FIRE PREVENTION PLAN

101 Amington Road, Birmingham, B25 8EP

Kiely Bros. Ltd

Version:	2.4	**Date:**	03 May 2024		
Doc. Ref:	AMI-918-B	**Author(s):**	CP	**Checked:**	KBL
Client No:	918	**Job No:**	012		

Oaktree Environmental Ltd

Waste, Planning & Environmental Consultants

Oaktree Environmental Ltd, Lime House, 2 Road Two, Winsford, Cheshire, CW7 3QZ
Tel: 01606 558833 | Fax: 01606 861183 | E-Mail: sales@oaktree-environmental.co.uk | Web: www.oaktree-environmental.co.uk
REGISTERED IN THE UK | COMPANY NO. 4850754

Document History:

Version	Issue date	Author	Checked	Description
1.0	19/06/2017	CP	KBL	Document issue
1.1	02/08/2017	CP	KBL	Amended sections 3.2, 5.4, 6, 7.3.2, 8.1 - 8.6, 9.3.1 - 9.3.2, 10.2, 11.2.2; amended Layout & Fire Plan in Annex I, amended fire checklist and stockpile detail table in Annex II and added Annex III for re-submission to the EA
1.2	13/10/17	CP	KBL	Amended sections 2.3.4, 2.5.3, 3.2.3, 5.4.4, 6.1.2, 8.1, 10.3 and Layout & Fire Plan in Annex I
1.3	26/10/17	CP	KBL	Amended sections 2.5.2 - 2.5.5
1.4	26/10/17	CP	KBL	Amended sections 2.5.2
1.5	16/09/19	IA	CP	Full document amendment for variation of EP (internal draft)
1.6	17/09/19	CP/IA	CP	Document submission
1.7	11/11/19	CP	--	Amended following EA Sch 5 Notice; refer to Notice for amended sections
1.8	06/12/19	CP	--	Amended following EA Sch 5 Notice No. 2; refer to Notice for amended sections
1.9	19/12/19	CP/IA	--	Amended Site Layout & Fire Plan in Annex I
2.0	24/02/2020	CP	--	Updated Site Information Contact List
2.1	23/01/2023	CP	--	Updated following site infrastructure changes
2.2	06/03/2023	CP	--	Updated to for compliance with IED Regs
2.3	14/03/2024	CP		Updates to site plan in Appendix I
2.4	03/05/2024	CP		Updates to Sections 1.2, 3.2, 4.3 – 4.5, 7.1 and site plan in Appendix I

THIS DOCUMENT IS DUE FOR REVIEW IN **MARCH 2027** OR AS A RESULT OF ANY INCIDENTS WHICH MAY LEAD TO THE REQUIREMENT FOR IMMEDIATE REVIEW, WHICHEVER IS THE SOONER

CONTENTS

List of Tables

List of Appendices:

Annex I - Drawings

Drawing No. AMI/918/03 – Site Layout & Fire Plan

Drawing No. AMI/918/04 – Receptor Plan

Annex II - Record Keeping Forms

KBL/RF/1	-	Fire Check Inspection Form
KBL/RF/2	-	Preventative Maintenance Checklist
KBL/RF/3	-	Employee Training Needs Assessment

Site Information & Key Contacts List

Site Address:	101 Amington Road, Birmingham, B25 8EP		
Site Operator:	Kiely Bros. Ltd	**National Grid Ref:**	SP 11878 84501

CONTACT	DESCRIPTION	OFFICE HOURS	OUT OF HOURS
Mike Kiely	Managing Director	0121 772 6770	07500 440534
Sean McGuinness	TCM/Site Manager	0121 772 6770	07500 440534
Birmingham Heartlands Hospital Bordesley Green E, Birmingham B9 5SS	Local NHS Hospital (Main)	0121 424 2000	999
	Accident & Emergency (A&E)	999	999
Yardley Medical Centre Yardley Medical Centre 1222 Coventry Road South Yardley, Birmingham B25 8BY	Local Doctor Surgery (GP)	0121 772 1898	999 or 112
West Midlands Police Police Headquarters Lloyd House, Colmore Circus Birmingham B4 6NQ	Local Police Non-Emergency	0121 626 5858	999 or 112
	Police Emergency	999 or 112	999 or 112
West Midlands Fire Service Old Fire Station, Bordesley Green, Birmingham, West Midlands B9 5NA	Fire and Rescue Service (in Emergency Dial 999)	0121 380 6067	999 or 112
Environment Agency (Nearest Office) 550 Streetsbrook Rd, Solihull B91 1QU	Environmental Regulator	03708 506506	0800 807060
Birmingham City Council Council House, Victoria Square, Birmingham B1 1BB	County Council General Enquiries	0843 506 0286	999 or 112
	Environmental Health Dept.	0843 506 0286	999 or 112
Severn Trent Water	Mains water supplier	0800 783 4444	0800 783 4444
Oaktree Environmental Ltd - Lime House, 2 Road 2, Winsford, Cheshire CW7 3QZ	Specialist Advisor (Waste and Planning Issues)	01606 558833	999 or 112 or 0800 807060

1 Introduction

1.1 Fire prevention objectives

1.1.1 This Fire Prevention Plan (FPP) has been designed to meet the following 3 objectives:

- To minimise the likelihood of a fire happening;
- To aim for a fire to be extinguished within 4 hours; and,
- To minimise the spread of a fire within the site and to surrounding neighbouring sites.

1.2 General site information

1.2.1 This document considers the risks associated with fire on site at 101 Amington Road, Birmingham, B25 8EP. The site will be operated as a Section 5.4 (a)(iii) and b(ii) non-hazardous waste installation. The site will primarily be accepting residual waste under EWC codes 19 12 10 and 19 12 12 from their facility at Speedwell Road which will be treated to produce a solid recovery fuel (SRF) which will be sent for incineration.

1.2.2 The current EP allows for the acceptance, storage and treatment of mixed household, industrial and commercial (HIC) waste under an A11 activity, this activity is discussed in Section 3.6 of this EMS.

1.2.3 The EP also allows for acceptance, storage and treatment of construction, demolition and excavation (CDE) waste under an A16 activity but as this activity is not taking place at the site and will be relinquished from the EP.

1.2.4 In addition to this document the site will be operated by Kiely Bros. Ltd in accordance with a fully comprehensive Environmental Management System (EMS). Reference should be made to Section 3 of the EMS which details the acceptance, storage, treatment and removal of waste; in summary the main operations which take place at the site are as follows:

- Compacting (by loading shovel / 360° excavator and baling equipment)
- Sorting (with loading shovel / 360° excavator or by hand)

- Screening (by using appropriate mechanical screening plant and equipment)
- Separation (by using appropriate mechanical screening plant and equipment)
- Shredding (by using appropriate mechanical plant and equipment)

1.2.5 The layout of the site is shown on Drawing No. AMI/918/03 which appears in Annex I of this document.

1.3 Hours of operation

1.3.1 The site will be open for the delivery and receipt of waste on site and for all waste handling/processing operations on a 24/7 basis and closed during some of the bank holidays.

1.3.2 During times where the site is closed or not in operation, the site will be locked and secured to prevent unauthorised vehicular and/or pedestrian access.

1.4 Staffing and management

1.4.1 The table below details the minimum staff requirements when the site is open for the reception of waste and, therefore, shows the minimum number of staff available to tackle a fire on site during operational hours. Only the site manager, machine/plant operators and general operatives will be permitted to tackle fires on-site.

Table 1.1 – Staffing numbers

Position	Employees	Responsibilities
Site manager	1	Ensuring that the site is being operated in accordance with the Environmental Permit and in-line with attendant regulations
TCM	1	Providing weekly cover or as specified by the permit
Administrative Staff	2	Office/administrative duties
Machine / Plant Operator s / Operatives	4	Waste handling/processing, reception and plant operation

1.5 Plant and equipment

1.5.1 The table below details the plant/equipment on site including that equipment specifically required for the implementation of this FPP. Only trained operators will be permitted to drive/operate the plant/equipment listed below.

Table 1.2 – Plant & Equipment numbers

Item	Number	Function
Loading shovel	2	Loading/unloading/movement/sorting
360^{o} excavator (rubber wheeled)	3	Loading/unloading/movement/sorting
Shredder	3	Size reduction of residual waste
Eddy current separator	1	Removal of metals from mixed waste
Blower	1	Separation of light waste from mixed streams

1.5.2 All site staff and contractors must be aware and understand the contents of the FPP and what they must do during a fire.

1.5.3 This FPP document will be kept in the site office as shown on Drawing No. AMI/918/03.

1.6 Correspondence with Fire and Rescue Service

1.6.1 Birmingham Fire and Rescue Service (FRS) were contacted in the original preparation this FPP to obtain information about the location and flow of fire hydrants.

1.6.2 Kiely Bros. Ltd will ensure all plans are suitable seek a two-yearly response from the EA and FRS with regards to their FPP and associated operations on site. This regular correspondence will ensure all measures to prevent, mitigate and contain fires on site are up to date and deemed sufficient by the FRS.

1.7 Reviewing and monitoring this FPP

1.7.1 This document will be due for review two years from the date of approval, as a result of any incidents which may lead to the requirement for immediate review, or the FPMP guidance changing, whichever is the sooner. The circumstances which would warrant a review are the following:

- Experiencing a fire incident.
- Additional combustible waste streams accepted on site.
- Increase waste volumes accepted.
- Development of site infrastructure – new buildings.
- Installation of new equipment or plant – baler/loading shovel/sort-line/ etc.

1.8 Sensitive receptors

1.8.1 A Sensitive Receptors Plan (reference Drawing No. AMI/918/04) has been provided in Appendix I to highlight all main receptors within 1,000m of the site.

1.8.2 All protected habitats, groundwater source protection zones, boreholes, wells, springs supplying water for human consumption are shown (if applicable) on this plan.

1.8.3 To minimise the impact on the local area and associated receptors from a fire on site, this document details mitigation measures which will decrease the likelihood of a fire occurring on site and limit the size and duration of a fire if it does occur. These measures will ensure the potential impact on any of the surrounding land is as minimal as practicably possible.

1.8.4 The primary sensitive receptors for any fire event would be the site itself and any site users.

Table 1.3 – Receptor Plan table

Receptor	Receptor Type	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Risk Management
Numerous surrounding industrial and commercial uses	Industrial / commercial premises	Fire causing the release of polluting materials to air (smoke, fumes and particulate matter)	Respiratory irritation, illness and nuisance to local population. Financial loss of businesses due to closure of adjacent roads/evacuation of premises.	Air transport of smoke.	High	Medium	Medium	Procedures set out in this FPP. Toolbox talks and liaison meetings with receptors to review procedures in the event the site is subject of a fire.
Residential dwellings in the surrounding area	Residential	As above	Respiratory irritation, illness and nuisance to local population.	Air transport of smoke.	High	Medium	Medium	As above
Surrounding highway and public transport networks	Major road networks	As above	Closure of roads due to excessive smoke fumes. Increased risk of accidents due to poor visibility.	Air transport of smoke.	High	Medium	Medium	As above
Train Station and railway line	Railway	As above	Closure of railway due to excessive smoke fumes. Increased risk of accidents due to poor visibility.	Air transport of smoke.	High	Medium	Medium	As above
Nearby leisure / retail	Leisure / retail	As above	Respiratory irritation, illness and nuisance to local population. Financial loss of businesses due to closure of adjacent roads/evacuation of premises.	Air transport of smoke.	Medium	Medium	Low	Procedures set out in this FPP. Toolbox talks and liaison meetings with receptors to review procedures in the event the site is subject of a fire.
Surface Waters	Surface Waters	Direct run off of fire water across site or to surface waters. Fire causing the release of polluting materials to air (smoke, fumes and particulate matter).	Loss of amenity, deterioration of water quality, killing of flora / fauna and other local wildlife	Air transport of smoke. Direct run off of fire water across site to surface waters.	Med	Medium	Low	Procedures set out in this FPP. The site has a sealed drainage system.
Habitats and species including Deciduous Woodlands and protected species	Protected sites and species	As above	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Air transport of smoke.	Med	Medium	Low	Procedures set out in this FPP

2 Managing common causes of fire

2.1 Details

2.1.1 The following list outlines common causes of fire and outlines specific examples of these sources, the associated risks and any mitigation measures necessary to manage them:

Table 2.1 – Common fire causes

Source	Risk	Magnitude of Risk / Likelihood	Brief outline of Mitigation (refer to Section 4 for storage/monitoring procedures)	Magnitude of risk / likelihood following mitigation
Arson or vandalism	Deliberate ignition of wastes by intruder(s) and/or vandalism of site infrastructure, plant and/or machinery which may give rise to malfunction or compromise the integrity of waste storage/containment measures	Medium	• Appropriate site security infrastructure. • Vehicle checks on arrival to the site. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Staff training / toolbox talks.	Near-zero
Plant or equipment	Spillages of fuel, sparks from machinery or malfunction caused by ineffective maintenance	Medium	• Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Fuel stored in a bunded area. • Daily checks of site surfacing and spill kits. • Staff training / toolbox talks.	Near zero
Electrical appliances and cabling	Faulty appliances or damaged/ exposed electrical cables may spark as a result of a power surge	Medium	• Fixed wiring testing is carried out 5 years and portable appliances are PAT tested 12 months in accordance with Legislation. • Daily checks for dust and fluff on wiring / electrical appliances.	Low
Discarded smoking materials	Risk of ignition of stored wastes from smoking materials which have not been fully distinguished	Low	• No smoking or e-cigarettes allowed on site	Near-zero
Sparks from loading buckets/shovels	Scraping of loading buckets/shovels causing sparks which may ignite stored wastes	Low	• Fire extinguishers are fitted in the cab of all loading plant. • Staff training / toolbox talks. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer.	Low
Hot works	e.g. welding, soldering, cutting, etc. which involve the use of high temperature equipment which may be a source of both primary and residual heat to stored wastes	Medium	• Only trained staff can use ‘hot works’ equipment i.e. oxy-acetylene. • Staff and contractors follow safe working practices including a permit to works system when carrying out hot works. • Daily fire watch for a suitable period after hot works have ended, particularly at the end of a working day.	Low
Industrial heating	Industrial heaters and/or pipework used to heat internal and external areas on site which may, in turn, supply heat to stored wastes increasing the risk of combustion	Low	• There are no industrial heaters on site	Low
Hot exhausts	Potential source of both primary and residual heat to stored wastes	High	• Fire extinguishers are fitted in the cab of all loading plant. • Staff training / toolbox talks for continuous monitoring throughout the day to detect signs of a fire caused by dust settling on hot exhausts and engine parts. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Out-of-hours storage of plant & equipment away from combustible or flammable wastes. • Daily checks for dust and fluff on plant/equipment before and use of equipment.	Low

Source	Risk	Magnitude of Risk / Likelihood	Brief outline of Mitigation (refer to Section 4 for storage/monitoring procedures)	Magnitude of risk / likelihood following mitigation
Build-up of loose combustible waste, dust and fluff	Light waste and ambient particulates with high combustibility settling and building up in key areas in and around plant/machinery and around exhausts	High	• Fire extinguishers are fitted in the cab of all loading plant. • Staff training / toolbox talks for continuous monitoring throughout the day to detect signs of a fire caused by dust settling on hot exhausts and engine parts. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Minimum daily checks for dust and fluff on plant/equipment before and use of equipment at the start/end of each working day.	Low
Hot loads	Imported wastes which may contain materials which are above ambient temperature	High	• All loads are inspected in accordance with strict waste acceptance procedures. • Quarantine area and rejected waste containers on site for quick isolation of load. • No designated storage area for containers as they will moved to areas on site depending on operations.	Low
Overhead power lines	Any overhead power lines on or around the site may ignite in the event of a fire and worsen the effects	Low	• There are no overhead power lines which traverse the site.	Near-zero
Ignition sources	Activities or appliances which use a source of both primary and residual heat to treat waste or manufacturer material or plant/equipment	Medium	• No hot works take place. • There are no space heaters, furnaces, incinerators and sources of ignition will be kept 6 metres away from combustible and flammable waste.	Low
Batteries within waste deposits	Ignition of stored wastes via batteries within imported wastes	High	• All loads are inspected in accordance with strict waste acceptance procedures including wastes received from Kiely Bros. Ltd additional sites. • Quarantine area and rejected waste containers on site for quick isolation of load containing batteries.	Low
Other combustible non-waste materials on or near the site not mentioned above i.e. gas cylinders / LPG tanks	Any combustible non-waste materials on or near the site may ignite in the event of a fire and worsen the effects	High	• All loads are inspected in accordance with strict waste acceptance procedures. • Quarantine area and rejected waste containers on site for quick isolation of load. • Dedicated storage areas for cylinders and LPG tanks on site.	Low
Reaction between wastes	Combustible waste piles may ignite in the event of a fire and worsen the effects if wastes react	High	• All loads are inspected in accordance with strict waste acceptance procedures. • Quarantine area and rejected waste containers on site for quick isolation of load.	Low
Leaks and spillages of oils and fuels	Fuels and combustible liquids leaking or trailing from site vehicles and ELVs can combust or cause accidents leading to combustion	High	• Spill kits available throughout the site. • Suitable and sealed drainage system. • No ELVs accepted into the site • Minimum daily checks for spillages around the site. • Staff training / toolbox talks.	Low
“Tramp” metal	Metal could be hot from mechanical processing and interact with lighter waste causing a fire	High	• The treatment plant will have an overband magnet present which will remove any tramp metal from the waste. • There are no current proposals for any other mechanical treatment of scrap metal.	Low

2.2 Fuel/Oil Storage

2.2.1 The location of fuel storage on site is shown on Drawing No. AMI/918/03 and procedures for fuel storage on site are as follows:

- Tanks are surrounded by a bund capable of containing a minimum of 110% of the volume of fuel stored in the tank.
- All pipework and associated infrastructure will be enclosed within the bund.
- A lock will be fitted to the tank valve to prevent unauthorised operation.
- All valves and gauges on the bund will be constructed to prevent damage caused by frost.
- No combustible waste will be stored within 6 metres of the tank.

2.2.2 The tanks clearly marked showing the product within and also its capacity.

2.3 Other hazardous (non-waste) material storage

2.3.1 There is a dedicated cylinder storage on site as shown on Drawing No. AMI/918/03. The site will not store any other aerosols or combustible liquids and there will be no chemicals present on site. In the event the site needs to store any of these materials they will be stored in a suitable area and this FPP will be updated accordingly.

2.4 Hot works procedure

2.4.1 Hot works can take place in various areas of the site i.e. on fixed plant therefore it is not possible to designate an area for this. The site's hot works procedure permit to work is available on site in the office.

2.5 Smoking policy

2.5.1 Smoking is prohibited in all waste management and storage areas and a designated smoking area is available on site as shown on Drawing No. AMI/918/03.

2.6 Mobile and fixed plant maintenance

2.6.1 All mobile and fixed plant on site including vehicles in the fleet are subject to annual manufacturer maintenance to ensure proper working order in the form of service contracts.

2.6.2 Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis i.e. daily, before, during and 1 hour at the end of each working day using a checklist similar to that in Appendix II to ensure the following:

- Machinery is mechanically sound for use and no presence of black fumes or trailing liquids visible prior to use or following shutoff of plant/equipment.
- Mobile plant is stored in the out-of-hours plant storage area as shown on Drawing No AMI/918/03 following cessation of activities and external separation distances of 6m are observed between plant and any combustible or flammable material.
- In the building, all plant will be powered down and completely shut off prior to cessation of operations on any given day.
- Plant which is not in use for any extended period is stored at least 6 metres from combustible waste.
- All plant and equipment vehicles are fitted with fire extinguishers in the cab. Rubber strips are not considered appropriate as they are usually removed via uneven and bumpy ground.
- Dust from processing/treatment operations on site can settle throughout the working day but the operator has a continuous training regime to prevent this happening. The plant will be cleaned at least once every 12 hours.

2.7 Site security

2.7.1 Site security is shown on Drawing No. AMI/918/03 and is considered suitable to prevent unauthorised access.

2.7.2 The has 24 hour remotely accessible CCTV fitted with full site coverage and on and off-site supervision. Any incidents will be reported to the site manager/TCM or out-of-hours contact of/for the operator who will carry out the actions described in Section 9.3.3.

2.7.3 In addition to the above CCTV, there is an on-site security guard at the from 17:00pm – 07:00am Monday - Friday and 13:00pm – 07:00am – 7am during weekends. These are usually times when the site may not be operational. As this security is in place, the CCTV is not monitored by a third party or benefit from an intruder alert system.

2.7.4 The site security will be inspected on a daily basis and any defects which impair the effectiveness of the security will be repaired to the same or better standard within a timescale agreed with the EA. All repairs will be noted on the site diary within 24 hours of the event. The checklist provides further information.

2.7.5 The security measures at the site are under constant daily review under the site's inspection regime. If unauthorised access becomes apparent as a problem at the site the security measures will be reviewed and improvements implemented.

2.8 Electrical faults or damaged/exposed electrical cables

2.8.1 All fixed wiring electrical cabling on site will be inspected daily by staff and serviced in accordance with Legislation (3/5 years) by fully qualified and certified electrical contractors to undertake both Planned Preventative Maintenance and Reactive Maintenance (under contract) of the following:

a) Fire detection & alarm system;
b) Emergency lighting;
c) Machinery checks / services (as per manufacturers' instructions).

2.8.2 In terms of portable appliance testing (PAT), this will be serviced annually by qualified and certified electrical contractors.

2.8.3 Daily inspections of cabling and electrical panels will be undertaken for the presence of dust and fluff as shown in the daily Fire Checklist and undergo the same cleaning procedures shown in Section 2.3.5. Any potential ignition sources from suspected electrical faults will be isolated and the appointed electrical contractors will be contacted immediately to rectify

the situation. Where possible, staff will immediately remove any stored wastes from the vicinity of the fault area or cable traverse if safe to do so.

3 Waste acceptance procedures

3.1 Acceptance of waste into the site

3.1.1 Strict waste acceptance procedures are in place at the site and the following details will be recorded for every load deposited at the site which has been extracted from Section 3 of the site's EMS:

a) The date and time of delivery.
b) The name and address of the waste producer.
c) The detailed and accurate description of the waste including type, quantity (in tonnes and/or cubic metres) and EWC codes.
d) How the waste is contained e.g. loose, container type.
e) The carrier's name and address.
f) Driver's name, signature and vehicle registration No.
g) Signature or initials of person(s) producing/ accepting/ inspecting/ carrying the waste.
h) Additional handling details/notes made by the driver after inspection of the load.
i) SIC code of the premises which produced the waste (where relevant).
j) Waste hierarchy declaration.
k) Information on previous treatment of the waste e.g. manual or mechanical.

3.1.2 As the waste accepted is from Kiely Bros. Ltd site at Speedwell Road, the waste should not contain any non-conforming or reactive waste. Any wastes identified during the incoming waste inspections which do not conform to site acceptance criteria will be quarantined immediately to await safe removal from site.

3.2 Combustible waste reception

3.2.1 The combustible waste material accepted at the site will comprise mainly:

- **AREA 1 =** EWC code 19 12 12 - residual waste for SRF production
- **AREA 3** = EWC code 17 09 04, 20 03 01 – mixed HCI wastes
- **AREA 4** = EWC code 20 03 01, 20 03 07 – bulky and POPs waste

3.2.2 All waste is expected to arise from the operator's Speedwell Rd site.

4 Managing waste storage to prevent self-combustion and the fire spreading

4.1 General

4.1.1 All waste stored on site will comply with Section 9.1 of the EA's FPP guidance and reference should be made to on Drawing No. AMI/918/04 for details of all waste piles stored at the site. The operator will minimise pile sizes and store waste materials in their largest form as shown below.

4.1.2 The aim for the site operator is to follow a 'first in, first out' principle where incoming waste is sorted and processed on arrival to arrange for its export off site as soon as practicably possible, to minimise over-stocking which in-turn minimises the risk of overheating and spontaneous combustion (albeit that this only applies to a limited number of wastes handled at the site). Therefore, the maximum storage capacities of all wastes as defined in the Waste Storage Table on Drawing No. AMI/918/03 are considered excessive and 'worst-case scenario' to account for plant downtime, holding stock, market fluctuations and closure/suspension of destination sites.

4.2 External heating

4.2.1 No wastes will be stored in external areas of the site so it is considered this section of the guidance will not apply to the site.

4.3 Stored combustible waste/materials

4.3.1 The main wastes accepted and stored on site which have been identified as having combustible potential are summarised in the table overleaf below which is also shown on Drawing No. AMI/918/03 in greater detail. The following table details the maximum pile sizes and duration for all wastes stored on site.

Table 4.1 - Combustible waste storage table

Storage Area Details Table												
Plan Ref	**Description**	**Storage form /containment**	**Height, width (m) & type of firewall**	**Max Length / Width (m)**	**Operational storage height (m)**	**Out-of-hours storage height (m)**	**Approx. Area (m2)**	**Conversion factor used**	**Volume (m3)**	**Tonnes (approx.)**	**Max storage duration**	**Comments**
AREA 1	Tipping / reception area for residual waste (RDF material) >150mm	Free standing / fire wall	3.2m high, 0.8m thick interlocking concrete blocks	20	3	2.2	120	0.75	270	135	<24 hours	The entire pile would be processed during operational hours.
AREA 2	Shredded residual (RDF) waste <300mm	Free standing / fire wall	6, 0.15 / 0.8 & interlocking concrete blocks and concrete panel of building	20	2	2	250	0.5	250	125	<24 hours	The entire pile would be processed during operational hours.
AREA 3	Mixed HIC waste reception and sorting area	Free standing / fire wall	3.2, 15 & 0.8 interlocking concrete blocks	15	2	2	75	0.5	75	37.5	<72 hours	The entire pile would normally be processed during operational hours, 72 hours based on contingency
AREA 4	POPs/bulky waste	Free standing / fire wall	3.2m high, 0.8m thick interlocking concrete blocks	12	3	2	90	0.75	202.5	101.25	<24 hours	POPs would be removed from AREA 3 or segregated from AREA 1 following visual inspections
AREAS 5 - 8	Drying bays for SRF material awaiting removal from site	Free standing / fire wall	4, 0.8m & interlocking concrete blocks	14	4	3	50	0.75	150	75	<7 days	The nature of waste may change the bay. If the waste in the bays is wet, it may be stored for up to 7 days so it can dry naturally.
AREA 9	As above or either POPs / mixed HIC waste	Free standing / fire wall	As above	14	4	3	80	0.75	240	120	<7 days	Overflow drying bay from AREAS 5 - 8 but may also be used as overflow for wastes in AREAS 3 & 4.
AREA 10	Holding bay for processed SRF	Free standing / fire wall	As above	12	4	3	90	0.75	270	135	<7 days	Transferred to drying bays (AREAS 5-8) continuously.
AREAS A - B	Containers of non-ferrous metal removed via eddy current separator	12-cubic yard skips	N/A	3.7	1.86	1.86	10	1	20	10	<7 days	Containers usually removed weekly.
AREA C	Sorted waste containers arising from AREA 3	12-cubic yard skips	N/A	3.7	1.86	1.86	10	1	20	10	<7 days	Containers usually removed weekly.

4.4 Free standing piles

4.4.1 The table on the next page details the waste stored and on site procedures to reduce the risk of the pile combusting (reference should be made to Drawing No. AMI/918/04 for details of the locations of the storage areas):

Table 4.2 – Waste storage and monitoring information

Pile Reference	Storage/monitoring procedures to reduce the risk of fire
AREA 1 Tipping / reception area for residual waste (RDF material) >150mm	• This waste comprises residual waste which has arisen from the mechanical treatment of HCI wastes. • All the waste accepted is from Kiely Bros. site situated at Speedwell Rd and comprises the lighter RDF material which has been separated by mechanical plant and by hand. • As the waste arrives at the site pre-sorted, the risk of any non-conforming loads is considered negligible. • The waste is tipped to the north of the pile then extracted from the south into the shredder meaning the first in first out principle applies. • The waste in this pile will not be stored longer than 24 hours due to the processing capability of the internal processing plant. • As there will be a member of staff continually feeding the waste from this pile into the shredder, it is under constant monitoring throughout the day. • When the site is closed, the on-security guard will carry out a visual check of the pile every two hours. If any signs of fire are detected by the security guard, he/she will contact site management and the FRS directly. • It is considered that no further storage or monitoring procedures are required.
AREA 3 Mixed HIC waste reception and sorting area (AREA 9 may also be used for this bay)	• This area is the main waste reception / tipping area for mixed HCI waste which will be to the rear of the Unit. • Any large visible recyclables will be hand-picked or extracted using the mechanical grab and placed into one of the adjacent storage skips. • Procedures shown for AREAS 5-9 apply to this pile also in terms of detection and suppression. • The building also has open access to the east from which make suppression from the external yard suitable without having to access the building. • In the event of non-conforming or reactive waste was discovered which could lead to a significant (see section 3.2), the waste will be immediately • The areas will also benefit from an hourly patrol by the security guard when the site is closed. • No further storage or monitoring procedures required for this area.
POPs/bulky waste	• This wastes will be large items such as mattresses and other bulky waste and POPs waste. • The same procedures would apply as above as per AREAS 5 – 9 below in terms of detection and suppression. • No further storage or monitoring procedures required for these areas.

Pile Reference	Storage/monitoring procedures to reduce the risk of fire
AREAS 5 – 9 Holding bays/areas for mechanically processed residual waste	• These areas contain the mechanically treated waste which has arisen from **AREA 1**. • The waste in these stockpiles will be tipped at the front of the stockpile and then extracted from the rear of the stockpile to ensure the first in first out principle applies. The stockpiles are therefore dynamic and, given the material throughput of the site, waste will not be stored in this pile for longer than 24 hours; the worst case would be 7 days in the event of instances shown in Section 4.1.2. The waste piles situated inside the buildings are considered as more of holding areas rather than an actual storage area. • There are 6m separation distances between all the waste piles to anything considered combustible or flammable. Where a 6m separation isn't present, the waste is partitioned by a fire wall; details of which are shown in Section 4.6 • There are suitable freeboards as shown in Table 4.1 above and each concrete block measures 0.8m in height so the pile size can be monitored based on the number of blocks. • The piles are visually monitored throughout the day by site operatives and trained personnel who will be trained via toolbox talks in recognition of fire. • Apart from the use of loading equipment no other mechanical processing of waste takes place within 6m of waste piles. • Wastes which have been shredded are continuously monitored throughout the day using a 2m long Stelzner Temperature probe. • Should the piles exceed 70^0F, the pile is monitored hourly and in the event of smoke, flames, the waste pile is pulled down and spread on floor to remove hot pockets. If this doesn't reduce the temperature, the waste is removed to the quarantine area, additional hot pockets removed t and drench manually. The temperature of the pile will be re-tested before it can be stored internally. • In addition to the above, all internal waste piles benefit from an automated smoke detection system which has is installed and maintained by a UKAS Accredited third party. If the detection system activates, this will automatically trigger the fire suppression system installed by a suitably accredited electrical company. • These piles will also undergo monitoring by the security guard as detailed in the row above.

4.5 Waste stored in containers

4.5.1 The table below details the waste types which are stored in containers at the site.

Table 4.3 - Combustible waste storage table for waste stored in containers

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
AREAS A - B Metals	• These areas comprise open topped 12-cubic yard skips which store metal removed from an overband magnet situated within the shredders and eddy current separator. • All containers are stored on the ground and replaced by an empty container once removed off site. • The waste in containers has been sorted so unlikely to contain any hot loads or incompatible waste which could lead to a spark or overheating causing a fire. • The containers will be removed from site within 5-days or sooner if full. • The container is accessible from at least on side and from the top in the event of a fire occurring allowing suitable access for firefighting. • The waste will not exceed the height of the containers. • In the event of a fire breaking out in the containers, all can be dragged into the quarantine area by mobile plant to reduce the spread i.e. to another skip or adjacent waste piles. • See table 4.3 in terms of monitoring by detection and extinguishing by suppression.
AREA C Sorted waste containers	• The waste stored in these containers will comprise sorted wastes arising from AREA 3. • All containers are stored on the ground and replaced by empty containers once removed off site. • The waste in containers has been sorted so unlikely to contain any hot loads or incompatible waste which could lead to a spark or overheating causing a fire. • The containers will be removed from site within 7-days or sooner if full. • The containers are accessible from at least on side and from the top in the event of a fire occurring in the skip to allow access for firefighting. • The waste will not exceed the height of the containers. • In the event of a fire breaking out in the containers, all can be dragged into the quarantine area by mobile plant to reduce the spread i.e. to another skip or adjacent waste piles. • Waste can be visually monitored 24/7 throughout the day by site operatives and CCTV. In addition to the CCTV, the waste will be visually monitored throughout the day by site operatives. • In terms of moving the waste in a fire incident, site management or the FRS will decide on the best course of action from a practical and safety point of view. • No further storage or monitoring procedures required for this area.

4.6 Waste reception building

4.6.1 The waste reception building has an approximate floorspace of 3,550m^2 of which 80m^2 is used as a site office and 415m^2 by a small waste incineration plant meaning the actual operational area of the building measures approximately 3,055m^2. The building is also 10m to the eaves and has a pitched roof making the building approximately 11.5m at its highest

point. The building has 4 no. roller shutter doors which are located to the north and south-east ensuring there is suitable access to suppress waste without having to enter the building. The roller shutters are approximately 5m high and 5m wide.

4.6.2 The largest pile in the building at one time would be approximately 270m^3 of waste material (**AREA 10**).

4.7 Stock rotation and seasonal variations

4.7.1 In the event of destination site closures or seasonal demands for wastes leading to a longer storage duration, the operator can divert incoming waste and send stored waste to two of their alternative sites situated at the following locations:

- EPR/ EB3102XH - 135, Cherrywood Road, Bordesley Green, Birmingham, West Midlands, B9 4XE (10-minute journey).
- EPR/ NP3092FC - 198, Speedwell Road, Hay Mills, Birmingham, West Midlands, B25 8HH. This site is situated about 500m to the west of this site.

4.7.2 The operator also has at least three no. diversion/alternative sites who could take this material including a contract set up with a Waste-to-Energy company who incinerate the SRF produced at the site.

4.7.3 The list of outlets has not been provided due to confidentiality purposes however the contracts will range from weekly – monthly depending on seasonal variations and demand for material.

4.8 External heating

4.8.1 No wastes will be stored in external areas of the site so it is considered this section of the guidance will not apply to the site.

5 Preventing a fire from spreading

5.1 Waste storage general / fire breaks

5.1.1 Combustible waste will be stored as per Drawing No. AMI/918/03 and within the limit of EA's FPP guidance. All stockpiles of stored wastes are detailed in the Storage Area Details table on Drawing No. AMI/918/03 in respect of their description, maximum length and width, area, volume and storage duration.

5.1.2 Fire breaks are clearly shown on Drawing No. AMI/918/03.

5.1.3 The aim of the site is to process the incoming material and arrange for its export off site as soon as practicably possible following sorting to minimise over-stocking which in-turn minimises the risk of overheating and spontaneous combustion which is clearly detailed throughout Table 4.2.

5.1.4 The site will ensure 'first in, first out' principle is met.

5.1.5 **Storage on flat ground**: Site surfaces where wastes are stored are flat and, therefore, reduce the risk of falling materials which would accelerate the spread of fire.

5.2 Freestanding waste piles

5.2.1 All free-standing piles will be stored against or within concrete bays and as staff will be working in these areas on during operational hours so they can report to site management in the event waste is exceeding the bay/wall height. Should this issue arise, site management will inform staff to not tip in these areas until they have been cleared. If the waste cannot be cleared, no waste will be accepted in these areas and the waste will be sent to a diversion site. The site will only accept waste in these areas once the pile size has been reduced to an acceptable level.

5.3 Fire walls and bays

5.3.1 The concrete firewalls on site are constructed to the BS8110 Pt2 'Structural use of concrete Part 2 Code of practice for special circumstances' and BSEN1992-1-2 'Design of concrete structures. General rules. Structural fire design'. In accordance with BSEN1992, the fire resistance of concrete structures over 100mm will have a fire resistance of 1200°C for 4 hours. This means the fire walls:

- Reduce the need for 6m separation distances between different waste piles; and
- Reduce the need to provide a 6m separation from the waste and permit or site boundary.

5.3.2 The table overleaf details the type of wall and demonstrates their properties to:

a) resist fire (both radiative heat and flaming); and,
b) have a fire resistance period of at least 120 minutes to allow waste to be isolated and to enable a fire to be extinguished within 4 hours.

Table 5.1 – Fire wall details and specifications

Firewall type	Width	Site location / use	Specification
Concrete panel wall	0.15m	AREAS 1 & 2	Class A under EN 13501-1:2007+1:20009: Fire classification of construction products and building elements. Classification using test data from reaction to fire tests: concrete structures over 100mm will have a fire resistance of 1200°C for 4 hours.
Concrete interlocking blocks	0.8m	AREAS 7 - 9	Manufactured by JP Concrete who have confirmed they are >120-minute fire resistant.

5.3.3 The above walls are checked throughout the day by staff via daily inspections if any gaps or damage to the walls are present which could compromise their integrity will be repaired and sealed as soon as practically possible.

5.3.4 All waste stored against fire walls will have a suitable freeboard of at least 1m but it is not possible to scientifically calculate the flame height as each waste pile is different and could

contain a number of different sizes/grades of waste leading to a lesser or greater flame height.

5.3.5 The height of the concrete walls which store waste beneath the mechanical recycling plant are lower than the machinery i.e. conveyors so the 1m freeboard will ensure there is a suitable separation to prevent a serious plant malfunction.

6 Site inspection programme

6.1 Daily checks

6.1.1 Daily inspections of all site areas will be undertaken and recorded on the Fire Checklist shown in Annex II or the operators own in house inspection sheets.

6.1.2 Carrying out the above checks daily will keep the levels of dust, fibre, paper and other loose combustible materials, which could aid in the acceleration of a fire, on site surfaces to a minimum and ensure all containment of wastes on site are functioning effectively in accordance with the storage limitations provided in the table on Drawing No. AMI/918/03.

6.1.3 A daily fire watch using the Fire Checklist will monitor the site continually throughout the working day, to detect signs of a fire from hot exhausts or engines and cleaning up of loose combustible waste. The intervals may vary due to site operations but there will be at least one at the end of each working day or prior to shutdown of the activity. Operational staff may be given a dedicated section of the Fire Checklist to ensure they can always monitor throughout the working day. It is estimated the fire watch will take a minimum of 15 minutes but start and end times will be completed using the fire checklist.

6.2 Staff training

6.2.1 Operational staff will be subject to site inductions which includes basic fire emergency procedures by site management. If necessary, a third-party fire consultant will be contacted to carry out additional training.

6.2.2 A full test (drill) of the procedures in this document will be carried out every 12 months to test that the plan works. The first test will take place within one month of the agreement of this document with the EA. The outcome and any follow up training for staff will be documented in the site diary and relevant forms in the EMS. The fire checklist may also be used during the drill.

6.3 Toolbox talks

6.3.1 All operational and out-of-hours staff including the out-of-hours security guard will receive fire awareness training / tool box talks by trained site management to detect early signs of fire and to minimise the chance of a fire breaking out; which will also include the procedures shown in this FPP.

7 Quarantine area

7.1.1 In accordance with the EA's FPP guidance an area has been designated as a quarantine area as shown on Drawing No. AMI/918/03 which is accessible at all times.

7.1.2 The quarantine area measures 150m^2 and waste can be stored to a height of 4m meaning the quarantine area could hold a volume of 200m^3 of material which is more than 50% of the largest stockpile (**AREA 10**).

7.1.3 The waste would be moved using the site's loading shovel. In the event of a breakdown, the operator could source alternative plant from two of their other sites situated within a 5km radius; the nearest being approximately 1km away on Speedwell Road.

7.1.4 In the event of a fire, either area will be used either to isolate wastes which are smouldering to allow safe dissipation of heat without placing other areas on site at risk of ignition. Waste will be moved to either area immediately and within one hour of a fire starting at the latest.

8 Fire detection procedures

8.1 Fire detection procedure (manual)

8.1.1 Operational staff and security guards working on site are trained to recognise the early signs of a fire such as smoulders, smoke, flames, heat and these would be detected by the following:

a) Operational staff via a visual inspection who have detected smoke or flames
b) Staff using a probe where the temperature of waste exceeds the trigger limit of 70^0C
c) The out-of-hours security guard carrying out visual patrols of the site noticing smoke or flames.

8.1.2 If a fire is detected by a member of staff on site, it must be immediately reported to the FRS, EA and site management. The security guard (who is employed by Kiely Bros. Ltd) will be given the out-of-hours contact numbers and be informed of the following procedures below.

8.1.3 The relevant person who has viewed a potential fire incident will then conduct the following procedure:

a) Raise the fire alarm (if not already done by another staff member).
b) Initiate evacuation of staff and visitors on site to the meeting point and instruct delegated person(s) to conduct a roll-call to ensure all site users are accounted for.
c) Call the out-of-hours contact and the FRS depending on the potential scale of the incident.
d) Assess the intensity and scale of the fire and make a judgment as to whether the fire can be managed without the requirement for assistance from the emergency services i.e. using the hose or fire extinguishers.
e) If viable and safe, instruct necessary site staff to commence extinguishment.

8.2 Fire detection procedure (automated)

8.2.1 The waste building on site benefits from a fully automated smoke detection system (Smokecatcher®) which utilises advanced video analytics to detect smoke prior to detection of flames or fire. The system has been installed by Helios Systems who are UKAS accredited. The system runs 24/7 and alarms will sound and automatically notify the out-of-hours contacts/keyholders who can instantly view the footage from the CCTV system and undergo the response procedures detailed in Sections 8.1.3 and 8.3 below. If this system activates, it will automatically trigger the suppression system to drench the piles/machinery in the building as detailed in Section 10.1 below.

8.2.2 The locations of sensors cover the entire building and above all waste storage areas.

9 Fire response procedures

9.1 Fire response procedures

9.1.1 The following procedure would apply if a large fire is detected during operational or out-of-hours following manual or automated detection:

a) Call the Fire Response Service (FRS) immediately using 999.
b) Call the EA's Emergency Contact Number.
c) Prior to the FRS arriving, inform all neighbouring premises likely to be affected.
d) If not previously informed, senior management of the company will be informed at this point of the details, nature and extent of the fire and whether assistance from staff from other depots is required.
e) Ensure access routes are clear.
f) If safe to do so, the TCM or a senior member of staff will inspect the location of the fire, to identify immediate risks to surrounding premises and the FRS.
g) Ensure operators of appropriate machinery are standing by in a safe location to help create fire breaks, under the direction of the FRS when they arrive.
h) Ensure relevant site staff are standing by in a safe location to deploy surface water protection equipment under the direction of the FRS when they arrive.
i) The site manager / TCM will identify themselves to the fire service as soon as they arrive on site and will provide them with a copy of this document and update them with relevant information that will assist them in dealing with a fire more effectively.
j) Implement pollution control measures only when safe to do so.

9.1.2 In the event of the site manager or TCM being absent from the site, the operator will ensure a suitable person is employed and familiar with the site.

9.1.3 The response time for the out-of-hours contact to be at the site and begin implementing the above procedures is 5-10 minutes from notification via the automated system or security guard due to their close proximity from the site.

9.2 Staff/Visitor Response Procedure

9.2.1 The following quick actions will be undertaken by site operatives where a fire is detected or suspected on site:

a) Don't panic
b) Inform the site manager or technically competent manager immediately
c) Raise the alarm (if not done so already)
d) Do not try to tackle the fire yourself unless you are trained in doing so and you are sure of the nature of the fire
e) Leave the site using the nearest exit as quickly and as orderly as possible
f) Assemble at the specified fire assembly point
g) The site manager or delegated operative will be in charge of calling the emergency services on "999" and ensuring that all persons who were working in the building are assembled safely
h) Do not return to the site until you have been given the 'all clear' by the emergency services and/or site management / responsible person.

9.3 Evacuation of Staff (and Drill Procedure)

9.3.1 An evacuation plan has been formulated for the site and all operational staff will be made aware of the actions through site inductions, refresher training, toolbox talks etc.). The fast and effective evacuation of staff to the fire assembly point will increase safety on site and limit the impact of a fire on any persons on site.

9.3.2 Fire drills will take place every 12 months and 1 month after site operations commence to ensure evacuation times are acceptable and that site staff remain informed of evacuation procedures.

9.3.3 The drill will be a simulation of an emergency with the location of a mock fire notified to staff in order to test the response speed in deploying pollution control equipment i.e. including drain mats/plugs and ensure all firefighting equipment is sound. The fire check

form may also be completed and a detailed report of the outcome of the exercise will be prepared to assist with staff training.

9.4 Access for emergency services

9.4.1 The nearest fire station is situated 2.2 miles and the FRS could be at the site and begin fighting a fire within 10 minutes of a call.

9.4.2 The site has direct access from into the site off Amington Road and the width of the surrounding roads and the gateway provide sufficient access onto the site for the FRS.

9.4.3 Access routes for emergency services around the site for firefighting are clearly shown on Drawing No. AMI/918/03.

9.5 Notifying nearby properties

9.5.1 The nearest receptors within 100m of the site i.e. other users of the Industrial Estate will be informed of the fire by employees of the operator by either phone or face to face. In the event other receptors are required to be contacted the FRS, Local Council and EA will be contacted to ensure further properties are informed should the fire become problematic i.e. local business, houses.

9.5.2 In addition, the contact numbers of sensitive receptors identified within 1km of the site (as identified on the sensitive receptors plan will be stored within the sites office), should either the FRS/site management consider that a fire is large enough and causing significant levels of combustion products (i.e. smoke) these receptors will be contacted and advised accordingly. These details are presented in the table overleaf. As it isn't feasible for a contact number to be provided for every individual receptor and individual business within 1km, the most sensitive receptors and closest business receptors have been included within the table overleaf. The contact number for Birmingham City Council has been included as the contact for residential/small business receptors.

Table 9.1 - Contacts for Sensitive Receptors

Contact	Description	Contact number
Birmingham City Council	Contact for residential/small business receptors	Environmental Health - 0121 303 6007
Tarmac	Business as identified on receptors plan	01922 632592
Pathways – Apprenticeship Training	Business as identified on receptors plan	0121 707 0550
Nationwide Care Services Limited	Business as identified on receptors plan	0121 707 0121
Euro Packaging Ltd	Business as identified on receptors plan	0121 706 6181
Rucom Recycling	Business as identified on receptors plan	0121 707 7195
Selco Builders Warehouse Tyseley	Business as identified on receptors plan	0121 706 8009

9.5.3 Once Emergency Services arrive on site i.e. FRS, Police, the lead authority (usually the Police) will co-ordinate a systematic approach to ensure all the relevant sensitive receptors within 1,000m are notified. This will involve via telephone calls, personal visits (knocking on doors). In addition to this, the Emergency Services would also publicise the fire on their Social Media outlets and contact local news websites, radios who can also provide updates on the incident.

9.5.4 The police with the assistance of ECSS and any other attending authority will ensure all relevant properties are informed of the fire event and given clear instructions of the actions they need to take.

10 Suppressing fires & firefighting techniques

10.1 Internal suppression

10.1.1 If the Helios detection system activates, this triggers the fire suppression system. The fire suppression system has been installed to cover all items of mobile/fixed plant inside the building. The suppression system was installed by Hobday Solutions Ltd who are a suitably accredited electrical contractor. The suppression system is linked to fire detection system and if activated, would start to drench the above areas. The sprinklers are linked to the three no. 30,000 litre water tanks to the south of the building which are self-filling by the mains water. When any water is used it, the tanks are re-filled by the mains and stop when approaching fill level.

10.2 Alternative measures

10.2.1 Although the entire building, including waste storage areas does not benefit from automated suppression, it is considered the following measures are considered suitable in ensuring the three FPP objectives are met.

a) The previous FPP was approved without the need of an automated suppression system and the site is not storing or processing any more combustible waste than previous, the only changes are the internal layout and storage areas which are considered a betterment.
b) At all times and particularly for times when the site is closed (i.e. Friday evening/night, Saturday evening/night and Sunday all day) the site will be equipped with an automated smoke detection system as discussed in Section 8.2 which will detect early signs of a fire and contact the nominated out-of-hours contact(s) so an immediate response can be actioned.
c) The fire walls inside the building provide the required >2-hour rating and piles do not exceed the height of the bay due to a suitable freeboard being provided.
d) The site has 24 hour remotely accessible CCTV to prevent arson.

e) The piles in the building are less than half of the 450m^3 limit for combustible wastes in the FPP guidance to limit the burn time of a single stack, thereby reducing the risk of damage to the buildings/fire walls.

f) The maximum duration of storage for waste in the main recycling building 24 hours or 7 days as a worst-case scenario week which is significantly below the 3-month limit specified in the guidance. The risk of self-combustion or deep-seated fires is therefore very low.

g) The operator undertakes continuous monitoring of all piles using a temperature probe to ensure piles stored are kept below the trigger level of 70^{0}F.

h) All waste stored and treated on site arises from Kiely Bros. Ltd Speedwell Road under strict waste acceptance procedures meaning there will not be any reactive or hot waste accepted.

i) All relevant operational staff are trained fire marshals who are suitably trained in carrying out fire risk assessments to minimise the chance of a fire breaking out.

j) The site has access to a number of on-site suppression measures which can be deployed in the event of a fire as an immediate response following the alarm being raised and the mobilisation of appointed fire contact(s) (if safe to do so). These are described further in the section below. The building also has 4 no. roller shutter doors so a fire could be suppressed externally without entering the building.

10.3 Site-wide suppression (including covered area)

10.3.1 There are a number of fire extinguishers located around the site which can be deployed in the event of an incident to tackle the fire or for fire suppression in the intervening time between discovery of the fire and the arrival of the FRS.

10.3.2 There are mains water points located in the buildings and around the site which are shown on Drawing No. AMI/918/03. These water points are connected to 4. No fire hose reels, all of which cover the entire transfer building, these hoses would have a flow of approximately 20 – 30 litres per minute each meaning 80 – 120 litres per minute if all were being used.

10.3.3 The site also benefits from a flocculent mist-air dust suppression system which is not a specific fire suppression system but can be activated in addition to the above measures to cool the waste down.

10.3.4 In terms of the mobile plant comprising shredders, these automatically shutdown if a dangerous temperature is reached, this would be if the engine was overheating to a point which could lead to it combusting. It must be noted all mobile plant is decommissioned 1 hour before the site closes.

11 Water supplies

11.1 General

11.1.1 Section 16 of the EA's FPP mentions the site should have enough water available for firefighting to take place and to manage a worst-case scenario. A worst-case scenario would be your largest waste pile catching fire.

11.1.2 Based on the above scenario, the largest waste pile on site measures <270m^3 (**AREA 10**) which requires 324,162 litres (324m^3) of water to extinguish the fire within 3 hours.

Table 11.1 - Water supply calculations

Maximum pile volume in m^3	Water supply needed in litres per minute	Overall water supply needed over 3 hours in litres	Total water available on/off site in litres
170	170 x 6.67	1,801 x 180	324,162 litres (324m3)

11.2 Adequate supply of water (on site)

11.2.1 The site has the following water supplies on site which have a total of approximately 110,000 litres of water:

a) 4 no. hose reels providing 80 – 120 (combined) litres per minute equating to 20,000 – 21,600 litres over a three-hour period
b) 90,000 litres of water which is linked to the fire suppression system

11.2.2 To make up the difference of 215,000 litres, the site would rely on external supplies of water from the FRS using appliances carrying 1,800 litres of foam/water and fire hydrants within 200m of the site.

11.3 Adequate supply of water (off site)

11.3.1 There are 10 hydrants with bores of approximately 100-150mm within 200m of the site as shown on Drawing No. AMI/918/04.

11.3.2 The nearest fire hydrant situated directly outside of the site has undergone a flow rate test on 13/10/2017 by Severn Trent and measures a maximum 2.1 bar pressure equating to a flow exceeding 2,000 litres per minute surpassing the required 1,801 litres per minute. Severn Trent also confirmed the hydrant was in full working order and no problems were encountered. If the FRS cannot access the waste inside the building, the external tanks used for the fire suppression system could be filled using the FRS hoses once connected to the hydrants.

11.3.3 The operator would not attempt to use these hydrants as they are not professionally trained in doing so.

11.3.4 The total amount of water available to put out a fire for the largest stockpile as described above exceeds the requirements of the EA Fire Prevention Guidelines.

12 Managing fire water

12.1 Drainage

12.1.1 The areas which store combustible waste are either inside the waste transfer building or an impermeably concrete surfaced yard. All surface water from the yard is engineered to fall gully's or the ACO drainage channel which connects to the mains sewer system on Amington Road via a Condor CNS80s/11 Class 1 full retention interceptor. The interceptor is fitted with an alarm and penstock valve which can be shut off in the event of a fire to prevent fire water escaping into the drainage system on Amington Road. Details of the above are shown on Drawing No. AMI/918/03.

12.1.2 Any deviation from the above and an amended FPP will be submitted for approval by the EA and FRS.

12.2 Containment of fire water

12.2.1 In the event of a fire breaking out on site, the immediate response would be initiate the pen stock valve on the interceptor to block the drainage system. All fire water would then be contained on site.

12.2.2 The FRS have a legal requirement to stop any containment entering the drain for 1 hour which would provide sufficient time for the operator to initiate the shut off valve.

12.2.3 The area of the concrete pad within the building measures approximately 3,055m^2. This benefits from buildings walls which would be suitable and capable of containing all fire water.

Table 12.1 - Firewater containment calculation (Internal)

Volume of water (m^3)	Containment area (m^2)	Containment required	Total containment inside building
324	3055	324 / 3055 = 0.106	>0.15 (sealed building and shutters)

12.2.4 The external yard benefits from an impermeably concrete surface which is sealed by a 0.15m kerb and measures 2,815m^2 which also provides suitable secondary containment as per the table below demonstrates.

Table 12.2 - Firewater containment calculation (External)

Volume of water (m^3)	Containment area (m^2)	Containment required	Total (external) containment on site
270	2815	270 / 2815 = 0.09	0.15

12.2.5 All fire water used in the external yard will fall towards the north-western area which is regulated by Birmingham City Council and all water would pool in this area before entering the interceptor which measures 6,255mm in by a 2,600mm diameter creating an additional storage volume of 33m^3. The penstock valve fitted to the interceptor would be shut during a fire event to ensure that fire water remains on site and doesn't discharge to the mains sewer on Amington Road.

12.3 Removal of fire water

12.3.1 Any standing fire water would be pumped using a hired in vacuum tanker and deposited to a suitably permitted site for treatment.

13 During and after an incident

13.1 Contingency Planning

13.1.1 In the event of a fire the site will cease accepting waste. All customers who wish to deliver wastes during a fire will be notified by site admin staff and any who arrive without prior notification will be turned away. If urgent, deliveries will be directed to an alternative waste site; details of which can be found on the EA's public register or other permitted sites operated by Kiely Bros. Ltd.

13.1.2 No waste will be accepted on site until the post-fire site recovery procedures outlined in the section below have been fully implemented and the site is authorised to re-open for trade and waste acceptance.

13.2 General recovery procedure

13.2.1 When the fire has been successfully dealt with the following actions will take place:

a) All fires will be reported to the EA on the working day that they occur and will be confirmed in writing by email or letter within 24 hours (unless in extenuating circumstances), including all steps taken by site staff, management and/or emergency services to deal with the fire.
b) Removal of burnt material using appropriate and lawful disposal.
c) Investigation into the cause of the fire, to ensure it does not reoccur.
d) A review of the FPP and EMS, associated amendments will be implemented.
e) Review of any additional training requirements for site personnel as a result of the incident.
f) All fire extinguishers used to tackle the fire will be serviced and replaced after use.

13.2.2 In addition to the abovementioned procedures, the sections below outline specific procedures following a fire.

13.3 Site decontamination

13.3.1 Surface water on site will be cleared using the following method:

a) Using a bowser, all standing fire water, including the interceptor will be sucked up and taken off site or stored in a tank/bowser prior to removal off site.
b) Using all available resources, manually clean out surface water gullies removing the debris to the pile of fire damaged waste for removal to landfill or permitted site.
c) Using a road sweeper, sweep the yard (damp as required using the bowser) until all ash and clinker has been removed.
d) All debris has now been isolated and all contaminated water holding areas have been cleaned and emptied.
e) Wash the yard down in entirety using clean water or allow a reasonably heavy rain shower to wash the yard down.
f) It is at this stage that site management should decide whether it is appropriate to remove the surface water protection measures or repeat areas of the clean-up.

13.3.2 If the clean-up operation has been deemed complete, the surface water protection measures can now be removed. This will be achieved using the following methods:

a) Remove any temporary bungs/valves/pen stocks
b) Surface water discharge from the site is now possible the next time it rains to discharge sewer. Ensure that surface water checks are made during the next rainfall event to validate that clean-up has been undertaken satisfactorily. Record all findings and actions in the site diary.
c) Account for all consumables that have been used in the fire and re-order / replace immediately.
d) Restack, and re-locate all items used for the surface water protection during the fire to their storage locations ready for future deployment.
e) Check monthly that items are still present and correct and still serviceable for use in an emergency.

13.3.3 The operator will liaise with the EA throughout the event ensuring they are satisfied with the clean-up programme and notify the operator when the site can begin accepting waste again onto site.

13.3.4 Due to the nature of the site's customers, there are no regular waste contracts which need to be dealt with if the site is closed for a period of time due to any incidents.

13.4 Post fire site recovery

13.4.1 If a recovery procedure is required, the operator would instigate the following;

a) Remove damaged material to a permitted facility that is able to deal with it legally.
b) Ask engineers to carry out repairs on any plant, vehicles and/or infrastructure.
c) Assist the FRS with the fire investigation and where necessary engage the advice from a professional fire consultant.
d) Review the FPP and EMS procedures and improve upon if deficient.
e) Review training requirements for staff.
f) Assess whether further preventative measure could be implemented.
g) Ensure all fire equipment, where used, is replenished.
h) Remove fire water to a permitted facility for disposal.

- .

Appendix I

Drawings

Storage Area Details Table												
Plan Ref	**Description**	**Storage form/ containment**	**Height, width (m) & type of firewall**	**Max Length / Width (m)**	**Operational storage height (m)**	**Out-of-hours storage height (m)**	**Approx.. Area (m2)**	**Conversion factor used**	**Volume (m3)**	**Tonnes (approx.)**	**Max storage duration**	**Comments**
AREA 1	Tipping / reception area for residual waste (RDF material) >150mm	Free standing / fire wall	3.2m high, 0.8m thick interlocking concrete blocks	20	3	2.2	120	0.75	270	135	<24 hours	The entire pile would be processed during operational hours.
AREA 2	Shredded residual (RDF) waste <300mm	Free standing / fire wall	6, 0.15 / 0.8 & interlocking concrete blocks and concrete panel of building	20	2	2	250	0.5	250	125	<24 hours	The entire pile would be processed during operational hours.
AREA 3	Mixed HIC waste reception and sorting area	Free standing / fire wall	3.2, 15 & 0.8 interlocking concrete blocks	15	2	2	75	0.5	75	37.5	<72 hours	The entire pile would normally be processed during operational hours, 72 hours based on contingency
AREA 4	POPs/bulky waste	Free standing / fire wall	3.2m high, 0.8m thick interlocking concrete blocks	12	3	2	90	0.75	202.5	101.25	<24 hours	POPs would be removed from AREA 3 or segregated from AREA 1 following visual inspections
AREAS 5 - 8	Drying bays for SRF material awaiting removal from site	Free standing / fire wall	4, 0.8m & interlocking concrete blocks	14	4	3	50	0.75	150	75	<7 days	The nature of waste may change the bay. If the waste in the bays is wet, it may be stored for up to 7 days so it can dry naturally.
AREA 9	As above or either POPs / mixed HIC waste	Free standing / fire wall	As above	14	4	3	80	0.75	240	120	<7 days	Overflow drying bay from AREAS 5 - 8 but may also be used as overflow for wastes in AREAS 3 & 4.
AREA 10	Holding bay for processed SRF	Free standing / fire wall	As above	12	4	3	90	0.75	270	135	<7 days	Transferred to drying bays (AREAS 5-8) continuously.
AREAS A - B	Containers of non-ferrous metal removed via eddy current separator	12-cubic yard skips	N/A	3.7	1.86	1.86	10	1	20	10	<7 days	Containers usually removed weekly.
AREA C	Sorted waste containers arising from AREA 3	12-cubic yard skips	N/A	3.7	1.86	1.86	10	1	20	10	<7 days	Containers usually removed weekly.

Scale Bar (1:250)
0 m 10 m 20 m

Point source emission to water
Discharge to mains sewer
0.15m kerb & 2.4m palisade fencing
3.0m palisade fencing on 0.3m kerb
HYDRANT B = 57m from site access
HYDRANT A = 55m from site access
WOOD SHREDDING AREA
Interceptor (fitted with alarm & penstock)
Drying containers for washed fines i.e. sand, minerals
Wood storage prior to shredding
Out-of-hours mobile plant storage
Two no. 30,000 litre water tanks providing fire suppression to the SWIP building
3 no. drying floors containing washed stone and aggregate
Walk in fuel store for boiler feed
Roller shutter door
SWIP PLANT / BOILER ROOM
Roller shutter door (closed)
150m² / 200m³ quarantine area
Roller shutter door
Site access / egress
3.0m palisade fencing on 0.15m kerb
Barrier to protect tanks and building
Substation
Fenced
Two no. 30,000 litre tanks to feed APPS UK dust suppression system inside the building
Offices
HGV fueling area
AREA 10
AREA 9
AREA B
AREA B
Eddy current separator
Fan
Fan blows waste into the bay (AREA 9)
Splay of dust suppression nozzles
Security hut
Ad Blue
Cylinder storage
DERV tank
Proposed covered area comprising waste tipping
2.4m palisade fencing comprising whole of eastern boundary
3.2m high interlocking block wall
AREA 8
AREA 7
AREA 6
AREA 5
AREA 1
Trommel
Shredder
Shredder
6m separation distance maintained when site is not operational
Access open
Loading area (waste loaded from AREA 1 into conveyor feeding the shredder)
AREA 2
AREA 4
AREA C
AREA 3
Boundary edge secured by building cladding (6m high) and 3.2m high interlocking block wall
Shredder
Loading area
Barrier to protect tanks and building
Roller shutter door
0.15m kerb & 2.4m palisade fencing
0.15m kerb & palisade fencing
0.15m kerb & 2.4m palisade fencing
Three no. 30,000 litre tanks to feed dust and fire suppression system inside the building
0.15m kerb
0.15m kerb
Amington
El Sub Sta
Grand Union Canal
MoP

KEY:
- Permit boundary
- Area regulated by Birmingham City Council
- Permitted waste storage areas
- Temporary waste storage area (continuously moving)
- Non-waste storage areas
- Waste storage buildings
- Covered areas
- Concreted areas
- Stone surface (free-draining)
- Other buildings (offices, etc.)
- Unsurfaced areas
- Spill kit
- Mains water / hose reel connections (20m length)
- Fire fighting equipment (extinguishers, etc.)
- Plant shutoff
- Access routes for emergency vehicles
- 0.3m thick concrete panel fire walls
- 0.8m thick interlocking legio block fire walls
- Fire alarm
- Foul (dirty water) drainage
- Surface water drainage
- Drainage fall direction
- Designated smoking area
- Fire water containment equipment
- CCTV camera locations (locations indicative)
- Smoke detection camera points
- Dust & odour monitoring points
- Dust suppression nozzles
- Suppression system coverage/splay (indicative)
- Fire hydrant locations (indicative)

Compass Wind Rose for Station at Birmingham / Airport (EGBB) Period 1973 - 2022

NOTES
Drawing for indication only. Reproduced with the permission of the controller of H.M.S.O. Crown copyright licence No. 100022432. This drawing is copyright and property of Oaktree Environmental Ltd

REVISION HISTORY

Rev	Date	Init:	Description:
-	13.9.19	CP	Initial Drawing
A	02.8.17	CP	Amended for re-submission to EA
B	9.10.17	CP	Amended re. dust mitigation
C	17.9.19	CP	Amended for permit variation
D	11.11.19	CP	Amended for permit variation
E	19.12.19	CP	Amended for permit variation
F	23.01.23	CP	Updated for infrastructure changes
G	06.03.23	CP	Application copy
H	14.03.24	CP	Updated following infrastructure changes
I	03.05.24	CP	EA comments

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

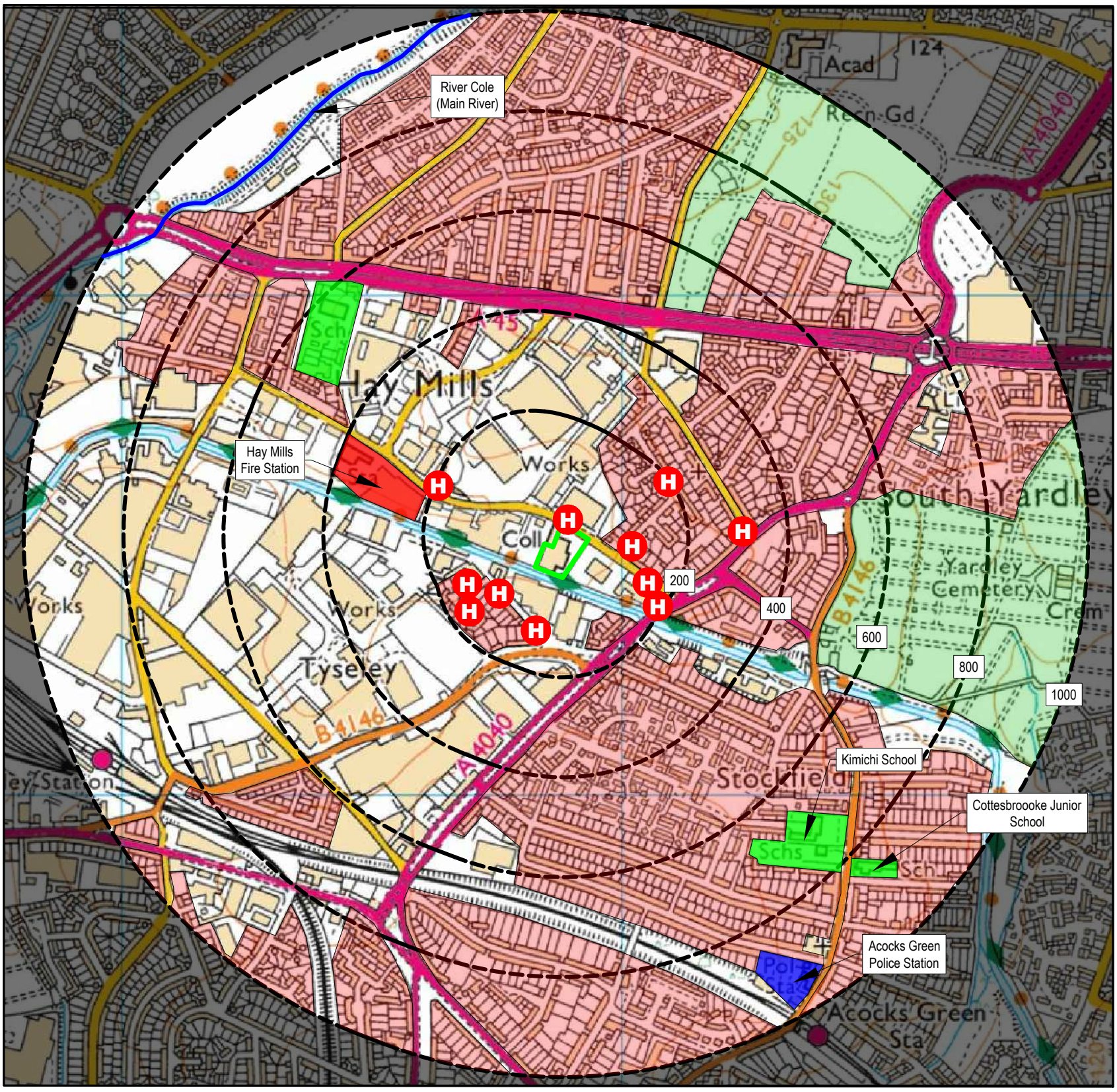
DRAWING TITLE
SITE LAYOUT & FIRE PLAN

CLIENT
Kiely Bros. Ltd

PROJECT/SITE
101 Amington Road, Birmingham B25 8EP

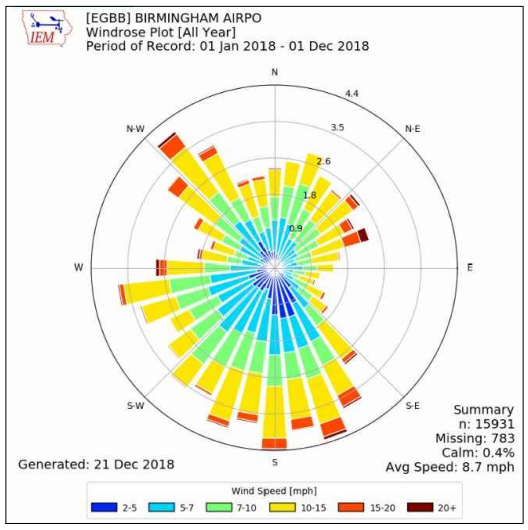
SCALE @ A1	JOB NO	CLIENT NO
1:250	012	918
DRAWING NUMBER	**REV**	**STATUS**
AMI/918/03	I	Issued
DRAWN	**CHECKED**	**DATE**
CP	--	03.05.24

Lime House, Road Two, Winsford, Cheshire, CW7 3QZ
t: 01606 558833 | e: sales@oaktree-environmental.co.uk



KEY:

- Permit boundary
- Surface water body (river / stream / pond / pool / lake)
- Residential blocks / workplaces
- Woodland habitats
- Fire hydrant minimum 100mm bore
- Main river (River Cole)
- Mixture of retail, commercial, and industrial premises
- Recreational / green areas
- Mixture of A, B, C roads
- Railway line



Compass Wind Rose for Station at Birmingham / Airport (EGBB) Period 2018

Scale Bar (1:10,000)

0 m 500 m 1000 m

Oaktree Environmental Ltd
Waste Management and Environmental Consultants
Unit 5, Oasis Park, Road One
Winsford Industrial Estate
Winsford, Cheshire CW7 3RY
Tel: 01606 558833 Fax: 01606 861182
E-mail: sales@oaktree-environmental.co.uk

Client: Kiely Bros. Ltd			
Site: 101 Amington Road, Birmingham B25 8EP			
NGR: SP 11878 84501			
Date: 19 September 2019		Printed At: A3	
Title: RECEPTOR PLAN	Scale: 1:10,000	Revision: A	Drawn By: CP
Drawing No: AMI/918/04	Client No: 918	Job No: 4146	Checked:

Notes:

(1) Boundaries of designated sites (habitats and protected sites) are shown indicatively.
(2) Wind rose data shows the prevailing wind direction from the south.

Revision Details:

Rev:	Description:	Date:
-	Initial drawing	19/06/17
A	Updated for permit variation	17/09/19

Appendix II

Record Keeping Forms

KIELY BROS. LTD
SITE INSPECTION FORM

DAY												
TYPE OF INSPECTION												
TIME OF INSPECTION (START)												
TIME OF INSPECTION (FINISH)												
SITE ENTRANCE/NOTICE BOARD												
SECURITY - GATES												
SECURITY - FENCING												
SITE ROADS (CLEAR FROM HAZARDS)												
IMPERMEABLE CONCRETE AREAS (INTEGRITY)												
BUND AROUND CONCRETE PAD (INTEGRITY)												
INTERCEPTOR												
WASTE CONTAINERS & BAY WALLS												
WASTE STORAGE LIMITS	CONTAINERS											
WASTE STORAGE LIMITS	UNPROCESSED											
WASTE STORAGE LIMITS	PROCESSED											
COMBUSTIBLE WASTES (AWAY FROM POTENTIAL IGNITION SOURCES)												
REJECTED WASTE TYPES / STORAGE												
FIRES (ANY INCIDENTS REPORTED)												
QUARANTINE AREA CLEAR OF WASTE												
NO SMOKING SIGNS IN PLACE												
FIRE DETECTION SYSTEM FUNCTIONING												
FIRE SUPPRESSION SYSTEM FUNCTIONING												
WATER TANK CAPACITY CHECK												
FIRE FIGHTING EQUIPMENT												
FIRE BREAKS IMPLEMENTED												
PLANT/EQUIPMENT MAINTENANCE CHECKS												
HOT EXHAUSTS FIRE WATCH (DUST/FLUFF CLEANED REMOVED)												
SPILLAGES OF OIL/LIQUIDS CLEARED												
OFFICE/WELFARE FIRE RISKS CHECKED												
ELECTRICAL APPLIANCES AND CABLING CHECK												
FUEL TANK/BUND												
RECORDS												
COMPLAINTS RECEIVED												
OTHER (SEE NOTES BELOW)												
INSPECTION CARRIED OUT BY												

NOTES/ACTION (CONTINUE ON A SEPARATE SHEET IF NECESSARY):

CHECKED BY		**SIGNATURE**	
POSITION		**DATE**	
Sheet		***of***	

KIELY BROS. LTD
REVENTATIVE MAINTENANCE CHECKLIST

CHECKED BY	POSITION
DATE	DATE OF LAST CHECKLIST

	EQUIPMENT ITEM					
OFFICIAL MAINTENANCE CHECK REQUIRED (Y/N)						
IF NO, DATE OF LAST CHECK						
IF YES, DATE OF NEXT CHECK						
IS ITEM IN CORRECT WORKING ORDER						
LEAKAGES OF OIL/DIESEL ON MOBILE PLANT / VEHICLES						
IF NO, WHAT REPAIRS ARE REQUIRED (USE SEPARATE SHEET IF REQUIRED)						
WERE REPAIRS DETAILED ON THE LAST CHECKLIST						
IF YES, HAVE THEY BEEN CARRIED OUT						
ADDITIONAL REPAIRS OR ACTIONS REQUIRED						

KIELY BROS. LTD
EMPLOYEE TRAINING NEEDS ASSESSMENT / REVIEW - KBL/RF/6

EMPLOYEE NAME				**DATE COMPLETED**			
POSITION				**REVIEW DUE**			
TRAINER				**OUTCOME**	**PASSED**		
POSITION					**FURTHER TRAINING REQUIRED**		
CARRIED OUT /SIGN OFF >	**Y/N**	**SIGNED BY EMPLOYEE**	**SIGNED BY TRAINER**		**Y/N**	**SIGNED BY EMPLOYEE**	**SIGNED BY TRAINER**
ENVIRONMENTAL PERMIT				**FIRE PREVENTION PLAN**			
MANAGEMENT SYSTEM				**FIRE SAFETY**			
SITE RULES				**EMERGENCY PROCEDURES**			
RECORD KEEPING / TRANSFER NOTES				**STORAGE /PILE SIZE LIMITS**			
RECOGNITION OF WASTE TYPES				**STORAGE DURATION**			
SECURITY				**FIRE DETECTION**			
VEHICLE CHECKS				**FIRE ALARMS**			
PLANT OPERATION				**FIRE FIGHTING EQUIPMENT**			
PLANT CHECKS				**FIRE WATER CONTAINMENT MEASURES**			
AMENITY - LITTER, ODOUR, PESTS etc.				**SPILL CLEARANCE**			
NOTES AND ACTIONS:							