

SUNDERLAND UTR FACILITY ENVIRONMENTAL PERMIT APPLICATION

Fire Prevention Plan

Prepared for: Wastefront AS

Client Ref: 11075

SLR Ref: 416.11075.00004
Version No: V2
January 2023



BASIS OF REPORT

This document has been prepared by SLR with reasonable skill, care and diligence, and taking account of the manpower, timescales and resources devoted to it by agreement with Wastefront AS (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

CONTENTS

1.0	INTRODUCTION TO FIRE PREVENTION PLAN	6
2.0	TYPES OF COMBUSTIBLE MATERIALS	6
2.1	Combustible waste	6
2.2	Other combustible waste	6
3.0	USING THIS FIRE PREVENTION PLAN	7
3.1	Where the plan is kept and how staff know how to use it	7
3.2	Testing the plan and staff training	7
3.2.1	Staff Training & procedures	7
3.2.2	Testing the Plan	7
4.0	FIRE PREVENTION PLAN CONTENTS	8
4.1	Activities at the site	8
4.2	Site plan	9
4.3	Plan of sensitive receptors near the site	9
4.4	Windrose	12
5.0	MANAGE COMMON CAUSE OF FIRE	13
5.1	Arson	13
5.2	Plant and equipment	13
5.2.1	Fixed equipment	13
5.2.2	Mobile plant	14
5.3	Electrical faults including damage or exposed electrical cables	14
5.3.1	Electrics certification	14
5.3.2	Electrical equipment maintenance arrangements	14
5.4	Discarded smoking materials	14
5.4.1	Smoking on site policies	14
5.5	Hot works safe working practices	14
5.6	Industrial heaters	15
5.6.1	Use of industrial heaters	15
5.7	Hot exhausts and engine parts	15
5.8	Ignition sources	15
5.9	Leaks and spillages of oils and fuels	15
5.10	Build-up of loose combustible waste, dust and fluff	15
5.11	Reactions between wastes	16
5.12	Deposited hot loads	16

5.13	Hot and dry weather	16
6.0	PREVENTING SELF-COMBUSTION	16
6.1	General self-combustion measures	16
6.2	Manage storage time	17
6.2.1	Methods used to record and manage the storage of all waste on site	17
6.2.2	Stock rotation policy.....	17
6.3	Monitor and control temperature	17
6.3.1	Reduce the exposed metal content and proportion of fines	17
6.3.2	Monitoring temperature.....	18
6.3.3	Controlling temperature	18
6.3.4	Dealing with hot weather and heating from sunlight.....	18
6.4	Waste bale storage	19
7.0	MANAGE WASTE PILES	19
7.1	Maximum pile sizes for the waste on site	19
7.2	Storing waste material in their largest form	20
8.0	WASTE STORED IN CONTAINERS	20
9.0	PREVENT FIRE SPREADING	20
9.1	Separation distances	20
9.2	Fire walls construction standards	20
9.2.1	Site boundary walls	20
9.2.2	Internal waste bays.....	21
9.3	Storing waste in bays	21
10.0	QUARANTINE AREA	21
10.1	Quarantine area location and size	21
10.1.1	Non-compliant waste quarantine area	21
10.1.2	Fire Management Quarantine Area.....	22
10.2	How to use the quarantine area if there is a fire.....	22
10.3	Procedure to remove material stored temporarily if there is a fire	22
11.0	DETECTING FIRES.....	22
11.1	Detection systems in use	22
11.2	Certification for the systems	23
12.0	SUPPRESSING FIRE.....	23
12.1	Suppression systems in use	23
12.2	Certification for the systems	23

13.0 FIREFIGHTING TECHNIQUES	23
13.1 Active firefighting	24
13.1.1 Fire extinguishers.....	24
13.1.2 Fire Hose Reels	24
13.1.3 Small fires.....	24
13.1.4 Uncontainable small fire or large fire.....	24
14.0 WATER SUPPLIES	25
14.1 Available water supply.....	25
14.2 Calculation of required water supply	25
15.0 MANAGING FIRE WATER.....	25
15.1 Containing the run-off from fire water.....	25
15.1.1 Primary containment.....	26
16.0 DURING AND AFTER AN INCIDENT	26
16.1 Dealing with issues during a fire	26
16.2 Notifying residents and business.....	26
16.3 Cleaning and decontamination after a fire	26
16.4 Making the site operational after a fire.....	27
17.0 CONCLUSIONS	27
EMERGENCY CONTACT LIST	29
Fire Service (in the event of a major fire)	29

DOCUMENT REFERENCES

TABLES

Table 2-1 List of Wastes	6
Table 2-2 Other Combustible Material: storage Arrangements	7
Table 4-1 Surrounding Land Use	9
Table 4-2 Receptors.....	11
Table 6-1 Response to Monitored Stockpile Temperatures	18
Table 7-1 Maximum pile size of waste stored on site.....	19
Table 9-1 Bay Wall Specification	20
Table 14-1 Firewater Supply Requirements.....	25

FIGURES

Figure 1 Newcastle Meteorological Station, 2014 - 2017 12

APPENDICES

Appendix FPP01: Emergency contact list

Table 1-1 Revision History

Version	Reason for Revision	Date of Revision	Signature of Site Manager
1.0	First version of the Fire Prevention Plan in support of the Environmental Permit Application.		
2.0	Amended in accordance with the Environment Agency Schedule 5 request.	17/01/ 2023	

1.0 Introduction to Fire Prevention Plan

SLR Consulting Ltd (SLR) has been instructed by Wastefront AS to prepare a bespoke Environmental Permit (EP) application for the proposed Sunderland Used Tyre Recycling (UTR) Facility, to be located at Extension Road, East End, within the Port of Sunderland, SR1 2NR (the site). The site will be operated by Wastefront Sunderland Limited (Wastefront).

The proposed facility will be regulated as a waste operation under the Environmental Permitting (England and Wales) Regulations 2016 (as amended). As the waste operation handles combustible waste, the site will require a Fire Prevention Plan.

This report follows the Environment Agency (EA) guidance for Fire Prevention Plans (FPPs)¹ and details the required mitigation and management methods to prevent a fire of combustible materials stored on site.

The information in this plan is presented in accordance with the EA's Fire prevention plan template published January 2020 and is designed to meet the 3 main objectives of the EA FPP Guidance:

- Minimise the likelihood of a fire happening;
- Aim for a fire to be extinguished within 4 hours and;
- Minimise the spread of fire within the Site and to neighbouring Sites.

This document has been revised and is Version 2.

2.0 Types of combustible materials

2.1 Combustible waste

The site will accept up to a maximum of 77,000 tonnes of end of life tyres per year consisting of car and truck tyres.

The site will only accept end-of-life tyres as defined in Table 1.

Table 2-1 List of Wastes

Waste Code	Description
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 03	End-of-life tyres

2.2 Other combustible waste

The site stores non-waste materials that are not covered by the FPP Guidance but are considered in this FPP due to the potential for them to cause or increase the impact of a fire on the site.

¹ Fire Prevention Plans: environmental permits, <https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits> accessed October 2021

Table 2-2 Other Combustible Material: storage Arrangements

Type	Storage Location	Storage Arrangement.
Synthetic fuels	South of the site.	Stored in fixed roof tank
Naphtha	South of the site	Stored initially in a 200m ³ fixed roof tank. The material is pumped to a 1,200m ³ storage tank
Bunker Oil	South of the site.	Stored in a 200m ³ heated tank before being pumped to a 4000m ³ bunker oil tank.

3.0 Using this fire prevention plan

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

A copy of this FPP is kept in the Site Manager’s office and the Shift Manager’s office.

All staff will be made aware of the contents of the FPP and the procedures that are in place in the event of a fire on site during their induction and through periodic refresher training. Contractors working on site will be made aware as part of on-site working procedures.

3.2 Testing the plan and staff training

3.2.1 Staff Training & procedures

Staff will receive training in the use of fire alarm call points, use and selection of fire extinguishers, use of containment bunds, surface water valves, site evacuation, fire safety and all relevant emergency procedures. Training will be provided as part of staff inductions and will be refreshed on an annual basis, in the event of a non-compliance or an operational change.

Certain staff members on site will be trained as Fire Marshals and a Fire Marshal will be present on site at all times that the facility is operating.

The procedures for fires discovered on site will be provided both in the Site’s EMS and on-Site notice boards.

Wastefront will review the FPP once a year, or in the event of any significant changes to site operations, to ensure that the contents are still relevant and that all staff members’ knowledge is current and up to date.

Wastefront will operate the site using an Environmental Management System (EMS) accredited to ISO140001. The EMS will be certified within 12 months of the site becoming operational.

Consequently, operational procedures for the management of the facility will ensure that all appropriate pollution prevention and control techniques will be delivered reliably and on an integrated basis.

3.2.2 Testing the Plan

This FPP will be implemented across the site and all fire management equipment will be maintained in line with schedules set by Wastefront insurer and UK regulatory requirements.

A fire drill will be carried out and documented no fewer than once every 6 months. The Fire Warden will supervise all fire drills.

If any issues are found during these fire drills, the FPP will be updated or amended accordingly and site operatives will be re-trained.

Weekly checks will be made of all escape routes and equipment, as part of the weekly compliance audit to ensure they are unobstructed and in good working order.

4.0 Fire prevention plan contents

4.1 Activities at the site

Wastefront are proposing to develop and operate a new (UTR) facility to process up to 77,000 tonnes per annum (tpa) of end-of-life tyres by thermal treatment, distillation and refining to produce approximately 24,000 tpa of carbon black and 30,000 tpa of liquid products for use in tyre manufacture and synthetic fuels. Steel will be recovered as a by-product.

The key process steps and proposed technology is as follows:

- Shredding of used tyres and removal of steel wire;
- Treatment of the shredded tyres within pyrolysis reactors to produce a gaseous phase, liquid phase and carbon-rich solid residues;
- Distillation of the liquid phase to produce hydrocarbon fuels;
- Combustion of the cleaned gaseous phase to provide heat for the pyrolysis reactors;
- Combustion of residual gases from the pyrolysis and distillation processes in a thermal oxidiser to raise steam for the process;
- Separation of fine wire from the char followed by grinding and pelletising of the solid carbon-black residues; and
- Storage of intermediate and final products, feedstocks and wastes.
- Waste tyres will be stored within the designated external storage bays. The maximum capacity at any one time of approximately 530 tonnes.

Incoming waste is delivered as bales of whole tyres in enclosed lorries. All unloading takes place outside near the storage bays. The opening and processing of the tyre bales takes place within an enclosed building identified as the tyre shredding area.

Waste treatment will consist of feeding material onto a conveyor which is transported to the shredder, which will be transferred by front end loader into a conveyor to transfer to the tyre chip silo. Subsequently a front-end loader will feed the conveyor feeding the transitional hopper and screw feeders which in turns feeds the pyrolysis reactor vessel. Steel wire separated from the tyre chips during shredding and char residues is cleaned and separated using magnetic separator. Char from the process is stored in a transition silo where it is pneumatically conveyed to the Unit 2 building where it is milled to extreme fineness within twin milling lines to produce carbon black. The carbon black goes through the pelletisation process before being conveyed to the product silo and fed to bagging machines. Fuel gases from the process are cleaned and burned for process heat. The liquid fraction is

distilled producing five different liquid products which are transported off-site by road or barge. The distillate oil produced is burned in low speed diesel engines to generate power for the process.

4.2 Site plan

It is proposed to develop the facility on a brownfield site located within the Port of Sunderland centred on National Grid Reference (NGR) NZ 41364 56893. The site location is shown on Drawing 01 and the EP boundary and site layout on Drawing 02.

4.3 Plan of sensitive receptors near the site

The surrounding land uses and local receptors within 1km are shown on Drawing 03 and cultural and natural heritage receptors within 1km are illustrated on Drawing 04. The surrounding area is predominately occupied by commercial and industrial premises with pockets of open ground and surface water features.

A summary of the Site’s immediate surrounding land uses is provided in Table 4-1:

Table 4-1 Surrounding Land Use

Direction	Land Use
North	To the north of the site is commercial/industrial premises, open ground and the North Sea
East	To the east of the site lies open ground before the sea wall beyond which is the North Sea.
South	Adjacent to the south of the site is commercial/industrial premise with a sea wall and the North Sea beyond.
West	To the west of the site is an area of enclosed dock, the former Hendon Railway sidings, beyond which lies open ground, commercial, industrial and residential premises and an educational and medical facility.

The immediate surrounding land use is described in detail below.

Commercial and Industrial

Adjacent to the north and south of the site is commercial/industrial premises because the site is located within the Port of Sunderland. Northumbrian Roads for aggregates processing are to the north, and to the south lies a waste solvents plant operated by Tradebe. Beyond the enclosed dock to the west and southwest lies Hendon Industrial Estate. Further commercial and industrial units lie approximately 890m northwest of the site on the banks of the River Wear.

Local Transport Network

The road network associated with Sunderland Dock intersects the site in a north to south direction through the centre of the site and lies to the north of the site.

Hendon Railway sidings lies approximately 200m to the west of the site.

An additional road network lies approximately 380m to the west of the site and includes Extension Road, Hendon Road Estate, Moor Terrace, beyond which is The Quadrant approximately 480m to the west.

Open ground

The nearest areas of open ground lie adjacent to the northeast and southeast corners of the site's boundary. An additional area of open ground lies beyond the closed dock approximately 230m to the west and 440m to the north west of the site boundary.

Two further areas of open ground lie approximately 200m and 710m southwest of the site's boundary.

Town Moor open ground lies 425m west of the site's EP boundary.

Residential

The nearest residential properties are a development at the former Boys Orphanage, approximately 500m to the west of the proposed site, and further properties lie 720m southwest, and 650 m northwest including Keelboat Lodge.

Surface Water

Sunderland Docks, part of the River Wear lies adjacent to the west of the site and the Hudson Dock North Sea channel lies adjacent to the east.

Educational

Hudson Road Primary School lies approximately 920m west of the site.

Medical

Riverview Health Centre lies approximately 910m west of the site.

European/Internationally Designated Sites

A review of MAGIC confirms that none of the following are situated within a 1km radius of the site's boundary:

- Special Areas of Conservation
- Special Protected Areas
- Ramsar
- Marine Potential Special Protected Areas

Nationally/Locally Designated Sites

A search on MAGIC map identified that there are none of the following feature of ecological importance within 1km vicinity of the site:

- Site of Special Scientific Interest (SSSI);
- Areas of Outstanding Natural Beauty (AONB);
- National Nature Reserves (NNR);
- National Parks;
- RSPB Reserves;
- Ancient Woodland;
- Biosphere Reserves; or
- Local Nature Reserves (LNR)

A review of the EA Nature and Heritage Conservation screening report confirmed that one Local Wildlife Sites (LWS), the Sunderland South Docks lies 1km north of the site. These are illustrated in Appendix ERA1 Nature and Heritage Conservation.

Cultural Heritage

A review of MAGIC map identified several listed buildings located to the north and west of the site within 1km of the site's EP boundary. Two Grade II listed buildings lie to the immediate north, the closest of which is the Swing Bridge at east side with Ashlar Walls approximately 30m north of the boundary. The closest Grade I listed building, the Church of Holy Trinity lies 700m northwest of the site and the closest Grade II* listed building, 11, Church Street East lies 800m northwest of the site's boundary.

Searches on the MAGIC Map confirmed there are none of the following within 1km of the site's EP boundary:

- World Heritage sites;
- Registered Parks and Gardens;
- Schedule Monuments; or
- Registered Battlefields.

Table 4-2 Receptors

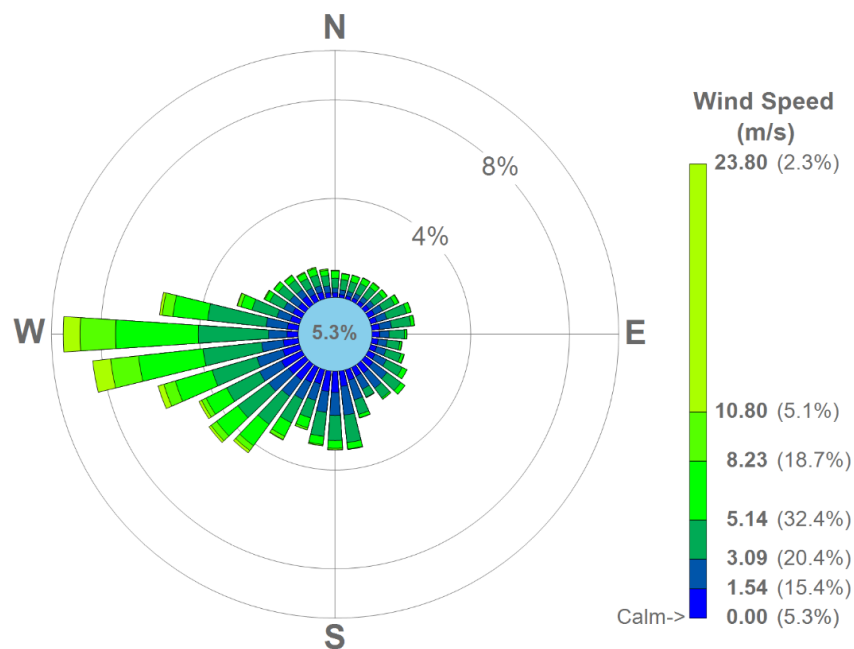
Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary (at nearest point) (m)
Local receptors within 1000m of the Environmental Permit Boundary as shown on Drawing 03 Environmental Site Setting			
Northumbrian Roads	Commercial/Industrial	North	Adjacent
Tradebe	Commercial/Industrial	South	Adjacent
Open Ground	Open ground	Northeast/southeast	Adjacent
Sunderland Dock/River Wear	Surface Water Feature	West	Adjacent
Hudson Dock North Sea Channel	Surface Water Feature	East	Adjacent
Sunderland Dock	Local Road Network	Intersects the site/north	Adjacent
North Sea	Surface Water Feature	East	Adjacent
Open Ground	Open Ground	Southwest	200
Hendon Railway	Local Transport Network	West	200
Open Ground	Open Ground	West/northwest	230/440
Hendon Industrial Estate	Commercial/Industrial	West	350
Extension Road, Hendon Road Estate, Moor Terrace	Local Transport Network	West	380
Town Moor	Open Ground	West	425
The Quadrant	Local Transport Network	West	480
Boys Orphanage	Residential	West	500
Keelboat Lodge	Residential	northwest	650
Open Ground	Open Ground	Southwest	710

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary (at nearest point) (m)
Residential	Residential	Southwest	720
Commercial/Industrial Units	Commercial/Industrial	Northwest	890
Riverview Health Centre	Medical	West	910
Hudson Road Primary School	Educational	West	920
Cultural and ecological receptors within 1km of the EP boundary as shown in Drawing 04 Cultural and Natural Heritage and within Appendix ERA1.			
Swing Bridge at east side with Ashlar Walls	Listed Building	North	30
Church of Holy Trinity	Listed Building	Northwest	700
11, Church Street East	Listed Building	Northwest	800
Sunderland South Docks	Local Wildlife Sites	North	1000

4.4 Windrose

A wind rose from Newcastle Meteorological Station, located approximately 25km northwest, providing the frequency of wind speed and direction from 2014 to 2017 is presented in Figure 1-1 below. The wind rose shows that winds from the west are most frequent. Winds from the north, east and south are less frequent.

Figure 1
Newcastle Meteorological Station, 2014 - 2017



5.0 Manage common cause of fire

5.1 Arson

The Site will have a number of security measures in place to limit the likelihood of arson or vandalism including:

- Perimeter fencing with a gated entrance will be locked if appropriate;
- Lockable doors on the processing building and office/welfare facilities;
- CCTV coverage of all external areas including tyre storage, rCB bagging and barge loading area;
- Monitored alarm system for the processing building;
- Inspection and maintenance procedures; and
- A visitor sign in system.

In the event of a breach of security at the site, the cause will be investigated, and appropriate mitigation measures implemented. This will be recorded in the site log system. Records maintained will include inspections and maintenance of doors and locks, breaches of security, investigations and actions taken.

The site is enclosed by high perimeter fencing and entrance gates designed to prevent unauthorised access and reduce the risk of arson. The Site will be operational 24 hours a day 7 days a week (24/7) with a significant amount of site operatives present at all times. During any periods of shut down for maintenance, security guards will be present on site and will conduct hourly inspections of the site.

The gates and fencing will be inspected weekly to identify any weaknesses or defects. Any defects identified will be repaired with a temporary solution within 24 hours, with a permanent fix implemented within 7 days, unless a timescale is otherwise agreed with the EA.

The Site will benefit from CCTV and security lighting that covers all external areas. All doors to buildings will be locked when not in use and the processing building will be protected by a monitored alarm system.

5.2 Plant and equipment

5.2.1 Fixed equipment

All fixed plant and equipment will be maintained in accordance with the manufacturer's recommendations. All plant on Site will be fitted with telematics, which automatically highlights any faults as part of the minimum design specifications, except where it may not be possible e.g. for plant hired in an emergency.

Plant and equipment will be operated in accordance with the manufacturer's instruction manuals. Instruction manuals for plant and equipment will be held either on Site or online if a hardcopy is not available from the manufacturer.

Induction training and refresher training (reviewed on an annual basis) will be provided to staff in the safe operation of plant and equipment relevant to their role.

Inspection of plant and equipment will be undertaken on a daily basis to check for faults and ensure appropriate safeguards are in place. The procedure also covers general housekeeping and cleaning of plant and all equipment on Site.

In the event of a failure or suspected fault with an item of plant or piece of equipment, the operator will ensure that the equipment is shut off in a safe manner and not used until the equipment can be repaired or replaced.

5.2.2 Mobile plant

The following items of mobile plant will be held on site:

- Fork-lift trucks;
- Pickup trucks;
- Maintenance equipment; and
- Front end loader.

The machinery will be maintained in line with the maintenance schedule recommended in the manufacturer's manual. Daily checks will be carried out on all mobile plant and any findings recorded in the Site diary. All mobile and fixed plant servicing and maintenance will be carried out as per the manufacturer's instructions. Any defects that might harm the environment will be entered into the management system records.

All mobile plant will be fitted with fire extinguishers.

Outside of operational hours, and when not in use, mobile plant will be stored at a distance of over 6m from any combustible waste as shown on Drawing 05 Fire Prevention & Management.

Plant and equipment will be visually inspected prior to every use to ensure it is fit for purpose.

5.3 Electrical faults including damage or exposed electrical cables

5.3.1 Electrics certification

All electrics on Site will be fully certified by a qualified electrician and a record of the certification will be kept.

5.3.2 Electrical equipment maintenance arrangements

Regular safety inspections will be carried out by a qualified electrician to ensure risks are minimised. Electrical equipment will be visually inspected prior to every use to ensure is free from obvious damage and that it is fit for purpose. Records of regular safety inspections will be kept and faults and/or daily electrical maintenance will be recorded in the Site diary.

5.4 Discarded smoking materials

5.4.1 Smoking on site policies

Smoking is not permitted on Site due to the combustible nature of materials stored on Site. Any smoking must be conducted outside of the Site permit boundary.

5.5 Hot works safe working practices

All hot works are to be undertaken under a permit to work system which includes a 60-minute fire watch by a competent person at the end of the works. No hot works are undertaken by staff unless they are trained and have the relevant permit to work.

All hot works are to be conducted in a cleared area of the site at least 6m from any combustible wastes. A Site operative will perform a continuous fire watch during the hot work and for a minimum of 60 minutes after the

work is completed. In addition to the hot works checks, under normal operating conditions (24/7) a site operative will perform a fire watch check at least twice per shift.

5.6 Industrial heaters

5.6.1 Use of industrial heaters

No portable heaters are to be utilised on Site. Wall mounted convection heaters will, however, be provided in the office and welfare areas. The Site Manager will ensure the heater is switched off when an area is not in use. There is no heating proposed for the operational areas inside the factory building.

5.7 Hot exhausts and engine parts

Vehicles will be turned off when not in use. The site is designed for operation 24 hourly and 7 days a week, but there may be periods when this is reduced to 21 hours from Monday to Friday. During periods when the plant is not operating 24/7, and in the case of planned outages and shutdowns, a fire watch will be carried out at the end of each shift. In such cases, vehicles will be given time to cool down prior to staff leaving at the end of the final shift to minimise the risk of ignition from dust settling on hot surfaces.

5.8 Ignition sources

Potential ignition sources include hot exhausts and engine parts, discarded smoking materials, heaters and hot works (all described above). All ignition sources will be kept a minimum of 6m away from the storage of combustible and flammable wastes. No naked lights will be permitted on site.

5.9 Leaks and spillages of oils and fuels

Inspection of any spillages or leaks from containment will be completed at least once per a shift by the shift supervisor. The results of all daily and weekly monitoring will be recorded in the Site Diary, as well as any remedial actions.

In the event of any potentially polluting leak or spillage occurring on Site, the following action will be taken:

Minor spillages will be cleaned up immediately, using sand or proprietary absorbents. The resultant materials will be placed into containers and will then be removed from site and disposed of at a suitably permitted facility. The incident will be logged in the Site diary.

Any dry wastes spilled on site will be collected and transported to the appropriate area of the site.

In the event of a major spillage, which is causing or is likely to cause polluting emissions to the environment, immediate action will be taken to contain the spillage and prevent liquid from entering surface water or drains. Contaminated wastewater will be contained in a containment area, treated, tested and if not suitable for release to the site drainage system, will be tankered off site. Any resultant materials used for clean-up of the spillage will be cleared immediately and placed in containers for offsite disposal, and the EA will be informed.

5.10 Build-up of loose combustible waste, dust and fluff

Wastefront will adopt good housekeeping measures on site and will undertake regular cleaning using brooms, mobile plant and wash down hoses/jet wash (if necessary) to prevent a build-up of litter and dust on site. The process building will be cleaned daily as a minimum and a record of this procedure and site cleanliness will be made on the daily log sheets.

The site benefits from palisade fencing on all sides. The Site boundary will be checked daily, and any windblown litter will be collected and disposed of appropriately. Forklifts will have a sweeper attachment that will be used

to control litter. No loose paper or card is stored externally; all unloading, handling and processing of loose waste takes place within the process building.

It will be the responsibility of the site staff to constantly monitor the Site for any signs of escaping materials either from within the Site or from vehicles delivering or removing materials to and from the site.

5.11 Reactions between wastes

Wastefront only accepts tyres according to the waste codes listed in Table 1. To ensure that incompatible materials or reactions do not take place, waste acceptance procedures are carried out which ensure only waste that is permitted, and which is of a quality suitable for processing, is accepted at the site.

Acceptance and off-loading of waste at the site are supervised by suitably qualified site operatives. Only vehicles that are accompanied by the correct documentation will be accepted onto site. Waste undergoes a visual inspection at the point of acceptance and at the point of deposition into the waste storage bays. If any non-conforming components are found subsequent to off-loading these will be returned to the delivery vehicle, where possible, or placed in the quarantine bay pending transfer off-site to a suitable treatment or disposal facility.

Incidental arisings of non-tyre materials that are separated during processing are stored in a dedicated bunker in the process building. These generally consist of loose small fines and non-fibre material are not expected to cause reaction.

5.12 Deposited hot loads

No burning, visibly hot (producing steam or heat) or reacting loads will be accepted on site. In accordance with the Site's Waste Acceptance Procedures, each load will be visually inspected at the Site entrance to ensure compatibility with accompanying delivery notes, therefore minimising prohibited wastes and the acceptance of hot loads.

Instructions will be given to suppliers to ensure no hot loads are accepted on site.

Should a hot load be deposited on site, it will immediately be removed to the dedicated quarantine area and removed from site the same day to a suitably licenced facility for disposal.

5.13 Hot and dry weather

External storage bays are covered by a roof and have open sides allowing air to flow through the bays. Bales are stored for a maximum of 1-2 days therefore minimising the potential of fire.

The frequency of heat gun monitoring will increase during periods of hot weather.

6.0 Preventing self-combustion

6.1 General self-combustion measures

The waste types accepted do not generally contain putrescible material and therefore risk of self-heating is expected to be low. The site's waste acceptance procedures include visible inspections before and following off-loading. If a delivery is found to contain contamination with putrescible material it will not be accepted at the site.

A quality control routine is conducted upon receipt and unloading of material. Inspection for non-conforming material is undertaken and incidental contaminants are removed and placed in a quarantine area. Once the material has entered the process there is a second opportunity to remove any contamination at the initial handling of the bales when unpack in the shredder building, followed by several vibratory conveyors that will

separate the fractions of steel wire from shredded rubber and magnetic separators. All residual / non-confirming waste will be stored in dedicated quarantine or residual waste bunkers and disposed of accordingly.

Dust from the shredding process is stored in drums and disposed off-site.

These measures will generally reduce the risk of self-combustion of materials stored on the site.

6.2 Manage storage time

Wastefront implement stock management procedures which are effective in limiting the likelihood of the self-combustion of materials stored on site. Baled waste will be stored for a maximum of 1-2 days, minimising the potential for hotspots to develop. Furthermore, the stock will be regularly rotated, with the storage benefiting from a first in, first out system.

6.2.1 Methods used to record and manage the storage of all waste on site

Waste will be weighed at the weighbridge, where the Weighbridge Operator will check transfer notes and issue weighbridge tickets. The Site Manager will ensure that all deliveries are scheduled, and no unauthorised or unexpected deliveries will be allowed to offload their waste at the depot.

Suitably qualified site personnel will carry out daily checks of the site to identify the risks and inspect the bales and stockpiles. This ensures that the Site does not reach a level of overcapacity in respect to storage.

The site leadership routine will maintain daily records of waste inventory on site. This will include the levels of stock, the condition of stock, the age of stock, the temperature of stock as well as many other operational factors governing Environmental, Health and Safety, operational and Quality performance.

6.2.2 Stock rotation policy

Wastefront will operate a first-in first-out procedure to ensure that waste that has been stored the longest is removed first. Stockpiles will be rotated with every new waste deposit and when the waste is transferred to onsite plant for treatment. Prior to the deposit of newly processed waste within any stockpile, the existing stockpiled waste will be moved forwards (and therefore turned) to allow new waste to be deposited at the back of the bay. Waste will be rotated to ensure waste is not stored on site for longer than 1-2 days.

6.3 Monitor and control temperature

6.3.1 Reduce the exposed metal content and proportion of fines

Strict waste acceptance checks are carried out to ensure that only permitted waste is allowed to be processed on site. Loads are visually inspected upon arrival and after deposit in the storage bays. Any loads found to be contaminated will not be accepted and will be reloaded on to the delivery vehicle and returned.

A quality control routine is conducted on receipt and unloading of material. Inspection for non-conforming material is undertaken and incidental contaminants are removed and placed in a quarantine area. Once the material has entered the process there is a second opportunity to remove any contamination at the initial handling of the bales when unpack in the shredder building, followed by several vibratory conveyors that will separate the fractions of steel wire from shredded rubber and magnetic separators. All residual / non-confirming waste will be stored in dedicated quarantine or residual waste bunkers and disposed of accordingly.

6.3.2 Monitoring temperature

All external bays and stockpiles of bales will be visually inspected twice per shift and with hand-held thermal imaging cameras to detect any temperature increase. Inspections will be documented on the shift checklist, and all findings will be logged.

If a temperature above 60°C is detected, the actions described in in Table 5 below will be carried out.

6.3.3 Controlling temperature

The following actions will be taken to reduce the risk of hot spots and to minimise the risk of self-combustion:

- Storage times will be minimised by using a first-in-first-out basis;
- Heat generated during treatment will be minimised by limiting activities to sorting and baling only;
- Bays are sized according to the minimum required for operational efficiency; and
- Hotspots will be detected and controlled by;
 - Turning and/or re-stacking baled materials; and
 - Twice per shift inspection using hand-held thermal imaging cameras. The interventions shown in Table 5 below will be carried out in the event that temperatures exceed action thresholds:

Table 6-1 Response to Monitored Stockpile Temperatures

Temperature (°C)	Action/Response
0-60	No action required
60 – 80	Report to management and continue monitoring on an hourly basis
85 +	Immediately remove waste from the stockpile to the quarantine area and report to management.

6.3.4 Dealing with hot weather and heating from sunlight

During periods of extreme hot weather (defined as temperature higher than 25°C or more on two consecutive days) the following actions will be carried out:

- concentrated beams of sunlight or glare reflected onto stockpiles through surfaces will be minimised;
- the frequency of inspection will be increased to 4 times per shift using hand-held thermal imaging cameras and carrying out the interventions in Table 6-1 if temperature thresholds are exceeded; and
- bales will be dampened by spraying with water to reduce the risk of ignition.

6.4 Waste bale storage

As described above, the following actions will be carried out specifically for the monitoring and management of temperature in the baled waste storage areas:

All external stockpiles of bales will be visually inspected twice per shift and with hand-held thermal imaging cameras to detect any temperature increase. Inspections will be documented on the shift checklist, and all findings will be logged;

Outside operational hours the site will be attended by security staff. The bale storage areas will be visually monitored by CCTV and hourly visual inspections will be carried out as part of Site walk-rounds;

Bale stockpiles will be turned to ensure hot spots are minimised.

7.0 Manage waste piles

7.1 Maximum pile sizes for the waste on site

Table 7-1 below provides information on the amounts of waste stored on site and their locations. As the detailed design of the site has not yet been agreed with the EPC contractor, certain information is not yet available and where this is the case, has been marked 'tbc' (to be confirmed). The FPP will be updated once the information is available.

Table 7-1 Maximum pile size of waste stored on site

Location	Waste Stream	How it is stored	Max bay length (m)	Max bay width (m)	Height (m)	Maximum pile volume (m ³)	Max time it will be stored
External bay 4 and 5 – east	Tyres	Bales	15	6	2.25	300	1-2 days
West of the shredder	Shredded rubber	Enclosed bin	tbc	tbc	tbc	tbc	3 months
East of the external tyre storage	Steel wire	Bales	tbc	tbc	tbc	tbc	3 months
Adjacent to the external tyre storage	Dust	Drums	n/a	n/a	n/a	tbc	3 months
Pyrolysis area	Char	Enclosed silos	n/a	n/a	n/a	tbc	3 months
Warehouse	rCB	Supersacks	tbc	tbc	tbc	tbc	3 months

7.2 Storing waste material in their largest form

Tyres will be stored in external bays as bales of whole tyres. The activities at the site require the tyres to be shredded to <20mm chips to feed the pyrolysis units. The shredded tyres are stored in an enclosed bin before proceeding to the chip silo.

8.0 Waste stored in containers

Shredded rubber, dust, char and fines are stored within enclosed bins/drums. Shredded rubber is stored within an enclosed bin and located to the west of the shredder. Dust collected on site is enclosed and stored in drums adjacent to the external tyre storage area. The dust is disposed of offsite at an appropriately regulated facility. Char is collected within an enclosed bin located within the pyrolysis area before being processed within the mill. Fines will be collected throughout the process within enclosed drums and will be re processed back into the product or collected for off site disposal.

The bins/drums are easily accessible and can be relocated in the event of a fire.

9.0 Prevent fire spreading

9.1 Separation distances

All open faces of storage bays will have a separation distance of at least 6m between the waste and any other combustible material. The layout of waste storage areas and separation distances are shown in Drawing 05.

9.2 Fire walls construction standards

9.2.1 Site boundary walls

Waste will be stored within external bays. The bays adjoined to the Tyre Shredding Area to the east will be separated by concrete blocks. These will not burn, crack or give off noxious fumes regardless of the intensity of the fire or time spent being exposed to the fire. The blocks are Class A1 fire resistant in accordance with clause 4.3.4.4 of EN 13369.

The specification is shown in Table 9-1 below.

Table 9-1 Bay Wall Specification

Features	Details
Concrete Specification	RC40/50XF equivalent
	Minimum cement content = 360 kg/m ³
	Maximum w:c ratio = 0.45
	Cement type = CEM1 52.5N
	Coarse Aggregate = Aggregate Industries
	Fine Aggregate = Cemex

Features	Details
Durability	The use of an RC40/50XF equivalent concrete ensures suitability for use in XF4 conditions as defined in BS 8500-1:2013
The units are unreinforced and have a design working life of 100 years as defined in BS EN1990:2002+A1:2005	

The perimeter fence prevents the risk of arson, and the concrete blocks prevent the spread of fire between sheds.

9.2.2 Internal waste bays

There will be no internal waste storage bays. The only internal storage will be the steel baling area and dust collection.

9.3 Storing waste in bays

The waste within the bays will be stored to the maximum heights shown in Table 7-1. The following measures will be employed to minimise the risk of fire spreading:

- All waste in the storage bays will be operated on a first-in-first-out basis.;
- Storage times kept to a minimum;
- The specification and construction of the bays offers a thermal barrier exceeding 4 hours;
- The bays benefit from a freeboard of 1m and open faces are located at least 6m from other sources of combustible materials to minimise the potential risk of lighted material igniting other wastes; and
- In the event of a fire occurring in a bay, the quarantine area will be used to segregate non-burning waste in order to isolate and minimise the potential impact of the incident.

10.0 Quarantine Area

10.1 Quarantine area location and size

The Site will have an external storage bay available at all times for use as a fire management quarantine bunker. This will be separate from the non-compliant waste quarantine bunker and will be signed at all times so that a clear distinction can be made. The proposed options for quarantine areas are shown in Drawing 05 and listed below. All options will be capable of storing 150m³ of waste, which is 50% of the maximum pile size.

- NW corner of fuel loading area on the western part of the site;
- Storage bay (with firewall) on easternmost end of the main Tyre Bale Storage building; and
- Storage bay (with firewall) on southernmost end of tyre bale storage area to east of the tyre shredding building.

10.1.1 Non-compliant waste quarantine area

In the event of non-compliant waste being identified within the waste load, the vehicle will be requested to remove the load off Site immediately. If the vehicle has already unloaded the waste, it will be moved to the non-compliant waste quarantine area and removed off Site within 72 hours.

10.1.2 Fire Management Quarantine Area

The fire management quarantine area benefits from 800mm thick concrete bay walls and holds at least 50% of the largest waste storage area on Site. The location of the quarantine area is not defined, but will allow the following:

- Easy access by the Fire Service;
- Sufficient proximity to the water tanks;
- At least 6m from any potentially flammable liquids on Site such as fuel product tanks; and
- Firewater to be sufficiently contained.

10.2 How to use the quarantine area if there is a fire

The Site Management will instruct all Site operatives when and how the burnt/burning waste, or any hot loads delivered accidentally to Site, will be moved to the quarantine area. The following procedure will be implemented on Site:

- When it is safe to do so, the waste will be moved by plant available on site to the quarantine area;
- The movement of the waste will be overseen at all times by the Shift Manager who will ensure that any spillages are minimised and ensure the area is not overfilled;
- To limit any spillages, plant will not be overfilled when moving the waste;
- The burning/smouldering waste will be doused using the relevant fire extinguisher, a fire hose connected to the water tanks, a fire hose supplied by the fire service connected to the hydrant or water pumped from the fire engine; and
- Burnt waste will be taken off Site to a suitably licensed facility within 48 hours. All Site operatives will be trained to follow this procedure

10.3 Procedure to remove material stored temporarily if there is a fire

The site has a separate quarantine bay for the management of waste in the event of a fire at all times. Therefore, a procedure for material stored temporarily in this area is not required.

11.0 Detecting Fires

11.1 Detection systems in use

The site's detection system has not yet been designed and installed. The detection system will be designed and installed in line with the EA guidance. The FPP will be updated to include all details of the detection system upon commissioning.

In addition to the detection system, the Site will be equipped with CCTV cameras which monitor both the internal and external waste storage areas. These are continuously monitored by the Site security lodge 24 hours a day and 7 days a week (including non-operational hours).

During operational hours, Site procedures will ensure that visual inspections of all waste storage areas and temperature checks using hand-held thermal imaging cameras are carried out twice per shift as a minimum.

11.2 Certification for the systems

The detection system is currently being designed but will operate in line with the FPP requirements. The commissioning documents and certificated will be held on site. This FPP will be updated following the installation of the system.

12.0 Suppressing fire

12.1 Suppression systems in use

The site's suppression system has not yet been designed and installed. The suppression system will be designed and installed in line with the EA guidance. The FPP will be updated to include all details of the suppression system upon commissioning.

12.2 Certification for the systems

The suppression system is currently being designed but will operate in line with global requirements. The commissioning documents and certificates will be held on site. This FPP will be updated following the installation completion.

13.0 Firefighting techniques

In the event of an emergency occurring the Manager or Deputy will take on the role of Emergency Response Manager (ERM). This role will:

- Coordinate the response of Wastefront site staff to the incident;
- Allocate resources according to training and competency;
- Initiate full or partial site evacuation;
- Initiate a request for the attendance of external emergency services;
- Initiate the attendance of external 3rd party suppliers (for example a hazardous waste removal company);
- Review the actions and activities in response to changes in the incident;
- Collect and preserve evidence and information that may be used as part of an internal or external investigation; and

- Maintain effective and timely communications with all stake holders.

The emergency response team undertaking direct actions in response to the incident will be controlled at the incident by the Manager. The Manager is responsible for communicating with the ERM and for assessing hazards and risk to the site, to the response staff and to any other individuals who may be affected by the incident.

The emergency response team will implement actions and activities to resolve or contain the incident in line with the emergency response plan and any instructions from the ERM.

13.1 Active firefighting

13.1.1 Fire extinguishers

There will be a number of fire extinguishers located throughout the site. These are to be used in the following circumstances:

- Where operators are trained in use, and if confident to tackle the fire; or on very small fires, or to facilitate own escape if trapped by fire.

13.1.2 Fire Hose Reels

Fire hoses will be provided, but the exact locations and lengths will be determined as part of the detailed design.

13.1.3 Small fires

A small fire or area of smouldering waste will be dealt with as follows:

- mobile plant will be utilised to pull the affected waste into the open and away from any further waste that could become alight on contact; and
- Depending on the size / nature / location of the fire the waste will either be:
 - Extinguished immediately² utilising the fire extinguishers/fire hose; or
 - Moved to the appropriate quarantine area and extinguished³.

Depending on the size, location and nature of the fire, the burning waste will be pulled into the dedicated fire prevention quarantine area.

Once a small fire is dealt with the remaining area will be visually inspected immediately by Site operatives for any signs that a fire / smouldering waste still remains. The same procedure as detailed above will be implemented should this be the case.

13.1.4 Uncontainable small fire or large fire

The following procedure will be followed in the event of a small fire becoming uncontainable or in the event of a major fire on site;

² Should a single item of the waste stream be alight, and the fire is well contained, then the waste will be doused via use of an extinguisher or hose as it is pulled from the waste pile. The burned / fire- damaged portion is then removed to the quarantine area and the remaining waste returned to the pile.

³ If the fire is not easily contained to a single item, then the obviously alight portion of the waste will be removed to the quarantine area.

- The Manager and Fire Service will be contacted immediately. The local sewerage service and EA will be notified at the first opportune moment.
- Following arrival of the Fire Service, all Site staff will take instructions from the Fire Service which may include any of the following:
 - If possible, waste that is unburnt will be dampened down to prevent the fire from spreading further;
 - If possible, unburned material will be separated from the fire using heavy plant;
 - The burning area will be isolated, and attempts will be made to extinguish the fire utilising the onsite fire extinguishers if safe to do so; and
 - The Site and buildings will be evacuated.

14.0 Water supplies

14.1 Available water supply

Two water tanks with a capacity of 1,200 cubic metres will be located to the east of the site which will be able to supply the sprinkler system to suppress a fire within the process building or as a supply for fire-hoses for direct fire-fighting purposes. The tanks will hold more than enough water required for fire suppression over a period of 3 hours, however if required, the tanks can be recharged with mains water during use to increase the total volume available.

14.2 Calculation of required water supply

The largest combustible stockpile on site is 300m³. An estimate of the amount of firewater supply that would be needed to fight a fire for 3 hours (as required by the EA FPP guidance) is shown in Table 14-1 below.

Table 14-1 Firewater Supply Requirements

Maximum pile volume (m ³)	Water supply needed (l/min)	Overall water supply needed over 3 hours (litres)	Total water available on site (litres)
	Pile volume x 6.67	Water supply x 180	
300	2,001	360,180	1,200,000 (tanks)

15.0 Managing fire water

15.1 Containing the run-off from fire water

The Site has the benefit of impermeable surfacing throughout and not within a source protection zone. Site containment is shown on Drawing 05.

During a fire, it is anticipated that a maximum of 360,180 litres of water would run off the waste. The primary and secondary means of containment detailed below provide sufficient containment for all likely firewater arising from an incident. (In reality the fire-water to be contained will be less as a significant proportion will evaporate.)

15.1.1 Primary containment

The Site benefits from impermeable surfacing and sealed drainage.

In the event of a fire, the Site drainage would be isolated to contain fire-water within the Site boundary in the fire water retention basin to the south of the Site. The Site perimeter has kerbing on all sides to contain fire-water within the Site. Upon site design and completion this FPP will be updated with all containment details.

Following the incident, the collected firewater will be tanked off-site to a suitable treatment facility.

16.0 During and after an incident

16.1 Dealing with issues during a fire

The site will not continue to accept waste if there is an active fire on Site. Waste will be diverted to a nearby suitably permitted Site and, if possible, waste producers will be notified in advance to prevent delivery vehicles arriving on Site during and immediately after a fire.

16.2 Notifying residents and business

An emergency contact sheet is included in Appendix 01. In the event of a fire the following procedure will be followed:

- The Site Manager or individual nominated by the Site Manager will locate the emergency contact list included in Appendix 01;
- In the event of a large fire, 999 will be dialled first;
- The Site Manager or individual nominated by the Site Manager will phone each of the local businesses included in Appendix 01, followed by the sewage service if appropriate to do so; and
- Finally, the EA incident hotline will be dialled once the situation is under control.

16.3 Cleaning and decontamination after a fire

Any firewater contained on site following a fire will be removed from Site via tanker to a suitably licenced facility.

After a fire event, the following procedure will be implemented depending on the severity of the fire:

- A small and containable fire that can be safely dealt with in-house using suitably trained staff and firefighting equipment located on Site: The fire will be recorded in the Site Diary, including the causes of the fire and methods used to manage the fire. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this FPP and the Site's EMS as required.
- A larger fire that requires the presence of the Fire Service: If the Site operatives have been told to evacuate or cease operations by the Fire Service, the Site will wait until told safe to re-enter and resume

operations. Any closure of the Site will be followed by informing customers and the regulatory authorities. The fire will be recorded in the Site Diary and in an online incident report and will detail the causes of the fire and methods used to manage the fire. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this FPP and the Site's EMS as required.

Should damage be sufficient to prevent the Site from being able to store waste, the Site will cease accepting waste until the situation is resolved.

The Site Manager will liaise with the EA to determine a plan-of-action to introduce normal operations at the Site, and the timescales involved to achieve this.

A visual assessment will be carried out by the Site Manager to determine whether the waste can be treated on Site. Wherever possible, unburnt wastes will be separated from fire damaged piles. If waste piles have become mixed, then it is likely that the waste will be removed from Site to a suitably permitted facility.

The Site Management in conjunction with the insurance company and other relevant experts will determine what decontamination measures will be required to be carried out proportionately to the impact caused by the fire.

Once firewater and fire damaged waste have been removed the site will be cleaned using methods appropriate to the nature of the residues. This may include (but not be limited to) the following: on-site yard sweeping equipment, jet-washing or engaging a third part specialist cleaning company.

16.4 Making the site operational after a fire

The period of time taken to restore the Site or affected part of the Site to operational status will be determined by the nature and extent of the fire. If the affected area does not impact the rest of the Site's operation, operations will re-start as and when appropriate.

After a significant incident, an assessment will be undertaken by a suitably qualified individual. Technically competent managers and/or engineers will assess the degree of damage caused by a fire and the residual risk from fire damaged waste, emissions or equipment. Burnt waste material will be kept on Site for a short period of time if required for a subsequent internal investigation. Following this, the material will be transferred off Site to a suitably licensed disposal facility.

17.0 Conclusions

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

- A fire on Site;
- In response to any significant process change;
- A change or review of legislation; or
- If the Site is instructed to do so by the EA.

It is the responsibility of the Site Manager or nominated person to maintain this FPP and to ensure it is adhered to in the event of a fire on Site.

APPENDIX FPP01

Emergency Contact List

Emergency Contact List

Fire Service (in the event of a major fire)

- 999 or 112

Environment Agency Hotline (24-hour service)

- 0800 80 70 60

Local Businesses (with associated directions)

- Northumbrian Roads Limited (north): 0191 567 6992; and
- Tradebe (South): 0845 603 2893.

Sewage Service – Northumbrian Water Emergency Number (24-hour service)

- 0800 393084

Sunderland UTR Facility

- The contact number is not yet available and will be updated when known.

DRAWING 05

Fire Prevention Plan

DRAWING 03

Environmental Site Setting & Receptors

EUROPEAN OFFICES

United Kingdom

AYLESBURY

T: +44 (0)1844 337380

BELFAST

belfast@slrconsulting.com

BRADFORD-ON-AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 906 4280

CARDIFF

T: +44 (0)29 2049 1010

CHELMSFORD

T: +44 (0)1245 392170

EDINBURGH

T: +44 (0)131 335 6830

EXETER

T: + 44 (0)1392 490152

GLASGOW

glasgow@slrconsulting.com

GUILDFORD

guildford@slrconsulting.com

LONDON

T: +44 (0)203 805 6418

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER (Denton)

T: +44 (0)161 549 8410

MANCHESTER (Media City)

T: +44 (0)161 872 7564

NEWCASTLE UPON TYNE

T: +44 (0)191 261 1966

NOTTINGHAM

T: +44 (0)115 964 7280

SHEFFIELD

T: +44 (0)114 245 5153

SHREWSBURY

T: +44 (0)1743 23 9250

STIRLING

T: +44 (0)1786 239900

WORCESTER

T: +44 (0)1905 751310

Ireland

DUBLIN

T: + 353 (0)1 296 4667

France

GRENOBLE

T: +33 (0)6 23 37 14 14