EMR Group Ltd

Fire Prevention Plan

Smethwick Shear and Baler – Version 01

1.2.1.4 Fire Prevention Plan Smethwick

Contents

Fire Prevention Plan – Smethwick Depot

Introduction

In line with Environment Agency (EA) Fire Prevention Plan (FPP) Guidance, this document has been generated to focus on aspects of fire prevention and appropriate fire response, **a**nd aims to facilitate the prevention of fires and for a fast and effective response in any waste fire emergency.

Fire Prevention Plan - Objectives

This document forms part of the site's Environmental Management System (EMS) held on site and intended to satisfy EA requirements as a 'standalone' and specific FPP with regards to waste activities undertaken by EMR at their Smethwick Facility. This FPP aims to meet the following objectives:

- Minimise the likelihood of a fire happening
- Aim for a fire to be extinguished within 4 hours
- Minimise the spread of fire within the site and to neighbouring sites

Where EMR fails to meet strict FPP criteria in meeting the objectives laid out above, suitable 'alternative measures' will be demonstrated with the aim of meeting these objectives (see section 1.5 below).

Section 1 – The Site

1.1 Location of Site/Community/Sensitivity

The EMR site is located at Downing Street, Smethwick, Birmingham, B66 2PG The site which falls within 2 districts: Birmingham and Sandwell as indicated on the site plan in Appendix 1.

The depot is divided into two yards, the Shear yard (Access of Downing Street via Charles Street) and the Baler yard, accessed of Downing Street

The national grid reference for the centre of the main site is SQ 03123 89283. Access to the yard is by entrances on Downing Street (via Charles Street). The main access route to Downing Street is via A41 from (M5 Junction 1). Junction 1 is approximately 1.2 m North West off the yard. A site location plan has been included.

The site is located within an industrial area and bordered by other industries and railroad. There is a primary school Ikm to the West of the yard and a housing estate to the rear of the yard adjacent to the railtrack (within 1km) .

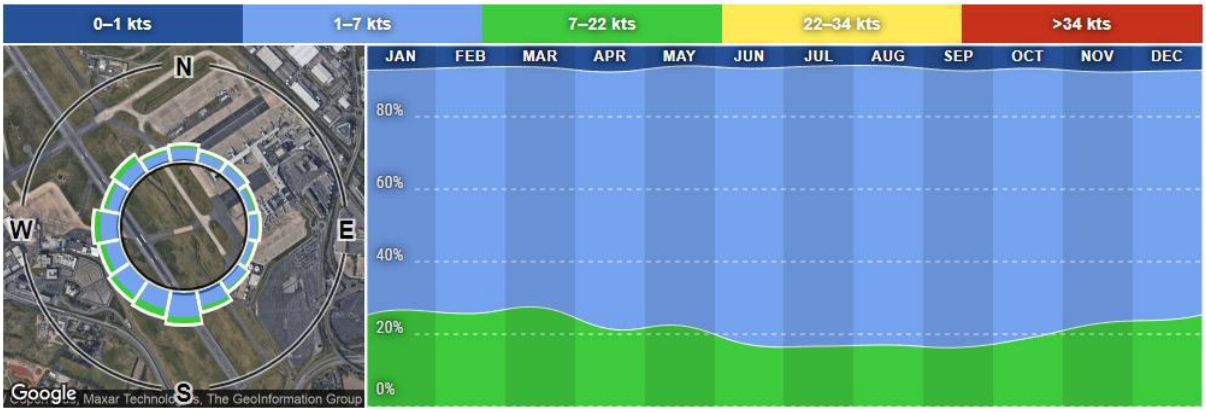
The nearest airport is Birmingham International and is within 21 miles of the yard to the South.

Potential environmental impacts from any fire related incident on the site may include:

- **Black or white smoke** (dependent on type of material burning) – smoke is harmful and potentially highly polluting to local air quality (especially black smoke which may contain harmful and toxic substances such as carbon monoxide, dioxins, cyanides, hydrocarbons, PAHs etc.)
- **Steam** (as water is applied) – steam potentially may obscure vision.
- **Ash/airborne debris** – risk of harm to amenity (potentially be deposited on cars / in homes.
- **Hot embers** – risk of fire spread
- **Pops/explosions** – disturbance of nearby sensitive receptors
- **Fire water** – potentially highly polluting to local water courses.

Knowledge of weather conditions and wind direction will be crucial in managing and mitigating air borne emissions such as smoke. Therefore, to enable general weather, wind direction and strength to be understood it will be recorded on the site diary/log. The daily weather reports will thus be able to assist EMR staff and the Emergency Services to manage and control harmful airborne emissions.

A sensitive receptor map is located in Appendix 2 for reference.



Prevailing wind: West South West based on data recorded between April 2005 and July 2021
Source: Windfinder.

1.2 Site Activities

The activities on site consist of storing, handling and processing (shearing, ELV depollution dismantling, bailing and shredding) of ferrous and non-ferrous scrap metal.

Handling is by means of mobile plant either diesel or electric powered. Processing is in fixed locations through the Large Ferrous Shear, End-of-life vehicle depollution area or Aluminium Baler Yard. Maintenance activities are conducted by approved contractors as required. Turnings are no longer bought at EMR Smethwick

1.3 Layout/Infrastructure

EMR Smethwick is a complex of waste management facilities which is operated as two separate yards of which fall into Birmingham and Sandwell. The location of key infrastructure and waste treatment equipment is shown on the layout drawing included in this plan (Appendix1).

The site is equipped with a large ferrous shear at the North East, End of Life (ELV) depollution rig at the North area of the yard together with and associated bunded ELV waste fluids tank farm. The Downing street site is equipped with 3 LARGE Balers.

The boundaries are comprised of galvanised coated palisade fencing, concrete planking, brick wall and Braithwaite panels. The external gates are constructed of steel, hollow section and are padlocked when the site is closed. The protective enclosure is maintained by EMR's internal maintenance program. The site benefits from a 24hr CCTV camera system which is remotely monitored outside of operating hours. The sites are largely surfaced with brick wall. There are 3 full size weighbridges for the receipt of bulkier ferrous and non-ferrous metals and ELV wastes and one small scales for receipt of smaller non-ferrous metals.

There is a single block of portacabin adjacent to the weighbridge accommodating the office. There is a two story portacabin east of the yard accommodating the staff welfare facilities.

Concreted areas of the site(s) are laid in such a manner as to direct potentially contaminated surface waters to silt traps installed within the concrete. These, in turn, drain to a full retention interceptor fitted with a penstock valve before being discharged to foul sewer. To close the drainage the

penstock is turned to the closed position. Oil collected in the interceptor is removed on a periodic basis by an authorised waste contractor.

The drainage system is inspected on a monthly basis to ensure that it remains in good working condition, impervious and free from cracks. The results of the inspections are recorded. Any action required to be taken will be recorded. Repairs to lids and covers will be undertaken as soon as practicable and within 10 working days of discovery.

Engines are stored in a roro area, a sleeping policeman bund has been installed to contain any residual oil from the engines and the oil in the area is removed as necessary

1.4 Types of Combustible/Flammable Materials

Combustible wastes stored at the ferrous yard are light iron/ 'frag feed', small mixed WEEE, End of Life Vehicles (ELVs), batteries removed from ELVs during depollution and batteries, shear bottoms, accepted at the non-ferrous small scales waste acceptance area within the ferrous yard, tyres, general waste, wood and oily rags.

'Combustibles' do not include flammable substances such as waste petrol and gas cylinders which included in the site plan in Appendix 1

Non- combustible waste scrap materials include nearly all non-ferrous metal waste streams (e.g. copper, lead (other than lead acid batteries), brass, aluminium wheels, stainless steel etc and ferrous metal such as OA, HMS 1 & 2, profile, shearing. Non-ferrous metals (especially in massive form as accepted on site) are inherently non- combustible and copper and lead will not burn in air (even at very high temperatures).

Large form ferrous metals, such as OA will not burn because of the inherent, massive size of the pieces of scrap which make up the waste material (and thus low surface area to volume ratio) and so prohibiting combustion in air. These materials fall outside the definition of combustible waste materials governed by this Fire Prevention Plan.

Several of the grades which are virtually non-combustible also are regularly sampled to confirm their status and to comply with end of waste protocols for ferrous materials, having less than 2% contamination. Those grades currently sampled in this way are OA, PBale, HMS 1 & 2, 9B, 8B/4C, 12A and 12C.

Non- combustible waste materials are identified by the symbol 'NC' on the Stockpile size and location drawing

1.4.1 Combustible/Flammable Waste

Light iron/Frag feed – A mixed material with a quantity of non-metallics due to the designs of the items. These are stored for bulking up and then onwards to travel to a shredder site where this material can be processed to separate the metals from the non-metallics.

Stored in separate heaps located in the north/northwest boundary of the yard opposite the shear and in the centre of the yard towards the inverter. The material in the centre of the yard has been processed through the shear and largely comprises of fully depolluted ELVs which have been treated through the rig on site or accepted as depolluted from other ATFs.

These grades contain non-metallic wastes and are inspected for additional contamination such as loose non-metallic waste, batteries(loose or part of the vehicle) and for prohibited items such as sealed cylinders and munitions, etc. If identified the vehicle will either be rejected or the items are removed and quarantined for disposal/recycling as appropriate. This grade of metal is bulked up and loaded out on a daily/weekly basis.

ELVs – Polluted ELVs are stored in a single row not exceeding 3 vehicles high and 1 vehicle wide, by the ELV rig building in the north west of the yard and along the western boundary of the yard. The waste inspection process is used to identify any prohibited items within the ELV including gas bottles and additional batteries. The batteries are removed straight away following acceptance to discharge any residual charge in the vehicle.

The work is conducted by a trained operative and the area is subject to a DSEAR assessment. The depollution building and tank farm are zoned areas where no ignition sources are permitted.

Once fully depolluted the ELVs are moved to the frag feed heap opposite the shear ready to be treated through the shear. Currently, no LPG, hybrid or full electric vehicles are being purchased. Any that are identified are either rejected or quarantined where they can be disconnected by trained EMR operatives from outside the site.

The fluids from the ELVS are extracted under a sealed system to a bunded tank farm located adjacent to the ELV rig building (far northwest corner). The majority of tanks in the tank farm are also integrally bunded with the exception of the IBC for the storage of brake fluid. Overfill prevention includes automated fill alarms and manual dip stick checks. The tanks are inspected daily as part of the pre-use checks for the ELV depollution process and fixed electrical testing is completed on the ELV rig regularly in accordance with health and safety legislation.

Tyres – Only stored on site as part of removal from ELVs. Wheels removed from the ELVs are stored wrapped on pallets or loose in a hooklift bin near the ELV rig building. Others are stored loose in a hooklift bin near the shear. There is the option to de-rim the tyres on site if required. Other than de-rimming, the tyres are not treated on site and they remain in their whole form. Tyres are not bought separately.

Batteries – A potential ignition or combustion. These are primarily lead-acid batteries and are removed from ELVs during depollution or received as a specific material at the non-ferrous small scales. Lead acid batteries are stored in acid resistant battery bins and when not in active use to be filled they are kept in a covered battery storage area central to the northern boundary. The battery bins are transferred to the battery storage area once full

Any e-vehicle batteries would be left in-situ until it could be disconnected and removed from site. Any other non-lead acid battery types found are quarantined separately in suitable containers to prevent damage until they can be removed from site to an appropriate facility.

General waste – From office operations or general litter picking of the site. There are some small general waste wheelie bins by the weighbridge offices and one enclosed commercial wheelie bin at the entrance from Stoney Stanton Road

Wood – Pallet wood or reject wood found within the scrap. This is stored in containers. The container is a hook lift bin which is easily moveable and can be relocated if required but generally it is kept in the south western area of the yard. Good condition pallets are stored either by the weighbridge or in minimal concentrations by the ELV rig building ready to use for sending out tyres for recycling or to return directly to the customer.

HMS no. 1 & 2 is formed through processing the shearing grade through the shear. This is a non-combustible large form steel but comes with residual contamination smaller form dirt and non-metallics. Depending on the quality of the shearing, the HMS no. 1 & 2 can contain an element of contamination which may render it in a condition which is considered to be very low combustibility.

It is stored to the east of the shear awaiting removal. It contains a minimal quantity of combustible material and this is ensures by the waste inspection process to reject and limit any combustible or prohibited items.

Shear bottoms - are the fine material that accumulates at the base of the shear or heaps of waste materials in storage. Although considered minimal, 'shear bottoms' material will be produced on site through handling and treatment processes which will then require further treatment to retain residual metal material. The waste is formed of residual soil, plastics, wood and concrete included in material received inwards. When removed from the base of the shear, this material is stored awaiting transfer or treatment in the south western area of the yard. This material is considered as a very low combustibility waste.

1.4.2 Other Combustible/Flammable Materials

These wastes and materials included below are shown on the drawing included at Appendix 2.

Sealed cylinders – Present either as rogue cylinders extracted from source material or in small quantity used for a maintenance task. Rogue gas cylinders removed from the incoming material may contain flammable materials and are quarantined in a purpose-built cage allowing a minimum of 3m separation of flammable and oxidising gases in the location shown on the layout plan opposite the shear. Waste inspection procedures identify these unwanted wastes at the weighbridge and on tipping and further opportunities to identify these wastes occur again, during regular inspections by all yard staff, on loading by material handler to the shear or on loading outwards onto lorries.

Plant maintenance liquids (fuel and oil) are stored in a tank, and in drums and IBCs on a purpose built bund at the southern side of the weighbridge access as shown on the drawing at Appendix 2. Details are provided in the Emergency Plan at Appendix 5.

Welding gases – are obtained for planned maintenance only. None are stored on the yard. When required minimal integrally protected banks of welding gases are stored on site temporarily.

Oily rags are produced on site in small quantities due to ongoing ELV processing activities, plant maintenance and other maintenance activity. Oily rags are stored in secured containers, usually drums, awaiting removal off site to an authorised facility.

1.4.3 Persistent Organic Pollutants (POPs)

All POP's should be identified and kept separately in a container and clearly marked. POP'S should be treated as hazardous waste and clearly marked on the site plan.

If a waste type is likely to contain POPs, then you must assume that it does unless you have evidence to prove otherwise, for example, through analysis.

Segregate waste containing POPs from other waste and store it separately.

If there is a fire, you must tell the Fire and Rescue Service (FRS) that there are wastes containing POPs on site. If there is a fire involving POPs waste then any residue from the fire may contain POPs and so will need to be segregated and treated following the POPs regulations. This could include firefighting water.

1.5 Alternative Measures Employed

Not required

1.5.1 Alternative Measure 1

Waste acceptance procedures and security

It is recognised that some stockpiles are larger than the guidance suggests however EMR believe that wastes which are EoW ready have very little contamination and are therefore low combustibility risk. This site holds an End of Waste certification (EU333/2011) on certain metal grades.

- EMR recognise that EoW status of any scrap metal is not achieved until full transfer to the end user, however the procedures implemented in meeting EoW status are regarded as 'above and beyond' normal operational activity, and requirements lend themselves in meeting FPP objectives. Requirements include -
- The total amount of foreign materials (non-metallics) shall be ≤ 2 % by weight. The scrap shall not contain excessive ferrous oxide in any form, except for typical amounts arising from outside storage of prepared scrap under normal atmospheric conditions.
- Scrap shall be free of visible oil, oily emulsions, lubricants or grease except negligible amounts that will not lead to any dripping. the scrap shall not contain any pressurised, closed or insufficiently open containers that could cause an explosion in a metalwork furnace.
- Quality of the stockpiles is subject to regular monitoring. For example our shearing stockpile is sampled every 3months.

Our EoW process forms part of the ISO 9001 implemented on site, which is certified by an external third party.
Adherence to these requirements is subject to both internal and external audits on a regular bas

Extinguishing a fire

When the site is closed, there is enough staff on call to come to the site and operate plant and machinery to help the FRS as required.

1.5.2 Alternative Measure 2

Not required

Section 2 – Preventing Fire

All scrap material / wastes received into the site are subject to strict waste acceptance, inspections and rejection procedures which form part of the site's Environmental Management System (EMS); any waste which is noncompliant will be either rejected or quarantined pending disposal or further advice.

2.1 Pile Sizes/Volumes (Use Table Included)

2.1.1 Preventing Fire - Table 1

1.2.1.4 Fire Prevention Plan Smethwick

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** 20m max in EA guidance	**Max. width / m** 20m max in EA guidance	**Max. height / m** 4m max in EA guidance	**Volume / m³** Max m3 variable depending on waste type	**Max. time it will be stored**
Light Iron/ frag feed Sheared Depolluted ELVs (200units	Near Shredder Near Shredder	1) In a heap 2) In a Heap	20m 20m	20m 20m	4m 4m	1600m2 1600m2	3 Months
Polluted ELVs	Opposite Welfare Unit	In a row 2 cars wide and max 1 cars high 50 units	N/A	N/A	N/A	N/A	1 Month
WEEE	WEEE Storage Container	Roll on/roll off Skip	N/A	N/A	N/A	N/A	1 Month
Lead Acid Batteries	Small scales non-ferrous operation 2) Outside ELV rig buildings	Contained in acid resistant battery bins approximately 1m3 each	N/A	N/A	N/A	N/A	1 Week
Tyres	Area near ELV rig building	Stable, wrapped palletised (1 x 1 x 1.8) stacks	N/A	N/A	N/A	N/A	3 Months
Wood	Located according to need	Roll on/roll off Skip	N/A	N/A	N/A	N/A	3 Months
General Waste	Outside main office building	Wheelie Bins	N/A	N/A	N/A	N/A	1 Month

2.2 Waste Management Methodology

2.2.1 First In/First Out (FIFO)

The ‘first in first out’ procedure will be followed for any material that is going to be processed on-site; ensuring
stockpiles of historic material do not build up. When material arrives, the Weighbridge Operative directs vehicles to the appropriate tipping area at the back of the relevant stockpile to be offloaded, checked and then swept into the stockpile. Material is then processed from the front of the stockpile which ensures material is processed in line with the ‘first in first out’ principle.

2.2.2 Acceptance

All waste material accepted into EMR Smethwick will be in accordance with waste acceptance procedure forming part of a certified environmental management system in accordance with ISO14001:2015.

Incoming vehicles must drive through radiation detectors and onto the weighbridge. Where provided the Duty of Care transfer notes are inspected to ensure that the origin of the waste conforms to the scheduled collection or delivery. In the event of there being no properly completed Waste Transfer Note the name and address of the supplier is recorded against the registration number of his vehicle and the details of the metals delivered

Waste acceptance and inspection procedures are implemented on site with visual inspection at the weighbridge via CCTV and repeated again at the offloading point by mobile plant operators. Any non-conformances are excluded from receipt and returned to the customer or quarantined as appropriate.

Further inspections continue during handling of material by the plant operators and general site walk rounds by management.

The environmental hazards like prohibited items also affect safety and quality so both plant operator and shear operator are vigilant for signs of problem material.

All operatives are on 2-way radio so any issue can be quickly alerted and action taken to stop processes and make safe.

ELVs arriving from all customers are inspected as to their depollution status on arrival regardless of whether they are bought as depolluted. Training of waste inspection staff includes continuously improving knowledge of the types of batteries contaminating wastes based on a photograph library of such items identified across EMR.

High energy batteries like lithium ion are a problem for the waste industry and difficult to resolve at source.

EMR communicates its rules on batteries via letter, email and the website to customers. We do not actively accept anything but lead-acid batteries but suitable containers/area are provided for quarantining.

Prohibited materials are identified and communicated to the customer base through various means such as signage, website, letters, contracts and the waste paperwork.

2.2.3 Rejection of Waste Material

Any non-conforming wastes discovered are isolated and traced back to their source supplier where possible. If the source cannot be determined then the wastes will be suitably quarantined under the direction of the Depot Manager and/or Supervisor until it can be removed and treated at an appropriately permitted facility. Records of nonconforming wastes and associated disposal paperwork are kept on site/ made on the electronic management system.

2.2.4 Treatment

ELVs are processed in accordance with the ELV regulations. The rig building is equipped with Class B fire extinguishers and a Draeger VOC detection alarm system. Equipment is pneumatically powered and any electrical supply to the building is tested on a three yearly basis. Only approved competent persons are permitted to work on electrical systems. Battery powered tools and their charging points are not kept or used in the rig within the designated DSEAR zones and PAT testing on chargers for these tools is completed annually by an approved competent electrician. Electrical equipment used in the rig is marked with the εX symbol, to show equipment conforms with the Electricity at Work Regulations 1989, and EPS Regulations 1996.

The associated ELV tank farm is inspected before use as part of pre-use checks. Inspection includes checks on the quantity of void space remaining in the tanks. Additional visual alarms are connected to some of the ELV tanks to prevent overfill..

2.2.5 Recording Waste Movement

Waste movements are recorded in strict compliance with applicable waste legislation and associated Duty of Care (DoC) requirements. 'Shear Bottoms' fines that are produced as part of the associated treatment process on site are subject to classification (testing) and lab analysis before removal from site to undergo further recovery/disposal options via an authorised facility. They are more than likely classified as a hazardous waste (owing to heavy metal content etc.).
Movement of hazardous waste is subject to separate specific legislation and will be documented on appropriate Hazardous Waste Consignment Notes (HWCN).
Other 'Shear Bottoms' Mid-cut waste will be appropriately classified and send to other EMR facilities for further recovery treatment processes as required. These movements will be supported with relevant DoC paperwork as required. Other hazardous wastes (such as oily rags/ waste fuels etc.) will undergo the same process as outlined above with the use of HWCN documentation as required.

2.3 Materials/Waste Storage Management

2.3.1 Duration

Also refer to Section 2.1.1 – Table 1

All metal grades are handled and processed quickly to turn them into the product streams. For the risk grades like Light iron, ELVs and frag feed these are moved regualrly to other EMR facilities and so there is rarely an issue with stocks. Any downtime at other sites is communicated immediately to Operations and commercial so material can be diverted and customer kept informed. EMR midlands sites operate similar processes and have similar permits so there are no issues in finding an alternative facility for the material or have available staff to relocate and conduct processing on site. Inventory calls and maintenance downtimes are discussed daily.

Polluted ELVs are thoroughly inspected when they arrive and the battery is removed. Once fully depolluted they are normally sheared to reduce space and maximise load tonnages off site. It is unlikely that ELVs are stored for more than a few days in a polluted condition in this storage area.

The size of the tanks in the ELV tank farm and the large throughput of ELVs determine the speed at which these wastes are emptied. Most ELV fluids are removed from the yard within one month, however some of the larger tanks take longer to fill and can take up to 6 months to be emptied

Whole tyres on rims are a slower moving grade and can take up to a maximum of 6 months to remove from the yard. In general they are removed monthly. Regular monitoring is carried out throughout the

day of areas of the yard including where tyres are stored. In the event that evidence of fire is detected action can be taken. Such as rotation of the material in the container to aerate and allow improved cooling or apply water if appropriate.

Batteries are stored in the non ferrous area in the designated battery bins. These are kept covered and staff are trained on correct loading to avoid bridging of terminals that can lead to sparks. The bins tend to fill within a few days. Batteries in the battery covered storage area can move off site once a full load is available. This tends to be fortnightly.

Wood waste tends to arise from broken pallets and cable reels which cannot be re-used and therefore this is a relatively slow moving grade. These are in large form and unlikely to self-heat however similar to tyres the grab material handler can lift and rotate the material to aid cooling or remove and isolate an affected item so further cooling can be provided with the water or extinguishers on site. A bin can stay on site for up to 6 months until it is full. As per the above for tyre storage, The site is fully staffed throughout the day and therefore is covered by the constant vigilance of the whole team throughout the day. Specific checks are not necessary unless the conditions imply an increased risk e.g. extremes of temperature, work activity involves a specific ignition risk i.e. hot works near the wood storage area to detect fire. Small mixed WEEE is received regularly from compliance schemes and Household Waste Recycling Centres (HWRCs).This is generally a fast moving grade and is normally not held on site longer than a fortnight but it can up to 1 month to be removed.

Yard/ general waste tends to be removed twice a week from the commercial bin by the entrance. All general waste receptacles are emptied to this bin regularly.

Shear bottoms are the largely dirt fines that have low combustibility and accumulate at the base of the piles. These still have reasonable metal content and so are collected up and either screened on site or sent directly to another EMR yard to be screened. Depending upon the stock depletion and availability of screeners the shear bottoms can be stored on site for up to 6 months

2.3.2 Stock Rotation

Stock rotation of SMW is considered potentially to cause damage to any integral lithium ion batteries that remain in the waste following waste acceptance procedures. Damage to lithium ion batteries is known to cause fires and is avoided as far as possible.
With be temperature checked twice a day both by operatives and thermal imaging cameras and documented on the site diary. If visual signs of heat or a change in temperature greater than 10 degrees are observed the heap will be divided to allow heat to dissipate.
Light iron / ‘frag feed’ wastes will not need to be rotated as they do not contain the necessary quantities particle sizes of organic materials for ‘self-heating’ (composting type) reactions to occur which can lead to ignition and potential fires. Non-combustible waste materials (such as OA plate and girder, 8A and non-ferrous metals etc.) will not require rotation as they cannot ignite and burn.

2.3.3 Waste Bale Storage

The only baled waste that is stored on site are aluminium bales and these are not considered combustible once baled.

2.3.4 Storage where maximum pile limits don’t apply (ELV)

Environment Agency guidance permits the storage of ELVs and containerised wastes without maximum pile limits. All incoming ELVs will be stored on concrete served by a sealed drainage

system, stacked no higher than 1 vehicle high and accessible from at least one side. The details of how these are stored are provided in Table 1 above.

EV (Electric Vehicles)are not accepted at the Smethwick Facility

2.3.5 Storage of Batteries

The wastes stored in containers are listed in Table 1 above.

The numbers of batteries stored in battery bins is generally minimal and are kept more than 6m from any other combustible wastes. Should they need to be moved battery bins can be moved using a FLT. Damaged lithium ion batteries will be stored in waterproof containers filled with water or inert material away from buildings or other combustible/ flammable materials.

2.3.6 Waste Stored in Containers (Types/Accessibility/Ability to move)

General
General waste is stored in minimal quantities in commercial wheelie bins outside the main office. They are not stored within 6m of any combustible wastes.

Wood
Wood is stored in a hook lift bin normally adjacent to the maintenance area. It is accessible on 3 sides and can be easily moved by a material handler if required.

Oily rags
Oily rags are stored in a lidded bin in the ELV rig. Ignition sources are strictly limited in the ELV rig. A fire in a drum of oily rags would be extinguished using a fire extinguisher rather than attempt to move it.

ELV tank farm – fluids removed from ELVs during depollution
The ELV tank farm wastes are largely stored in integrally bunded tanks within a secondary bunded area behind a barrier protecting them from impact damage from mobile plant/ vehicles. They are all treated as fixed tanks with the exception of the brake fluid IBC. All tanks are accessible on all sides.

Reference their location on the site map.

2.4 Managing Common Causes of Fire

2.4.1 Managing Common Causes of Fire - Table 2

Managing Common Causes of Fire	
Risk	**Control Measure (if required)**
Arson	EMR Smethwick complex is situated in an industrial area of Smethwick. The Shear and rail yards located on Charles Street are bound by a railway line followed by a residential area to the North. The Baler yard located on Downing Street is bound by industrial units on all sides. The site also benefits from 24-hour thermal imaging CCTV. The CCTV system can be monitored remotely. These security measures will ensure any potential for arson On-site is prevented.
Plant/Equipment	All operational mobile and fixed plant is maintained and inspected by a competent person (completed in line with manufacturer's guidance). All records are kept on site in the main offices. Mobile and fixed plant are fitted

	with fire detection and suppression systems which have service and maintenance schedules. All plant and equipment on site are assigned safe working procedures, pre use check sheets and maintenance schedules. All defects are recorded on the action log. These pre-use check sheets ensure that before work commences, processing equipment is inspected accordingly. In addition to the above, at the end of each day operators of plant and equipment are given time to clean down their machines. This includes use of an on-site jet wash to remove any potential build-up of combustible waste, dust or/ fluff. All mobile plant is equipped with fire extinguishers located in the cab.
Electrical Fault/Maintenance	It is recognised that electrical faults are a common cause of fires (normally providing ignition). Only trained, competent and approved persons are permitted to work on electrical systems. Fixed testing is carried out at least every 5 years by a competent electrician and PAT testing is carried out every year by a competent electrician. Full details of required electrical testing and maintenance are detailed within EMR's Electricity guidance. This document ensures that electrical equipment is properly constructed, installed, maintained and that the installations are suitable for the environment in which they will be operating. All electrical equipment is inspected prior to use to ensure that it is in safe working condition and all cables and plugs are checked to ensure that they are in good working order and that there is no obvious damage and that all covers and guards are in place. Electrical panels and distribution boards on-site all have a metal cover which is kept closed, electrical components / switches are only exposed when this is opened. These covers prevent any build-up of combustible waste, dust or fluff on electrical panels.
Smoking Policy	A smoking area has been designated at the side of the main office building. This is a safe distance (well in excess of 6 meters) away from any combustible wastes; refer to site plan for exact location (see Appendix 2).
Hot Works	Not undetaken
Industrial Heaters	Industrial heaters such as portable electric bar heaters, paraffin heaters etc. are banned from all EMR depots and sites across the UK.
Hot Exhausts	Risk assessments undertaken at all EMR Scrap Metal facilities demonstrate that ignition exhausts from mobile plant pose a low risk. When the site is closed, mobile plant will be parked at least 6m from combustible material (see Appendix 2).
Batteries & ELV	Batteries are removed from ELVs on arrival and stored in minimal quantities on receipt at the non ferrous small scales area. The full bins are removed to the covered battery storage area once they are filled. Battery bins are not stored within 6m of any other combustible wastes.

	Polluted ELVs are processed to remove flammable and combustible liquids daily and moved to the shear area located within easy reach of the firewater tank. In emergency situations where an e-vehicle battery or other lithium ion battery is found to be damaged the services of a specialist contractor are called upon to remove the battery in an appropriate container or the battery is transferred to a suitably labelled, water-filled IBC in a suitable quarantine area to await specialist removal to an appropriately authorised facility.
Leaks & Spillages	All spills will be cleaned up immediately using the spill kits available on site (see Appendix 2). If discovered, any leaking vehicles will be repaired or moved to the maintenance area where spill containment can be deployed without obstruction to the yard activities.
Build-up of Loose Combustible Materials	Regular housekeeping activity is undertaken on site to prevent the build-up of loose potentially combustible material on site (such as general waste).
Reactions between Wastes	All waste streams are separated on site to avoid 'reactions' that may cause self heating or subsequent combustion to occur. The wastes are stored in their own designated areas whether stock piles, bays or containers. Reactions of self heating cannot occur with any large form materials on site.
Hot Loads	EMR don't accept hot loads (e.g. from foundries) at any of its sites in the UK; if a hot load was to arrive at the site it would be identified through our waste acceptance procedures and rejected at the weighbridge. If this was not possible the load would be moved into the main designated quarantine area immediately where emergency procedures would be followed (see also section 3.5)
Heat & Spark Protection	In the ELV processing rig only approved equipment is used in this area to prevent the potential for sparks igniting any fuels / fuel vapours. Any sources of ignition will be kept away from all flammable materials (e.g. fuels, oils, solvents) – This will be a minimum distance of 6 meters. For example, flammable materials will be kept away from any maintenance hot works area. Mobile shovel drivers are required to lift the bucket from the ground when moving and only lower and engage with the ground before scooping and lifting scrap or other waste materials, to minimise the risk of any sparking. Rubber strips cannot be used at scrap metal processing sites because of the cutting and abrasive properties of waste scrap and concrete surfaces (life span of such strips would be very short for these types of site activities). Mobile plant (hot exhausts) do not operate near flammable sources (tanks / containers of flammable substances clearly signed and separated by barriers); the loading shovel also possesses radar to prevent collision (and also prevent proximity) with objects.
Gas Bottles & Other Flammables	Flammable liquids are stored on site in double skinned tanks within a bunded area; see storage location in Appendix 2. All vehicles, tanks, drums are maintained and stored in a suitable manner. In the event that rogue gas cylinders are identified within incoming scrap, they are segregated and stored in the designated cage on site; refer to site plan for location (Appendix 2). Mobile plant will not operate near flammable storage areas (except for associated refuelling activity).

Smoke/Heat/Flame Detectors	A petrol vapour detector alarm is installed inside the ELV depollution building, and its set to alarm below the Lower Explosive Limit threshold. As part of their general duties, operational staff are mindful of any sign of fire or potential or sources of ignition. Staff are trained to continually check for any signs of fire, and report any emergency immediately over issued site radios that connect with the main office. A Fire Watch is part of the daily walk routine and will be undertaken at the end of each day throughout the whole site. These are recorded on the daily site diary. Where any defined hot work take place this is done under Permit-to-work and are closed out with a specified Fire watch of the area. This will be a of at least 30 minutes following the completion of any 'Hot works' (e.g. welding). Site office/ welfare building is fitted with smoke detectors to provide an early warning in the event of fire within the office facilities. The site benefits from CCTV cameras which will aid the visual detection of fires. The CCTV system outside of normal operating hours is monitored remotely Staff are aware of the risk of fire on site and scrutinise areas of the yard during the working day as they go about their business. Any incident is investigated and recorded (event log / site diary).
Training	EMR provides training to all employees through a combination of Safe Working Procedures (SWPs), Environmental Protection Procedures (EPPs), and external training courses. Training courses, including refresher courses are scheduled and controlled through a training matrix, this includes fire related training. All operational staff receive fire extinguisher training and certain appointed staff receive Fire Warden training (at least one per depot). High pressure hose training is given to a number of operational staff including how to operate the firewater tank controls. All site staff will be provided with Fire Prevention Plan Awareness training, dependent on level this will either take the form of a Tool Box Talk (for site operatives) or one to one training with site management encompassing the whole of the plan in detail (given by the regional SHE Manager / SHE Specialist). All employees are also made aware of the company's environmental policy and their roles and responsibilities through tool box talks or seminars. On commencement of employment employees are given an induction course and they are advised of the environmental and safe working practices, aspects and impacts of their operation (which includes fire prevention and control). Employees are informed and updated of changes in procedures etc. and any changes to emergency preparedness and response requirements. EMR ensure adequate cover is provided with respect to Operator Competence. The Site Manager will possess the relevant WAMITAB qualification and additional cover is provided within the group for periods of absence or holidays.
Hot Weather	There is no evidence that hot weather impacts on the metal stockpiles on site. In the ELV and maintenance areas, any used rags will be stored in lidded bins and kept inside.

2.5 Detection Systems

EMR Coventry employs a variety of detection systems see Table 2 above at sections 2, 13 and 15.

2.5.1 Detection Systems in Use

Unauthorised access to the site is prevented since the only access point to the yard is from Stoney Stanton Road. This is an important requirement for the operations, not only for the protection of the environment and human health, but also because of the value of the materials in store. In particular, the site benefits from -

- Metal gates are securely locked outside operational times.
- A CCTV system is installed which allows 24hr monitoring.

Security measures are inspected on a regular basis to assess their continued integrity and the results of the checks recorded on site.

Specification of CCTV cameras in use (and locations) can be obtained from EMR separately where required.

Waste acceptance and inspection procedures and customer requirements (limiting contamination of material) will substantially limit combustion risk within piles (see Section 2.2, and appendices 6 to 14 for further information).

2.5.2 Third Party Certification for Detection Systems (UKAS Accreditation)

The CCTV camera detection systems employed are not automated and do not require associated 'third party accreditation (UKAS)'.

2.6 Demonstrating Quality of Stock

Waste acceptance and rejection procedures mentioned at Section 2.2 above assist in reducing the quantity of contamination in the inwards material. Mobile plant operators are trained in scrap inspection and recognise rogue materials so that they can be removed from the waste stored on the yard.

Whilst the yard is not currently accredited to end of waste EU 333, sampling of HMS 1 & 2 for contamination will be carried out 6 monthly to ensure that the quality of the grade can meet the definition, ie having <2% contamination within the waste. This will help to demonstrate the reduction of the contamination in the grade, hence the reduction in potential for combustion and the volume demand for fire water.

Each load tipped will be visually assessed for excessive and type of inclusions as part of the waste inspection process. This is carried out by the yard staff who are trained in identification of non-conforming and prohibited items. Discoveries will be subjected to the rejection procedure whereby material is either taken away by the customer or suitably quarantined

Section 3 – Preventing Spread/Limiting Impact of Fire

3.1 Separation distances

There will be a minimum of 6m separation between different types of combustible materials (waste piles) and between combustible and flammable materials limiting any potential fire spread and affording access to emergency services and plant movements (moving materials etc.) where required.

Fire breaks at the boundaries are largely negated by the low combustibility of the large earth bund and the canal land uses beyond the boundaries as described above which help eliminate risk to surrounding business/property in any emergency situation.

Mobile plant are parked up in locations overnight as shown on the drawing at Appendix 2. These locations are not within 6m of any combustible/ flammable waste.

Also refer to Section 2.4 – Managing Common Causes of Fire

3.2 Use of Fire Walls

There are no firewalls used at EMR Smethwick There are 6m distances between the polluted ELV storage, ELV treatment operation, the ELV tank farm, the frag feed, the light iron storage area, the battery storage area and the rogue cylinder quarantine storage.

3.3 Storage of Waste in Bays

Other than the battery storage area no potentially combustible material is stored within bays or within 6m of other potentially combustible waste. Batteries are stored in individual bins of approximately $1m^3$ and each can be moved using a FLT as required. Batteries are generally not stored in this area longer than two weeks. All batteries are stored with their terminals upright and undercover. Metal cased batteries are stored separately to all other batteries to prevent short circuiting.

3.4 Use of Suppression Systems

3.4.1 Building Suppression

In general, no buildings on site are used to store potentially combustible waste – building suppression is therefore not required. Minimal quantities of oily rags (up to one 205 litre drum) are stored in a drum in the ELV rig building and Class B fire extinguishers and a fire blanket are available in the event of a fire in this area. The weighbridge/ welfare offices are supplied with fire extinguishers and fire blankets.

3.4.2 Other Suppression Systems in Use

Auto suppression fire-fighting hoses systems are installed within the shear and the balers and the material handlers. The systems within the shear and balers are activated by heat and smoke. The trigger flushes the pump house with foam. Ardent fire suppression systems are installed on the material handlers. These are activated by heat and the activation triggers carbon dioxide suppression. There are 2 water-filled IBCs kept in the vicinity of the trader area.. Other water-filled IBCs are stored at the ELV depollution station. These are labelled unambiguously as ‘H20’ or ‘water’ and only filled with water for use if free from residual combustible fluids.

3.4.3 Third Party Certification (UKAS Accreditation)

3.5 Active Firefighting

EMR have the resource in place for active firefighting. Staff are trained in the use of the equipment on site and conduct regular drills. The site will utilise fire extinguishers, fire blankets, water filled IBC water bombs and a 50,000 litre water tank (with high pressure pumps and firefighting hoses). The FRS are always contacted if these are considered incapable of dealing with the fire.

Water bombs comprise 1000L water-filled IBCs, stored in a safe area so if a fire is identified in a waste / scrap pile these can then be lifted by the grab material handlers and burst on to the waste stack on fire. These can be moved by FLT so the additional IBCS on site can be brought to the immediate location of the fire.

The IBCs are available in the areas of probable risk i.e. by the shear, ELV and light iron area.

The 50,000 litre water tank is positioned centrally in the yard and provides easy coverage to the ELV Shear and combustible material storages including the non-metallics like tyres and wood.

Instructions on how to operate the firewater tank controls are displayed in the controls container and in the emergency plan (Appendix 5).

Staff are instructed in the fire procedure and certain members of staff are designated key holders to deal with any out of operational hours situation. Drills are held quarterly in order to ensure staff are familiar with the process. Each area of process operation is covered by pre-use checks which includes ensuring fire systems are operational. The high-pressure water tank is also checked daily.

Those staff members trained to use the 360º material handlers and loading shovel, are used promptly to isolate and segregate the unaffected material from that which is on fire. This means fire breaks can be increased and the affected piles reduced beyond the stated maximums reducing the volume of firewater needed

Where FRS attend EMR will only operate under the guidance of the FRS in charge. This will include making them aware of the hazards on site, any actions taken so far and the availability of resource on site to aid their process.

There is one main quarantine area as shown on the drawing at Appendix 2 which can be used if there is a fire in the light iron or frag feed. A quarantine area will be used for coordinating cooling where necessary. This will only be for large volumes where this activity needs to be segregated from the immediate fire fighting. In the main the quarantine can only be used post incident to allow this material to be continually cooled and then assessed and classified for safe disposal. (see section 3.5.1 below).

Material involved in a fire remains segregated for at least 24 hours while it can be confirmed as cooled with no signs of re-ignition. This is will normally be under the control of the FRS..

All staff are available on site, or would be contacted to attend the site in any emergency. This includes ensuring suitable staff are available out of hours to operate mobile plant machinery etc.

Emergency Services/Fire Rescue Service will have easy access to the yard from Downing Street. The high pressure water tank is compatible with FRS equipment.

The installation of robust firefighting equipment (fixed water tank) ensures EMR have the ability to immediately fight and contain a fire in its early stages before the fire services attend site and take control of the situation. The equipment will then be used alongside the fire services appliances to assist with firefighting, ensuring the fire is extinguished within 4 hours. In addition to the above the FRS able to access the fire hydrant (located on Stoney Stanton Road) and also the nearby canal if necessary.

3.5.1 Availability of Quarantine Area

The site has capacity to ensure that space will be made available in any emergency situation to accommodate 50% of the largest pile on site. The total quarantine area incorporating the area in the eastern boundary and the area the quarantine areas are detailed within Appendix 2.

During active fire-fighting and where they are involved with the permission of the incident controller from the FRS, burning waste may be pulled away from the rest of the heap to an area directly in front of whichever heap is alight. This assists in preventing spread to the remaining unburnt heap. The current access roads are concreted and connected to the sealed drainage system and can be used as intermediary quarantine areas in these circumstances.

3.6 Water Supplies

3.6.1 Availability

EMR have installed a 50,000 litre firewater tank located on the site map which will provide an immediate response in an emergency situation. The tank is provided with high pressure pumps and fire hoses and other relevant equipment – this will also facilitate the emergency services (equipment compatible) to a degree if required and demonstrate 'active firefighting' (see also section 3.4.2 and 3.5). The pumps to the tank have an ability to distribute approx. 1000 litres per minute for a period of at least 50 minutes (and longer dependant on recharge rate).

There is also a minimum of 6 water filled 1000 litre IBCs which are used as water bombs in the event of a fire.

The closest fire station is Smethwick Fire Station, Smethwick approximately 1 mile by road.

The ability to fight smaller fires is supplemented by a selection of fire extinguishers, fire blanket.

The Frag feed piles represent the significant risk heaps due to the large volume of combustible non-metallics and so this is used for the basis of water calculations.

The number 1&2 is a l small heap but its majority construction is of large form metal which is non-combustible and the non-metallic content is around 2%.

Any fire fighting where the material handlers can reach the pile within the hour would be able to halve the affected heaps however taking into account out of hours the water calculation remains on the conservative.

3.6.2 Water Calculations – FPP Requirements - Table 3 (Use Table)

Maximum pile volume in cubic metres (based on largest pile)	Water supply needed in litres per minute	Overall water supply needed over 3 hours in litres
1600m3	1600 x 6.67	1000ltr per minute x 180

3.6.3 Water Calculations – 'Actual Availability' - Table 4

Where this does not meet the strict requirements calculated in Table 3, consider the use of 'alternative measures' to demonstrate a reduction in 'risk' allowing a reduction in water availability (refer back to section 1.5 where required).

3.6.4 Managing Firewater (Containment)

Based on waste acceptance procedures to reduce combustible quantity and ignition risk, the effective fire separation distances and the active fire-fighting response designed to reduce stockpile sizes even further it is considered unlikely the full quantities calculated will be needed.

The site currently benefits from a full retention interceptor with penstock valve located on the site map.

The drainage system is inspected regularly to ensure that it remains in good working condition, impervious and free from cracks. The results of the inspections are recorded. Any action required to be taken is recorded. Repairs to lids and covers are undertaken as soon as reasonably practicable. All areas of the site are sealed with concrete.

Any firewater derived from fighting a fire will be quarantined and tested to verify contamination this will include testing for POPs where thought a possible contaminate. It is recognised that there are areas of the yard that currently would not be capable of holding firewater sufficiently. These areas are shown on the drawing at Appendix 4. A prioritised timescale has been assigned to the completion of concreting in these areas and is shown in Table 1 below. Additionally a topographic survey and CCTV drainage survey will be completed this year in order to better understand the flows of run off across the yard and to prioritise perimeter sealing of appropriate areas of the yard. This will help to establish containment requirements for the water sufficient to fight fire in the largest heap of potentially combustible scrap in accordance with the quantity required in the FPP guidance from the EA.

The quantity of firewater which the yard is capable of providing over three hours is calculated as follows. The calculation takes no account of the quantity of water lost to atmosphere as steam:

1000 litres per minute from the onsite firewater tank. Fire water tank is 50,000 litres capacity 50,000/1000 = 50 minutes to empty, following which will supply at mains rate of approximately 500 litres per minute (for 2 hours 45 minutes – 165 minutes). This will supply in total 82,500 litres + 50,000 = **132,500 litres**

6 x 1000 litre water bombs = **6,000 litres**

Total amount of fire fighting water capable of being supplied on site: **132,500 litres**

3.7 Notifying Stakeholders

In the event of an emergency, EMR will enact its 'crisis communication plan' – this includes a central liaison facility to make contact with all internal and external stakeholders such as the emergency services, relevant regulating authorities and the local press. The emergency services communication structure will also be used in line with advice from disseminating relevant information from Public Health England (if required).

3.8 Contingency Planning

In the event the site reaches capacity or needs to close, there are other EMR facilities that waste can be diverted to at short notice. EMR also has its own transport department so vehicles and approved hauliers can be routed to divert material or remove from site any that are required.

- Sites available in the immediate Midlands location, EMR Coventry, EMR Birmingham, EMR Kingsbury and EMR Darlaston.

- EMR has over 60 sites and its own EMR fleet of LGVs to accommodate any required movements and the subsequent material handling and processing.

3.8.1 Clearance & Decontamination

Disposal of firewater

Following a fire incident the volumes of water used will be diminished by conversion to steam in fighting the fire and absorbed by the material on site or contained within the capped off drainage system when the penstock is closed.

Water remains would need to be verified as fit to discharge or for alternative disposal. SO it would be tested to confirm this. The discharge of water from the full retention interceptor is to the sewer via a trade effluent discharge consent from Severn Trent Water.

If it cannot be discharged then it would be tinkered off to a suitably permitted and approved waste facility. Only approved contractors are authorised to remove, treat and dispose of waste leaving the site.

Disposal of burnt material

The disposal route for any burnt remnants of scrap will be determined once the material can be classified. This may be to its intended original destination if further processing was planned. For example combusted light iron or steel once fully extinguished and cooled can normally still be processed through a shredder as the separation processes can still handle the non-metallic residuals.

Whichever route taken it will be inspected and classified before sent to an appropriate pre-approved facility in accordance with any special acceptance procedures that they may require to process such waste. Waste materials would need to be assessed and this may potentially require a WAC test if the burnt waste is to go to a landfill site. Once classified and agreed with the destination it would then be transferred to the approved and permitted waste facility.

3.8.2 Becoming Operational

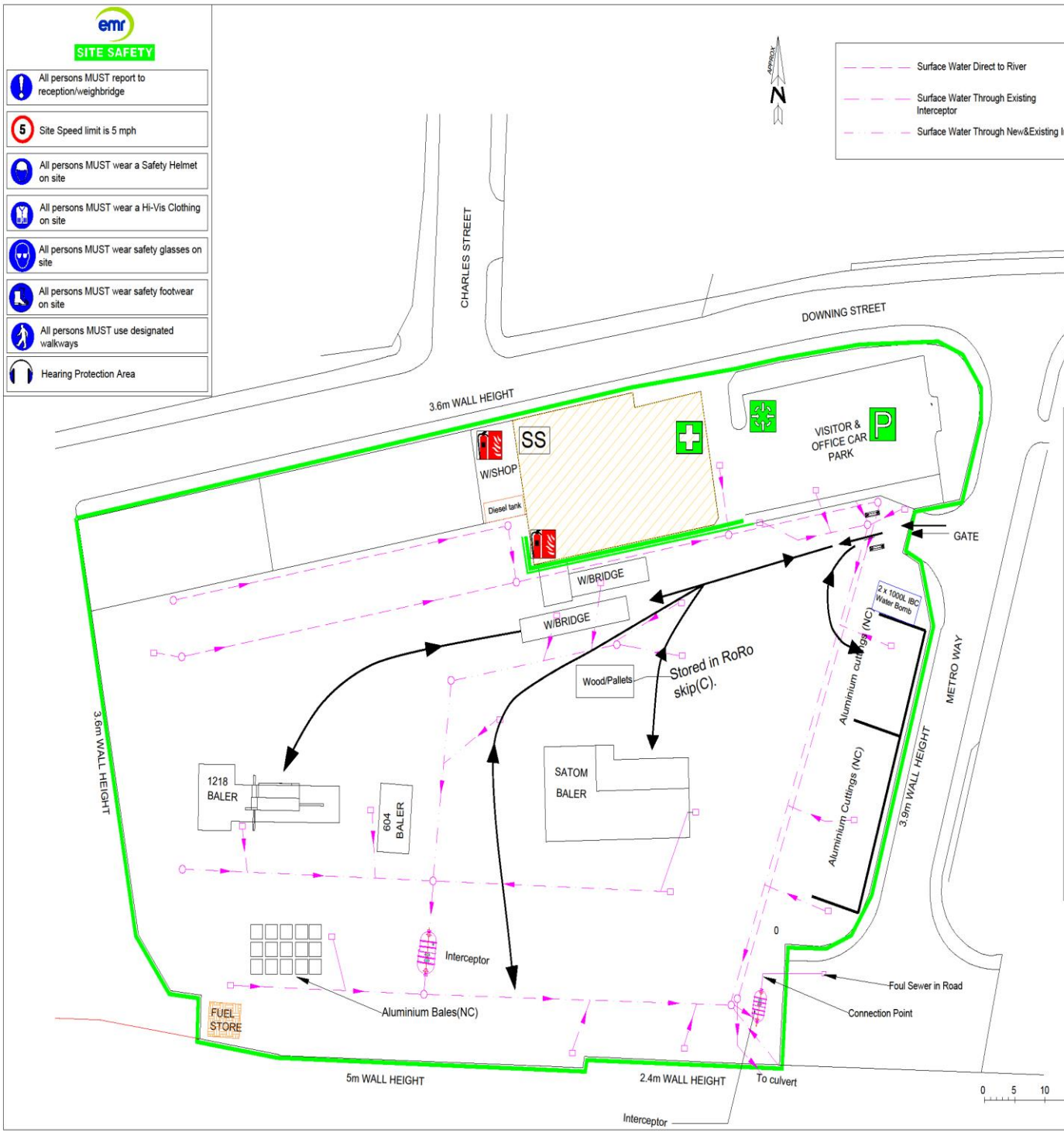
Reporting/Lessons Learnt

Following any fire, it is investigated and the details of the event are recorded on an Event log which is an electronic system. This enables all the details of the fire to be documented including sequence of events, possibly identify the source of the fire and the supplier of the source and extent of fire, damage sustained (internally and externally), recording of the investigation and actions taken to improve and prevent reoccurrence. Part of the investigation will be to determine if the FPP has been effective.

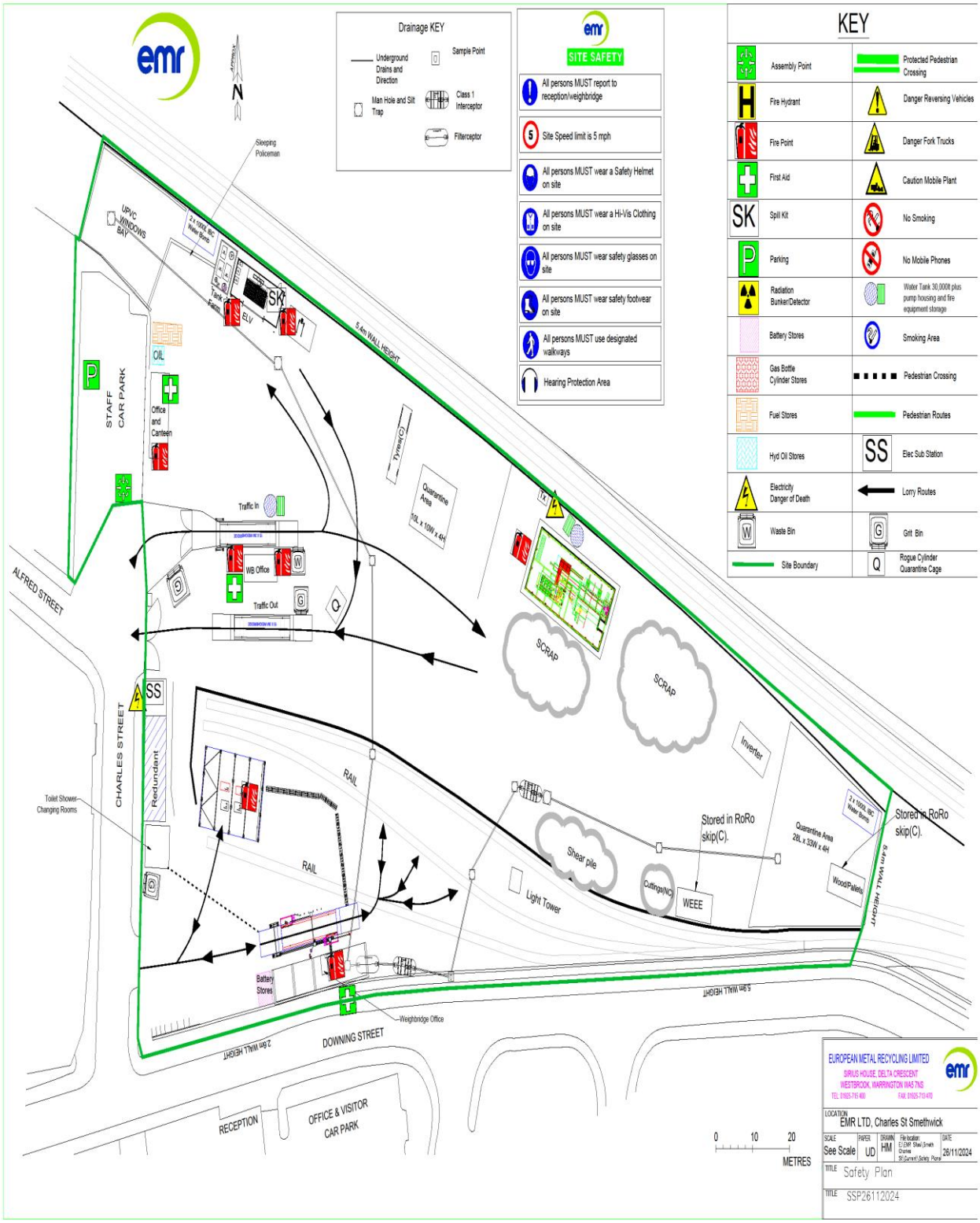
Normal activities would resume once the FRS give permission for the site to do so. Dependent upon quarantine areas and damage caused then full effective operation would be dependent upon appropriate repairs. Due to EMRs resources the contingency plans(section 3.8) can remain in place until the site is fully ready to receive routine waste movement

.

Appendix 1 cont'd below



Appendix 1 Continued



1.2.1.4 Fire Prevention Plan Smethwick

Appendix 3