this plan include:

- Scrap metals contaminated or mixed with other waste such as oils or plastics
- Plastics - UPVC
- WEEE
- Fragmentiser waste – metal wastes

5.3 Non-waste combustible materials

5.3.1 Gas cylinders are stored in cages away from storage areas containing combustible waste materials. In the event of a fire these will be removed as soon as practicably possible to avoid contact with the fire as excessive heat can increase internal pressure and cause the cylinder shell to lose its strength and fail.

5.3.2 No fuel will be stored on site.

5.4 Permitted activities

5.4.1 Total volumes will not exceed standard rules permit limits of 75,000 tonnes annually. Of which, typically 50,000 tonnes a year of metal WEEE will be accepted and less than 5,000 tonnes of haz WEEE will be accepted. Possibly 5000 tonnes of gully waste will be de-watered. It is estimated that the approximate throughput of material on site annually will be ~60,000 tonnes.

6.0 SITE LOCATION AND LAYOUT

6.1. Site location

The site is located at 77 Hartcliffe Way, Bristol, England BS3 5SB. The site is bounded by 4m high concrete walls on three sides and surrounded by mixed industrial developments. The location of the site is shown on the Site Location Plan.

6.2. Site layout

6.2.1 Waste quantities and storage locations are shown on the Site Layout Plan. The permitted site has only one main entry point off Hartcliffe Way.

6.2.2 The main vehicular entrance used is located on Hartcliffe Way which allows the vehicles to access the permitted site. Only one vehicle at a time can enter the site to tip waste and exit safely. Vehicle drivers are given instructions by telephone prior to site entry and for their next collection, they leave the site as soon as waste is deposited.

6.3. Waste acceptance and handling facilities

- 6.3.1 Strict waste acceptance procedures are in place at the site and a waste transfer note is completed for every load deposited at the site. Further details regarding waste acceptance are included in Section 3.4 of the ETM Recycling EMS.
- 6.3.2 Waste metal deliveries entering the site are tipped onto an impermeable concrete surface in the open yard near the eastern boundary of the site and are manually inspected and sorted, at this point checks are carried out for combustible materials and the potential for fire.
- 6.3.3 Waste is then processed in the shredder in the weatherproof building, fragmented waste is then manually sorted and undergoes further processing in the granulator if necessary.
- 6.3.4 Gully waste is stored as 20 03 03 in dewatering bays in the north western corner of the site. All other wastes are stored in stockpiles along the eastern edge of the site.
- 6.3.5 Waste is received in enclosed 28 tonne vehicles or sealed containers, it is then inspected, shredded and transferred to secure, clearly identified containers in the sorting building which are locked when not being loaded.
- 6.3.6 WEEE waste is separated into small mixed WEEE, televisions and display equipment (including those containing mercury backlights), batteries, fluorescent lamps and large domestic appliances, such as fridges. Site operatives are vigilant to ensure that segregated WEEE waste is stored in the dedicated container in the WEEE storage area and that non WEEE waste is not deposited with WEEE.
- 6.3.7 Any waste types that pose a fire risk are sorted and stored carefully in separate covered containers within the sorting building away from other combustible waste.
- 6.3.8 The covered building contains four separate areas: the site office, metal/WEEE sorting and storage area, civils projects manufacturing area and non-ferrous metal stockpile.
- 6.3.9 The onsite positive drainage system is managed from the pumphouse container in the north western corner of the site.
- 6.3.10 The quarantine area is located in the southern side of the site next to the offices. It is located away from any stored material to prevent contamination and the spreading of fire if smouldering material is placed here. The quarantine area is 5m x 5m.
- 6.3.11 The Site Layout Plan shows all areas of the site so any fire outbreak can be easily accessed and extinguished.

6.4. Water Supply / hydrants

- 6.4.1 The main water supply to the site is from the building in the south of the site where a hose pipe can be connected to a mains supply of water. This water can act as a supply for firefighting.
- 6.4.2 A holding tank is located in the pumphouse and can be fitted with a submersible pump.
- 6.4.3 There is no fire hydrant near the site so the main source of water will be from the mains water supply and holding tank.
- 6.4.4 Avon Fire and Rescue Service is located ~15m from the site so access to the site in an event of a fire would be extremely fast.

6.5. Site Drainage

6.5.1 The entire site is surfaced with impermeable concrete and drains into three gullies along the northern boundary to accommodate the natural fall of the site. The gullies drain into a 5,000L full retention interceptor, fitted with smart sponges, connected to a holding tank. All surface water is collected into this system. The holding tank then drains into a manhole which connects to a foul sewer on site, all surface water drains into this system providing an effective water management system for the site. The holding tank has a pen stop valve to retain surface run-off water following a leak, spill or fire event.

6.5.2 The drainage system is regularly maintained to prevent flooding on the site.

6.5.3 There is enough water available for firefighting from the mains local water supply, however due to the size constraints of the site only small amounts of waste can be stored. The most important aspect of fire prevention is fundamental to the way the site operates, as no waste, combustible or other, remains on site for more than 14 days.

7.0 SITE SETTING AND PROXIMITY TO SENSITIVE RECEPTORS

7.1 Plan of sensitive receptors near the site

7.1.1 When preparing this FPP, the need to protect nearby sensitive receptors was considered. The sensitive receptor plan and the site location plan show all receptors within a 1km radius of the site that could be affected by a fire. Local receptors identified for this FPP are listed in Table 1. To minimise the impact on the local area and associated receptors from a fire on site, this document details the mitigation measures which will decrease the likelihood of a fire occurring on site and limit the size and duration of a fire if it does occur.

Table 1: List of receptors within 1km from the ETM Hartcliffe Way site

Receptor	Distance from site (m)	Direction
Residential		
Properties on Wimborne Road	180m	North
Properties on Aylesbury Crescent	480m	North East
Properties on Novers Hill	200m	East
Properties on Ilchester Crescent and Brooklyn Road	480m	West
Properties on Headley Lane	230m	South West
Properties on Parson Street	370m	North
Properties on Lynton Road	365m	North East
Woodland and Waterways		
Local Nature Reserve (Manor Woods Valley)	275m	South West
Deciduous Woodland	125–1000m radius of the site	All directions
River Malago	60m	West
Sensitive Land Uses		
Avon Fire and Rescue Service	15m	West
Osborne Court Care Home	950m	North
Knowle West Healthy Living Park	460m	East
Knowle DGE Learning Centre	400m	South East
Parson Street Primary School	550m	North
Cheddar Grove Primary School	890m	South West

Headley Park Primary School	1000m	South
Greenfield E-ACT Academy	600m	South
Anne’s House Childcare Centre	930m	North
Knowle West Children’s Centre	550m	East
Broadbury Road Police Station	800m	East
South Bristol Christian Centre	940m	North
Bedminster Road Gospel Hall	685m	North
Salem Chapel	830m	North West
St Oswald’s Church	1000m	West
Industrial/Commercial		
Novers Hill Trading Estate	50m	East
Bristol Vale Centre for Industry	300m	North West
Bristol Community Transport Hub	180m	North
Esso Hartcliffe Way	10m	West
Knowle West Media Centre	640m	East
Hubsta Charging Station	125m	South
Broad Plain Rugby Football Club	800m	North
Marksbury Road Library	690m	North
Enterprise Rent-A-Car	85m	North West
City Central Cattery	775m	North West
Public Rights of Way		
Public Footpath (off Headley Lane)	275m	South West
Public Footpath (Novers Steps)	415m	North East
Public Footpath (off Hartcliffe Way)	490m	North
Infrastructure/utilities		
Hartcliffe Way (A4174)	10m	West
Parson Street train station	720m	North
Hartcliffe Way Bus Stop	150m	South West
Groundwater		
The site is not within a source protection zone or drinking water safeguard zone		

- 7.1.2 Most receptors in the surrounding area are industrial and commercial businesses. The site sits within a site containing numerous businesses, including a trading estate, transport hub and car sales depot. The nearest residential receptors are located 180m to the north on Wimborne Road and 200m to the east on Novers Hill. There are numerous residential properties beyond the nearest receptors in all directions from the site.
- 7.1.3 There is one care home (Osborne Court Care Home), four primary schools (Parson Street, Cheddar Grove, Headley Park primary schools and Knowle DGE Learning Centre), four churches, a local nature reserve, the River Malago and no hospitals within 1,000m of the site.
- 7.1.4 There are no electricity pylons on or adjacent to the site.
- 7.1.5 There are no European Sites, SSSIs, AONBs or country parks within 1km of the site. The site does not lie in a source protection area (see Figure 1) or drinking water safeguard zone, although it is located on a designated Secondary B Aquifer for bedrock. To protect the Secondary Aquifer, measures will be employed to prevent the escape of any water used to manage fires to the surrounding area, for further detail see Section 11.1.

Figure 1: Source Protection Zones (Magic Maps)



8.0 FIRE RISK AND PREVENTION

8.1 Waste Acceptance Checks

8.1.1 The facility is permitted to accept a range of non-hazardous and hazardous wastes (detailed in the EMS) and all incoming wastes are visually checked for signs of combustion, i.e. flames or smouldering, upon receipt at the site. Any non-compliant or smouldering wastes that are identified on arrival will be extinguished and reloaded onto the vehicle/skip or moved immediately to the quarantine area to await safe removal from site. Wastes that are identified as being at risk of combustion will be segregated in the sorting area and closely monitored or dampened using the mains water supply.

8.2 Common causes of fire

8.2.1 Arson/ Theft

The ETM Recycling whole site is surrounded by a 4m high concrete wall with a locked and secure gate at the entrance. CCTV operates during and outside of working hours to monitor unauthorised access to the site. Gates and walls are inspected daily, and any damage or faults recorded in the site diary. No fuel is kept on site and gas supplies are under lock. Any hazardous and combustible wastes are stored in a secure, covered building with security systems in place.

8.2.2 Plant and equipment

All equipment at ETM Recycling is inspected regularly and maintained according to the manufacturer's instructions. In addition, all vehicles are fitted with fire extinguishers and dust filters. Maintenance of plant and equipment is carried out by external resources or by the manufacturer and records are maintained of service schedules, breakdowns and plant failures. All pre-operational checks on plant include a visual inspection of electricity cables. A defect report is completed for any damaged plant or equipment.

8.2.3 Electrical faults and damaged cables

Since sparks may be caused by faulty equipment, staff are trained to visually inspect equipment and to report loose connections, damaged cables and other faults. Damaged equipment will not be used until it is repaired to prevent the risk of fire. Maintenance of onsite electrics, legally required or procedural electrical inspections and repairs will be carried out by qualified electricians. All onsite electrics will be certified by a qualified electrician. In the event of an electrical fault or damaged equipment, repairs or replacements will be undertaken at the earliest opportunity.

8.2.4 Electrical certification

Electrical equipment onsite is checked and fully certified by a qualified electrician and regulatory electrical safety standards will always be complied with. Maintenance records are stored in the site office.

8.2.5 Maintenance and repairs

ETM Recycling regularly inspects all site infrastructure and equipment, and any maintenance and repairs are carried out by suitably qualified persons in accordance with safe working practices. Identifying damaged equipment and other faults or breaches that pose a safety risk minimises the risk of fire. Details of all inspections, servicing, maintenance and repairs are recorded in the site diary.

8.2.6 Discarded smoking materials

Smoking is not permitted on the ETM Recycling site. The designated smoking area is off the permitted site which is at a safe distance from stored and combustible wastes to prevent accidental ignition.

8.2.7 Hot works safety working practices and hot exhausts

ETM Recycling does not carry out any hot works on the site. Staff will visually check for any signs of fire and for dust settling on hot exhausts and engine parts of vehicles, which will be brushed off if necessary. In the event of hot works being undertaken onsite, following their completion a fire watch will be carried out.

8.2.8 Fire watch procedures

All inspections, fire watches and preventative actions taken will be recorded within the site diary.

8.2.10 Ignition Sources

Naked flames, heaters, heating pipes, mobile plant, equipment, light bulbs and any other sources of ignition will not be used within 6 metres of combustible waste to avoid sparks reaching the stockpiles. Where it is not possible to maintain these requirements ignition sources shall be enclosed or screened by a protective covering.

8.2.11 Batteries in ELVs

The ETM Recycling site does not accept end of life vehicles.

8.2.12 Leaks and spillages of oils and fuels

ETM Recycling inspects all plant for leaks or spillages of fuel, hydraulic fluids or coolant at the start of the working day. Any leakages or other faults are recorded in the site diary and addressed immediately. If a delivery vehicle is leaking fuel or other oils the driver will be notified straightaway. Sand or other suitable material in the spill kit will be used to absorb any spilled fuel or other combustible liquid. Sand, buckets, plastic bags and shovel is stored in the storage container in the south east corner of the site, which is marked on the site layout plan. Contaminated spill kit material will be sealed in a bag and disposed of at a permitted facility.

8.2.13 **Build-up of loose combustible waste, dust and fluff**

Routine inspections are carried out daily in the storage areas to identify build ups of loose combustible wastes, dust and fluff, however, all site staff are trained to check for potential dust emissions during their work activities. These checks are recorded in the site diary. Dusty material will be suppressed and removed using a hose. The quantity of stored waste is regularly monitored and will not exceed the capacity of the storage containers. Storage areas, containers and the sorting area will be inspected and cleaned regularly to prevent the build-up of any waste, dust and fluff, any loose waste will be disposed of accordingly and moved to a licenced waste disposal facility at the earliest opportunity.

8.2.14 **Reactions between wastes**

All wastes accepted are checked for signs of combustion in accordance with the pre-acceptance procedure detailed in Section 6.3. This procedure ensures that waste items that are unstable and pose a fire risk (metals, WEEE and plastics) are assigned to the correct storage area/container and are kept separate from incompatible wastes. Following segregation wastes are then safely stored in containers in the sorting/storage areas in the covered building that is weatherproof and equipped with fire walls. Any non-permitted wastes are transferred immediately to the quarantine area for removal from site within five working days.

8.2.15 **Deposited hot loads**

The ETM Recycling site will not conduct any hot works and the storage and sorting area for combustible waste is covered to reduce exposure and heating from the sun. However, if a hot load is received, a fire quarantine area is provided to store hot loads and smouldering waste that has the potential to combust. This is an area of impermeable hard standing located in the southern side of the site and is over 6 metres from the waste storage area.

8.2.16 **Prevent self-combustion**

All waste stored on site will comply with Section 10.2 of the EA's FPP guidance and ETM Recycling will only store combustible waste in containers with a 30 m³ capacity in 40-yard high sided roro skips in the waste reception and storage area, and in 1 m³ bags in the waste processing unit, that minimise pile sizes and store wastes in their largest form, as shown in Table 2. All storage containers are easily accessible can be moved as soon as necessary if a fire occurs.

All waste has undergone pre-acceptance checks and combustible waste is managed on a first in first out policy with no waste being stored on site for longer than 14 days. Existing waste is kept in a separate stockpile to new material to ensure that the former is stored for up to 14 days, which minimises over-stocking and the risk of overheating.

A member of staff will be designated to carry out a fire watch at the end of each shift, and whenever high-risk activities are undertaken.

Inert waste stored on the site are considered non-combustible and the storage of such has not been referenced in this FPP as it will be governed by other working documents such as the EMS.

8.3 **Separation distances**

- 8.3.1 All stockpiles of combustible waste are stored in containers that resist both radiative heat and flaming that are stored inside the covered, weatherproof building. No combustible waste is stored in open stockpiles. Any potentially combustible non-permitted wastes will be immediately moved

to the quarantine area and removed from the site as soon as is practicable within five working days.

8.4 Firewalls

8.4.1 Combustible wastes will only be stored in the waste storage areas shown on the site layout plan. The WEEE storage comprises of waste containers comprising of metal skips (40 yard high sided roro skips) which are fire resistant and able to stop fire spreading outside of the storage area. Storage bays which store street cleaning residues and soils are constructed from 8-inch-thick concrete walls which are sealed to ensure fire resistance and to prevent a fire spreading outside/inside the bay. The containers and storage bays provide a minimum of 2 hours' fire resistance to allow waste to be isolated and extinguished using the appropriate method within 4 hours. To avoid igniting other wastes, no burning material will be moved outside the bay walls or containers, it will only be moved once it is extinguished and cooled. The site is enclosed by three 8-inch-thick concrete walls which prevent any fire from escaping the site and causing hazards to the surrounding area.

8.4.2 Once material is sorted it will be transferred to the waste processing unit and stored in storage bags. This is in an enclosed building where the walls will act as firewalls to prevent fire spreading to the rest of the yard. The storage bags will be made out of flame retardant polypropylene material.

8.5 Managing stockpiles

8.5.1 All combustible or hazardous waste streams are stored in 40 yard high sided roro skips in the waste reception and storage area, once the material is sorted and moved into the waste processing unit it is stored in storage bags (with a volume of 1m³). As detailed in 8.2.16, combustible waste is managed on a first in first out policy and a 14-day rotation meaning that combustible waste is stored for a maximum of 14 days on site, which is well within the permitted storage times stated in the environmental permit.

8.5.2 Each storage container has a maximum volume of 30 m³. This prevents storage bays and containers exceeding the maximum capacities allowed, as listed in Table 2, and ensures that flames cannot reach anything beyond the firewall or container.

8.5.3 Combustible waste is only stored in piles of up to 30 m³ for a maximum of 14 days and so temperature checks and stock rotation are not carried out. Stored wastes are inspected daily for fire risks, such as smouldering, and the findings recorded in a daily site diary. Stockpiles are also inspected to ensure volume limits are not exceeded.

8.5.4 Containers are checked for visual signs of damage, incorrect stacking and leaks. Any issues are actioned immediately, and remedial action taken. Waste stored in containers, such as skips that have a capacity greater than 1,100 litres, are accessible so that fire inside can be extinguished. In the event of a fire, containers onsite can be easily moved to prevent the fire spreading. A tracked excavator will be used to move skips to an area where the fire can be extinguished using water or an appropriate extinguisher.

8.5.5 Some metal wastes and WEEE are mechanically processed through shredding. This activity will be constantly observed by a trained operator and the plant routinely inspected for defects to reduce the risk of fire. Wastes will be processed in small batches to avoid over-heating of the machine or waste. All processing will be carried out in accordance with manufacturers guidance.

8.5.6 Waste stored in the waste processing unit will not be exposed to direct sunlight. This will minimise external heating.

8.6 Waste bale storage

8.6.1 No waste baling will be carried out on the ETM Hartcliffe Way site and no compactor is used on site.

Table 2: Maximum Stockpile Size by Waste Type

Waste stream	Location (must match site plan)	How it is stored For example this may include piles, bays, containers, skips, racks, bales	Max. length / m	Max. width / m	Max. height / m	Volume / m ³	Max. time it will be stored
Metals and metal containing waste (ferrous/non-ferrous)	Pre-processed in the Waste Reception & Storage Area. Processed in the Waste Processing Unit.	Pre-processed in high sided containers and processed in storage bags.	5.4	2.4	2.8	30	14 days
WEEE	Pre-processed in the Waste Reception & Storage Area. Processed in the Waste Processing Unit.	Pre-processed in high sided containers and processed in storage bags.	5.4	2.4	2.8	30	14 days
Street cleaning residues	Storage bays in the Waste Reception & Storage Area	Stored in storage bays.	6.6	5.4	4.0	140	14 days

8.7 Quarantine area location and size

8.7.1 A Fire Quarantine Area is provided to store smouldering waste that has the potential to combust. This is an area of impermeable hardstanding surface located in the southern side of the site. The area is over 6m from waste stored on site.

8.7.2 The largest piles of combustible waste are contained in skips and measure around 30 m³ in volume if stored at full capacity. The quarantine area needs to hold 50% of the above volume. The quarantine skip measures 20 yards and could hold a volume of 15 m³ of material if at full capacity which is adequate to store 50% of the largest pile stored onsite.

8.7.3 Any non-permitted wastes temporarily stored within the quarantine area during the event of a fire will be manually removed and loaded into the empty skip, at container 8 on the site layout plan, to be moved to a licenced waste disposal facility at the earliest opportunity. This will ensure that there is full capacity for burning wastes that may be removed from the covered storage area.

8.7.4 Quarantine storage of waste will not exceed 5 working days.

9.0 FIRE DETECTION AND MANAGEMENT PROCEDURE

9.1 Fire detection systems

9.1.1 Site security and CCTV system detailed in Section 8.2.1 are adequate to prevent arson and they inform the operator of any incidents outside of working hours.

9.1.2 The office has fire detection sensors and an alarm system to ensure that office-based staff vacate the building safely. This system is maintained by the supplier on an annual contract and tested routinely.

9.1.3 If a fire is detected or suspected by a member of staff during operational hours, it must be immediately reported to the Site Manager or TCM. The relevant person will then carry out the following procedure:

1. Raise the fire alarm (if not already done by another staff member)
2. Evacuate staff and visitors to the fire assembly points located outside of the permitted site boundary and direct a nominated person to conduct an attendance check
3. Activate the fire suppression system and firefighting response i.e. hoses and fire extinguishers. Site operatives that are trained to use basic fire-fighting equipment will be deployed
4. Assess the scale of the fire and call the emergency services if required

9.1.4 In the event of a large fire that cannot be controlled using onsite fire suppression and firefighting response, the designated person will:

1. Call the Fire Response Service (FRS) immediately using 999
2. Call the EA's Emergency Contact Number
3. Inform all neighbouring residents and premises likely to be affected
4. Inform, senior management of the company (if not already informed)
5. Ensure access routes are clear for the emergency services
6. If safe to do so, the TCM or a senior member of staff will inspect the location of the fire, to identify immediate risks to surrounding premises and the fire service
7. Ensure operators of appropriate machinery are standing by in a safe location to help create fire breaks, under the direction of the fire service when it arrives
8. Ensure relevant site staff are standing by in a safe location to deploy surface water and protection equipment where required
9. The Site Manager/TCM will identify themselves to the fire service as soon as they arrive on site and will provide them with a copy of this FPP
10. Implement pollution control measures when safe to do so

9.1.5 If the Site Manager/TCM is not on site, the operator will ensure a nominated person(s) is appointed, who is trained in accordance with this FPP, to coordinate a response.

9.1.6 Out of hours, a CCTV system outlined in Section 8.2.1 are considered adequate to prevent arson. A Site Notice Board will be located at the main site entrance on Hartcliffe Way and will include the Operator's name, an emergency contact name and telephone number so that members of the community can contact ETM Recycling in the event of a fire. The procedures detailed in Sections 9.1.3/9.1.4 will be followed.

9.2 Fire and Evacuation Drills

- 9.2.1 All site staff and contractors are trained in safety, fire prevention and firefighting procedures during induction and routine safety and fire prevention awareness training depending on their work activities on site. Fire and evacuation drills are held at monthly intervals and are co-ordinated by the Site Manager. A training record will be maintained for each member of staff and will be stored in the site office and a designated member of staff will ensure that everyone has received the required induction and training. Each operative will sign and date the Toolbox Talk as confirmation that they have received the training.
- 9.2.2 If a large fire is detected during operational or out-of-hours, nominated personnel will alert the emergency services and continue to liaise with them. Other site staff will be evacuated offsite where necessary and any first aid or medical assistance provided. If not previously informed, senior management of the company will be informed at this point of the details, nature and extent of the fire and whether assistance from staff is required.
- 9.2.3 If safe to do so, the TCM or a senior member of staff will inspect the location of the fire, to identify immediate risks to surrounding premises.
- 9.2.4 The site manager or TCM will ensure operators of appropriate machinery are standing by in a safe location to help create fire breaks, under the direction of the emergency services when they arrive.
- 9.2.5 The site manager/TCM will identify themselves to the fire service as soon as they arrive on site and will provide them with a copy of this document.
- 9.2.6 In the event of the Site Manager or TCM being absent from the site, the Operator will ensure a suitable person is employed and familiar with the site.
- 9.2.7 A clear and suitable access route off Hartcliffe Way allows access for fire services. In the event of a fire, no waste deliveries will be accepted at the site.
- 9.2.8 The nearest receptors within 200m of the site including residential and commercial will be informed of the fire by ETM Recycling staff. The fire service, local council and Environment Agency will be contacted to ensure further properties are informed should the fire spread or become difficult to control.

10 FIRE SUPPRESSION AND FIREFIGHTING TECHNIQUES

10.1 Fire Extinguishers

- 10.1.1 Portable fire extinguishers are provided in the site office which can be deployed in the event of a smaller fire for fire suppression and will include the following:
- Red – water-based extinguishers, including spray (with additives) and mist;
 - Blue – powder-based extinguishers;
 - Cream – foam-based extinguishers;
 - Black – carbon dioxide-based extinguishers; and

- Yellow – chemical-based extinguishers.

- 10.1.2 Handheld extinguishers are available in all ETM Recycling vehicles and fire blankets are stored in the site office.
- 10.1.3 Site fire extinguishers are inspected annually by an external fire protection company, and visual checks performed and recorded monthly by the site manager. All fire extinguishers are placed in prominent locations in clear view and with easy access.
- 10.1.4 Training will be given to all employees in the use of fire extinguishers and their locations. Signage will be provided across the site with regards to fire awareness and emergencies.

10.2 Fire Suppression System

- 10.2.1 A fire suppression system is fitted on site where combustible waste is stored. All plant and machinery have effective spray bars fitted to prevent ignition of wastes. The site has a water source and a hose-reel system can be fitted to the mains water supply to enable operators to dampen down combustible material. The system will help prevent any fire from spreading and will allow the fire and rescue service to control and extinguish the fire within 4 hours. The suppression system is manually controlled by site operators and is checked regularly during fire drills.
- 10.2.2 In addition to the suppression system, and if safe to do so, inert materials such as soils or sand could be added to burning wastes to extinguish a fire, but only if agreed beforehand with the Environment Agency. Using inert material will reduce the need for water in tackling a fire, which would therefore reduce the volume of potentially polluting firewater requiring disposal following an incident.
- 10.2.3 Fire blankets will be kept in the site office.

10.3 Water supplies

- 10.3.1 In accordance with Section 16 of the EA's Fire Prevention Plan guidance, the site should have enough water available for firefighting to take place and to manage a worst-case scenario. The worst-case scenario at the ETM Recycling Hartcliffe Way site would be the largest waste pile catching fire. The maximum pile size for combustible waste is 30 m³ when at full capacity and assuming all waste in the pile is combustible would require 200.1 litres per minute of water for a minimum of 3 hours which equates to 36,018.0 litres.
- 10.3.2 The site has access to a hose reel which connects to the mains water supply which can be used for dousing any hot loads i.e., in the quarantine area or for any small fires that could break out.
- 10.3.3 There are no fire hydrants near the site. The Fire and Rescue Service will be able to connect to the mains water supply using the connection on site. As there is no readily available information in terms of the flow rate from the mains water, guidance from The Local Government Association (LGA)⁴ on water supplies for firefighting in industrial areas has been referenced in order to determine an average flow. The site measures approximately 0.5 hectares and for up to one hectare, a minimum of 20 l/sec (1200 l/min) is generally supplied. The surrounding industrial area covers a large area which would easily exceed the required 200.1 litres per minute to ensure a fire is extinguished within 3 to 4 hours.

11.0 MANAGEMENT OF ENVIRONMENTAL IMPACTS

11.1 Firewater

11.1.1 Where water is used to control and extinguish fire, ETM Recycling will employ measures that prevent the pollution of air and external water sources. The whole site, including the sorting area is constructed on an impermeable concrete surface and so, firewater run-off will not permeate the surface, it will instead be channelled into the positive sealed drainage system via gullies. Water contained in the drainage system will flow into a full retention interceptor and a 5,000-litre holding tank located beneath the pumphouse in the north western corner of the site, these are then connected to a foul sewer outlet. In the event of a fire, a nominated person will shut off the holding tank to contain firewater and prevent it from leaving the site.

11.1.2 The largest waste pile would require containment for 36,018.0 litres of water in accordance with the FPP guidance. In the event of a large fire, all manholes would be plugged, and gullies covered with drain mats which would create a lagoon effect due to the site being relatively flat. The site is enclosed by 8-inch-thick concrete walls on three sides and an impermeable kerb at the site entrance which would help to retain the firewater on site as percolation through the walls would be slow. If required, the site would position 0.16m firewater booms across the site entrance. When the fire is extinguished, all standing firewater would be pumped using a hired-in vacuum tanker and deposited to a suitably permitted site for treatment. No firewater would be discharged into the ground or surface waters.

11.1.3 Using the 5,000-litre holding tank and firewater booms where combustible waste is stored, the containment area could hold the required 36,018.0 litres of water using this technique. The holding tank has shut off valves to prevent firewater runoff into the foul sewer.

11.1.4 The firewater booms will be industry approved and will come in 100m rolls that can be cut to the length required for this site.

11.2 Emissions to air

11.2.1 The combustion of waste materials during a fire can release harmful emissions to the air. The wind can disperse soot, dust and potentially toxic gases such as carbon monoxide, volatile organic compounds (VOC) and polycyclic aromatic hydrocarbons (PAHs) across a wide area. If inhaled, smoke and particulate matter can cause respiratory irritation and pollute the surrounding area. In the event of a fire, site staff and visitors will be evacuated to a safe area and residents and businesses advised to keep doors and windows closed, particularly residential housing within 200m of the site. The fire detection system and firefighting by both suitably trained staff and the emergency services will ensure that a fire is extinguished as quickly as possible, ensuring that the production and spread of aerial emissions is minimised.

11.2.2 The site has a weatherproof enclosed building where any combustible wastes are stored which will help to contain any emissions from a potential fire on site from these wastes.

11.3 Emissions to Land

11.3.1 Any ash or debris produced following a fire will be contained and disposed of to a permitted site to prevent the potential emission to surrounding land.

12.0 SITE CLEAN UP FOLLOWING A FIRE EVENT

12.1 Contingency planning

12.1.1 In the event of a fire, no waste will be accepted at the site. All pre-booked deliveries will be cancelled during a fire by site administration staff and any deliveries that arrive without prior notification will be turned away. No waste will be accepted onsite until the post-fire site recovery procedures outlined in section 12.2.1 have been fully implemented and the site is authorised to re-open for trade and waste acceptance.

12.1.2 In the event of a fire, a designated member of site staff will inform residents and businesses within 200m of the site through word of mouth. If no occupants answer the call, then a letter will be left at the premises to inform them of the event.

12.2 Making the site operational

12.2.1 Following a fire incident, ETM Recycling will implement the following steps so that the site can become operational again. All 'Duty of Care' obligations will be complied with at every stage of the site clean-up.

Step 1. Remove contained firewater to a permitted facility for disposal. The site will be hosed to remove traces of firewater into the drainage system.

Step 2. Debris, ash and partially burnt material that is no longer suitable for recovery/reuse will be sent offsite to a suitably permitted facility.

Step 3. The site infrastructure, including impermeable surfaces, site walls and storage bays, will be inspected if required by suitably qualified engineers to determine if repairs are needed.

Step 4. If the fire was restricted to one part of the site, once it is extinguished operations can continue in the unaffected areas, if the site complies in full with the permit conditions.

Step 5. Ensure all fire equipment, where used, is replenished.

Step 6. Review the FPP and EMS procedures and improve where found deficient and assess whether further preventative measure could be implemented.

Step 7. Review training requirements for staff.

12.2.2 Work activity will not commence in the affected area until all inspections and necessary repairs are completed. The Environment Agency will be notified of all inspections and repairs within five working days of the site becoming fully operational.