FIRE PREVENTION AND MITIGATION PLAN

Spencer Trading Estate, Rhyl Road, Denbigh LL16 5TQ

C A D Recycling Ltd

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1.0	10/04/2018	CP	--	Initial draft
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THIS DOCUMENT IS DUE FOR REVIEW IN **APRIL 2020** OR AS A RESULT OF ANY INCIDENTS WHICH MAY LEAD TO THE REQUIREMENT FOR IMMEDIATE REVIEW, WHICHEVER IS THE SOONER

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Site Information & Key Contacts List

Site Address:	**Spencer Trading Estate**, Rhyl Road, Denbigh LL16 5TQ		
Site Operator:	C A D Recycling Ltd	**National Grid Ref:**	SJ 05806 66925

CONTACT	DESCRIPTION	OFFICE HOURS	OUT OF HOURS
Mike Hogan Tony Sykes	Directors	01492 545954	07944 373540 (Dave Driver)
TCM	Tony Sykes & Dave Driver	01492 545954	07944 373540 (Dave Driver)
Denbigh Community Hospital - Ruthin Road, Denbigh, Denbighshire LL16 3ES	Minor Incidents Unit	01745 818100	999
Glan Clwyd Hospital Rhuddlan Road, Bodelwyddan, Rhyl, Denbighshire LL18 5UJ	Local NHS Hospital (Main)	01745 583910	999
	Accident & Emergency (A&E)	111	999
Beech House Surgery 69 Vale Street, Denbigh Denbighshire LL16 3AU	Local Doctor Surgery (GP)	01745 812863	999 or 112
North Wales Police Ffordd Y Graig, Denbigh LL16 3YB	Local Police Non-Emergency	101, or; 0845 6071002	
	Police Emergency	999	999
North Wales Fire and Rescue Service Denbigh Fire Station, Smithfield Road, Denbigh LL16 3RG	Fire and Rescue Service (in Emergency Dial 999)	01745 812250	999 or 112
Natural Resources Wales Clawdd Newydd, Ruthin Denbighshire LL15 2NL	Environmental Regulator	0300 065 3000	0300 065 3000
Denbighshire County Council	Local Planning Authority	01824 706000	01352 752121
	Environmental Health Dept.	01824 706000	01352 752121
Dwr Cymru Welsh Water	Local Water Supplier / Sewerage Provider	01490 420208	0800 052 0130
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1 Introduction

1.1 Fire prevention objectives

1.1.1 This Fire Prevention & Mitigation Plan (FPMP) has been designed to satisfy Natural Resources Wales' (NRW) - Waste Management; Guidance Note 16 published July 2017 to:

- Minimise the likelihood of a fire;
- Reduce impact from emissions during or after a fire on the local community, critical infrastructure and the environment;
- Ensure suitable resources required by the NRW and other emergency responders are available during an incident; and,
- Identify post incident clean-up and remediation costs.

1.2 General site information

1.2.1 This document considers the risks associated with fire on site at Spencer Trading Estate, Rhyl Road, Denbigh LL16 5TQ. The main purpose of the site is for the acceptance and recycling of mixed household, industrial and commercial (HIC) waste and dry mixed recyclables (DMR) from municipal sources including waste mattresses. Treatment operations which are expected to take place will be sorting (by hand and mechanical), separation, compaction, shredding, baling and storage for onward recovery.

1.2.2 In addition to this document, the site will be operated by C A D Recycling Ltd in accordance with a fully comprehensive Environmental Management System (EMS) and a SR2008No3 Environmental Permit regulated by NRW.

1.2.3 All site staff should be provided with a copy of this FPMP and be aware of where it is located on site in order to:

- prevent a fire occurring; and,
- know what to do during a fire if one breaks out.

1.2.4 This FPMP will be located in the 'Emergency Services Box' located near the site entrance as shown on Drawing No. SPE/2411/03 in Appendix I.

1.3 Staffing and management

1.3.1 The table below details the staff structure of the site when operating at full capacity. Positions in bold italic print below are 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.

Position	**Employees**	**Responsibilities**
Site manager / Technically Competent Manager	1 ***(1)***	Ensuring that the site is being operated in accordance with the Environmental Permit and in-line with attendant regulations
Administrative Staff	5 ***(1)***	Office / administrative duties
Health & Safety / Traffic Co-coordinator	1 ***(1)***	Ensuring site safety and co-ordinating plant/vehicle traffic flow
HGV Drivers and Loaders	6 ***(2)***	Waste handling / reception and movement
Plant Operatives / Forklift Drivers	6 ***(2)***	Waste handling / reception and movement
Mattress Recycling Staff	11 ***(2)***	Mattress handling / reception, sorting/dismantling and movement

1.4 Plant and equipment

1.4.1 The table overleaf details the plant/equipment on site. Only trained operators will be permitted to drive/operate the plant/equipment listed below.

Item	Number	Function
Loading shovel (skid steer)	1	Loading/unloading/movement/sorting
360° excavator / crane grab	1	Loading/unloading/movement/sorting
Hopper	1	Mechanical waste loading/treatment
Trommel	1	Mechanical waste treatment
Picking Line	1	Manual segregation of wastes
Mattress recycling balers	3	Baling of waste
Baler	2	Baling of waste
Bale wrapper	1	Baling/compaction of waste
Forklift	2	Loading/unloading/movement/sorting
Dust extraction system	1	Dust extraction from mattress recycling
Weighbridge	1	Determine load weights in/out
Refuse Collection Vehicles (RCVs)	4	Delivery/removal of waste
Luton Vans	3	Delivery/removal of waste

1.4.2 All site staff and contractors must be aware and understand the contents of the FPMP and know what to do in the event of a fire.

1.4.3 This FPMP document will be kept in the site office the location of which is shown on Drawing No. SPE/2411/03.

1.5 Hours of operation

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

Monday to Friday	07:00 - 19:00 hours
Saturday	07:00 - 14:00 hours
Sundays	Closed
Bank/Public holidays	07:00 - 19:00 hours

1.5.2 Maintenance work may be carried out during out-of-hours.

1.6 Correspondence with Fire and Rescue Service

1.6.1 North Wales Fire and Rescue Service (FRS) were contacted in the preparation of the FPMP review with a view to obtaining details regarding the nearest hydrants in the proximity of the site.

1.6.2 C A D Recycling Ltd will seek a two yearly response from NRW and FRS (or sooner should a fire incident occur) with regards to their FPMP 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 Sensitive receptors

1.7.1 A Sensitive Receptors Plan has been provided at Appendix I to highlight all main receptors within 1,000m of the site.

1.7.2 There are no protected habitats, groundwater source protection zones, boreholes, wells, springs supplying water for human consumption located within 100m of the site.

1.7.3 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 (as per Section 1.1 above). These measures will ensure the potential impact on any of the surrounding land is as minimal as practicably possible.

1.7.4 The primary sensitive receptors for any fire event would be the site itself and any site users and the adjacent sites and their users.

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:

Source	Risk	Specific 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	Site security measures are detailed in Section 2.6 and shown on Drawing No. SPE/2411/03
Plant or equipment	e.g. spillages of fuel, sparks from machinery or malfunction caused by ineffective maintenance	All items of plant are subject to the preventative maintenance checklist as detailed in Section 2.5 and stored 6m away from combustible materials when the site is closed.
Electrical appliances and cabling	Faulty appliances or damaged/ exposed electrical cables may spark as a result of a power surge	All electrical equipment is serviced and maintained by a suitably qualified electrician.
Discarded smoking materials	Risk of ignition of stored wastes from smoking materials which have not been fully extinguished	The site has a strict no smoking policy.
Open burning on site or on adjacent sites	Risk of ignition from radiative heat or flaming from open burning on site or an adjacent sites	There is no open burning on site, all staff are suitably trained and regular checks take place 2/3 times a day.
Overheating of stored waste	sources of heat may include heating pipes, hot exhausts, light bulbs, space heaters or direct sunlight	Stored wastes will be visually inspected throughout the day and turned as necessary to prevent the formation of 'hot spots'.
Sparks from loading buckets/shovels	Scraping of loading buckets/shovels causing sparks which may ignite stored wastes	Fire extinguishers are fitted in the cab of all loading plant.

Source	Risk	Specific mitigation
Fireworks/Chinese lanterns	Ignition of stored wastes from either of these two sources	All piles / stacks of combustible wastes are within the limits shown within the NRW's FPMP guidance and remotely accessible CCTV and on site fire-fighting equipment can be used to reduce the spread of fire. All stacks, bays and containers containing combustible wastes are individually accessible should an incident of this nature occur.
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	Any hot works will be carried out in strict accordance with a Permit to Work and approved by company authorised personnel
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	There are no industrial heaters (or associated pipework) used at the site.
Hot exhausts	Potential source of both primary and residual heat to stored wastes	Daily fire watch and the preventative maintenance ensure the risk is minimised.
Loose material build up around plant/machinery and exhausts	Light waste and ambient particulates with high combustibility settling and building up in key areas in and around plant/machinery and around exhausts	Plant / equipment is monitored daily as per the checklist and dedicated site staff cleaning the areas around plant and equipment. Shift teams at end of each shift clean the area around the equipment they have been working on and ensure the equipment is clear of all debris and material.
Hot loads	Imported wastes which may contain materials which are above ambient temperature	All loads are inspected in accordance with our waste acceptance procedures. If such loads arrive at site they are intercepted by site operatives who will refuse the acceptance of the waste. They will then if necessary be directed to the quarantine area to ensure the material does not pose a concern/fire risk to the site. The material will if required be treated to ensure the risk of fire is completely negated.
Overhead power lines	Any overhead power lines on or around the site may ignite in the event of a fire and worsen the effects	There are no overhead power lines which traverse the site.

2.2 Fuel storage

2.2.1 Fuel tanks are stored externally onsite as shown on Drawing No. SPE/2411/03. Diesel fuel tanks which are stored on site are surrounded by a bund capable of containing a minimum of 110% of the volume of fuel stored in the tank.

2.2.2 All pipework and associated infrastructure is enclosed within the bund.

2.2.3 A lock is fitted to the tank valve to prevent unauthorised operation.

2.2.4 All valves and gauges on the bund are constructed to prevent damage caused by frost.

2.2.5 The tank is clearly marked showing the product within and also its capacity.

2.3 Smoking policy

2.3.1 Smoking of cigarettes and e-cigarettes is prohibited on site.

2.3.2 Employees who wish to smoke may do so in their own time during lunch breaks at a location outside of the site.

2.3.3 Managers will be responsible for the promotion and maintenance of the no smoking policy by their staff. Managers will receive training and guidance regarding their responsibilities in relation to the policy and enforcement of it.

2.3.4 Employees should inform the appropriate manager immediately if anyone fails to comply with the policy.

2.3.5 Employees not complying with the policy will be referred to their manager for support subject to the usual disciplinary procedure.

2.3.6 Visitors not adhering to the policy will be asked to comply or leave the site.

2.3.7 All job applicants will be made aware of the policy via application packs, where a requirement to abide by it will be part of the person specification. Applicants will be reminded of the policy at interview stage.

2.3.8 A copy of the policy will form part of new employees' induction packs. Training and guidance on enforcing the policy will form part of new managers' induction process.

2.3.9 The policy will be reviewed every 12 months.

2.4 Plant and equipment maintenance

2.4.1 External separation distances of a minimum of 6m will be observed between loading plant and stored material when the site is not staffed. Plant which is not in use for any extended period will be stored on the neighbouring site to the south.

2.4.2 Bucket and wheeled loaders will contain fire-fighting equipment in the cab.

2.4.3 Mufflers will be fitted onto hot exhausts to ensure sources of ignition from plant/equipment are reduced to a minimum.

2.4.4 Dust from processing/treatment operations on site can settle at the end of the shift / working day onto hot exhausts and engine parts so a fire-watch will be implemented after cessation of works. Any build of dust/fluff will be removed from the equipment by using manual techniques i.e. hose/brush and comments noted in the inspection sheet shown in Appendix II.

2.4.5 Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis to ensure, where possible, the machinery is mechanically sound, as described in the section below.

2.5 Preventative Maintenance

2.5.1 All items of plant and equipment listed in Section 1.4 are subject to preventative maintenance checks to ensure their safe operation and to prevent any potential situations

which may give rise to faults or malfunction. A preventative maintenance and fire checklist is shown in Appendix II of this FPMP.

2.5.2 Much of the plant and equipment on site and all vehicles in the fleet are subject to annual manufacturer maintenance to ensure proper working order in the form of service contracts. Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis i.e. daily, before, during and at the end of each working day to ensure where possible, the machinery is mechanically sound. These checks will be carried out using the preventative maintenance checklist shown in Appendix II and any results which are flagged as needing attention will also be recorded in the site diary.

2.5.3 All fire extinguishers on site are checked monthly to ensure they are fit for purpose and the suppression system in Units 4 & 5 is also checked monthly.

2.6 Site security

2.6.1 The site security infrastructure is detailed on Drawing No. SPE/2411/03 and is considered ample.

2.6.2 External security consists of:

- 24 hour remotely accessible CCTV with on and off site supervision. The CCTV system is also fitted with passive infrared (PIR) sensors and any unusual activity sends an alarm to the 3 no. out-of-hours fire contacts who can be at the site within 5 minutes of a call. the CCTV system can also be accessed externally via mobile phones and IPad. The CCTV system is installed throughout the entire site including all buildings, workshops and offices and maintained by a UKAS accredited security company.
- 24 hour manned security guard who will inspect the site at regular intervals i.e. minimum of 1 hour for signs of unauthorised access and signs of a fire occurring.

2.6.3 The site security measures will be inspected on a daily basis and any defects which impair the effectiveness of the security will be repaired by the end of the working day. If this is

not possible, temporary measures will be put in place to ensure no unauthorised access to the site can be gained until the proper repairs can be carried out as soon as practicably possible.

2.6.4 If unauthorised access becomes apparent as a problem at the site the security measures will be reviewed and improvements implemented.

3 Preventing self-combustion

3.1 General & manage storage time for combustible wastes

3.1.1 The site will reduce the risk of self-combustion by ensuring good stock rotation. Incoming material to the site is accepted as detailed below:

3.1.2 **Units 4 & 5** – Consists of waste mattress recycling where they delivered by RCV or Luton Van delivered to Unit 5 whey they tipped and stored on top of each other in a free standing pile against a concrete fire wall (Piles 2B i - iii) prior to processing. The mattresses are then delivered to Unit 4 by hand or forklift truck and undergo manual dismantling. The mattress is torn apart using hand tools and the metal springs are then transferred to areas 2C & 2D where they are temporary stored prior to undergoing baling. The baled springs which are non-combustible are stored temporarily in Area 1A prior to removal off site. The other contents of the mattress i.e. foam, cotton are then transferred to the appropriate baler. Once baled, they are removed from the building and stored externally in containers 3A, 4A or 5A. Full mattresses are stored for no longer than 2 weeks and once the contents have been sorted and processed, the processed material is removed from the site within 24 hours.

3.1.3 **Unit 6** – Designated exempt area for hazardous WEEE storage i.e. fridges, batteries and paint tins containing inks and liquids. This waste be manually deposited into a separate container i.e. IBC for each different waste inside the Units and stored in a line of two to ensure access is available (Areas 8A & 8B). Once the containers reach capacity, they are removed from site or monitored to ensure they are not stored for longer than 3 months.

3.1.4 **Unit 7** – Acts as the main hub for the recycling of mixed HCI waste. Waste is tipped into the Area 6C and loading into the hopper using a 360^0 crane grab. The waste then travels along a conveyor into the trommel which deposits fines the skip below (6D). The larger items then continue along the conveyor through a 4 bay picking line where recyclables are picked and deposited into a skip below. Waste following the picking line process should consists of residual i.e. Refuse Derived Fuel (RDF) which is immediately baled and stored in

piles 6B and 6C and removed once the bay is full. Both the recyclable skips and baled waste will be stored for no longer than 1 week.

3.1.5 **Unit 9** - This unit will act as an overflow for baled material from Units 4, 5 and 7 and have two artic trailer loads of material which will be removed from the site the day the waste is deposited.

3.1.6 **Areas / Piles 4A & 5A** - These areas will consists of a mixture of open 40 cubic yard skips and stand trailers. These containers will be for wastes which have been processed from Unit 7 and removed from site when full or less than 1 week.

3.1.7 Storage times for all stored combustible wastes on site are detailed in the 'Storage Area Details' Table in Drawing No. SPE/2411/03 and all combustible wastes are stored considerably less than Table 1 of the NRW FPMP guidance.

3.2 Monitoring and control of temperature

3.2.1 A requirement exists to ensure that temperatures of waste piles, both processed and unprocessed, are monitored and recorded. Decomposition of various waste piles can generate sufficient heat that the material may spontaneously combust.

3.2.2 The waste material to be monitored for temperature will include but not be limited to (if stored for longer than 2 weeks):

a) Baled waste i.e. RDF, cotton, foam (stored internally and arctic stand trailers)
b) Separated recyclables (stored externally in skips)

3.2.3 Material listed above will be monitored for temperature periodically, using either a metre long temperature probe and/or a hand-held thermographic (thermal imaging) device.

3.2.4 Temperatures will be recorded on the designated temperature monitoring form in Appendix II of this document. The following information should be recorded:

a) Date
b) Waste Type
c) Lowest Temperature & highest temperature (°C)
d) Type of temperature recording (Probe or Thermographic)
e) Any relevant comments regarding the waste type (e.g. physical condition, steam etc.)

3.2.5 The completed temperature monitoring form should be returned to the site office for filing. Files must be retained for a minimum of 3 years.

3.3 Waste acceptance

3.3.1 Strict waste acceptance procedures are in place at the site and detailed in the site's EMS. Details of when the waste was accepted, how long waste has been on site and how long other separated wastes are stored prior to removal from the site will be stored. This will ensure compliance with the maximum storage duration for specific wastes (as shown on the Waste Storage Table on the Site Layout and Fire Plan).

3.3.2 The following details will be recorded for every load deposited at the site:

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.

3.3.3 Any wastes identified during the incoming waste inspections which do not conform to site acceptance criteria will not be accepted and/or removed and quarantined immediately to await safe removal from site. NRW will be contacted (where necessary) if the non-conforming waste discovered is likely to lead to a breach of permit conditions.

4 Managing waste piles

4.1 Stored combustible waste/materials

4.1.1 The following list outlines the materials which have been identified on site as having combustible potential.

a) Mixed HIC waste
b) DMR
c) Bulky waste i.e. mattresses
d) Separated recyclable wastes.
e) Baled recyclable wastes
f) Rejected wastes

4.1.2 The table below details the wastes stored on site and procedures to reduce the risk of combustion/ignition in line with the NRW's FPMP guidance (reference should be made to Drawing No. SPE/2411/03 for details and locations for each of the storage areas):

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
1A, 2C & 2D – Mattress spring and baled mattress spring holding areas	• Firstly the springs are considered non-combustible and have significant gaps so even when baled the cubic volume is low. • Mattress springs which have been removed from the mattress are stored in a holding area under a lean to building and baled on a daily basis. The baled springs are stored in Area 1A. • The springs can be visually monitored throughout the day by site operatives and trained personnel. • As the sprigs are considered non-combustible due to the non-rust element as they are stored for less than 1 week, no other monitoring other than visually by operational staff is deemed necessary.

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
2B – Mattresses	• This area consists of 3 separate piles but as the required the separation distance cannot be met, they are classed as one pile. • The pile is surrounded entirely by a concrete fire wall which the spans to the height of the roof. • There is approximately 10 staff working inside Units 4/5 throughout the day so the all waste in these Units can be visually monitored throughout the day by site operatives and trained personnel. • No mechanical treatment takes place in Unit 5 and it is only for storage; mattresses are manoeuvred by a forklift truck or by hand. • Apart from the use of loading equipment to load the waste in this bay, no mechanical processing takes place in or near this pile • The maximum duration of storage for these materials will be 2 weeks, however this is likely to be much shorter as the these are the feeder piles for the mattress recycling plant. • The mattresses will be loaded from the back and removed from the front to ensure they meet the storage criteria. • Units 4 and 5 also benefit from an automated detection and suppression system.
3A - Articulated trailer for baled wastes	• Bales from Units 4 & 5 will be stored temporarily in arctic trailer and connected to a body of the vehicle when full and removed form site. • The bales will consist of waste which has been hand sorted/dismantling and then mechanically sorted so unlikely to contain any wastes which would self-combust. • The building (Unit 9) benefits from access using the roller shutter doors which span to the roof. • As the bales are only stored temporarily and likely to be removed during the same working day, it is considered that only visual monitoring by staff is required. • The building also benefits from 3m concrete fire walls to the sides and as bales will be stacked two high in the trailer, there will be a suitable freeboard over at least 0.8m metres. • During out-of-hours, bales in this area will be removed from the site so Unit is clear of waste.
6A, 6B- HIC waste & DMR overflow bay and baled RDF	• These bays are located within the main processing building. The concrete firewalls are 4 metres high and waste storage will be limited to 3m to allow for a minimum 1.0m freeboard between the top of the firewalls and the top of the stored waste. • The pile can be visually monitored throughout the day by site operatives and trained personnel. • The maximum duration of storage for these products will be 2 weeks, however this is likely to be much shorter as the process is continually ongoing. • Piles 6A & 6B will consist of either baled RDF or HIC waste / DMR and stored until the bay is full which is anticipated to be no longer than 2 weeks. Bales will be removed starting with the rear of the bay to ensure they do not exceed the storage time stated.

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
6C - Reception area for HIC waste and DMR	• This bay will act as the tipping / reception area for mixed waste and tipped at the front of the stockpile and then extracted from the rear to ensure the first in first out principle will apply; the stockpile is therefore dynamic. • No tipping in this bay will occur after 16:00 to ensure a 3 hour window is available to empty the bay prior to cessation of works. • All waste will be visually monitored following tipping and any non-conforming loads will be consigned to the quarantine area.

4.2 Waste stored in containers

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

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
4A & 5A - Sorted recyclables storage consisting of 40 cubic yard skips and arctic stand trailers	• These are recyclable storage skips containers consisting of green waste, scrap metal, paper cardboard, wood, tyres, plasterboard which have either been handpicked from pile 6C or as a result of the sorting plant. • All piles are stored in the skips will have been sorted by hand so will not contain any hot loads which could lead to a spark or overheating causing a fire. • The containers will be removed from site when full which is usually daily or a maximum of less than 1 week to account for downtime. • The containers have >6 separation from anything combustible to the north, west and south. • The waste in the containers will not exceed the height of the containers which is approximately 2.4m • All skips are open to allow access for fire-fighting • In the event of a fire breaking out in one of the skips, they can be temporarily consigned to the quarantine area to reduce the spread i.e. to another skip
6D - Fines	• This waste will be the smaller fractions of material which have separated using the screen trommel and deposited into a skip below. • This bay will be constantly monitored when the plant is in operation and throughout the day by trained operatives. • Once the skip reaches capacity, it will be removed from site and sent to a suitably permitted site for further treatment i.e. washing and then a new replaced.

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
7A - Hand sorted wastes from the picking line stored in 8 cubic yard skips	• These are recyclable storage skips containers consisting of paper cardboard, wood, plastic and plasterboard which have been manually picked by staff on the picking line. • The material in the skips will have been sorted by hand so will not contain any hot loads which could lead to a spark or overheating causing a fire. • The containers will be removed from site when full or tipped into 4A or 5A which is usually daily. • The waste in the containers will not exceed the height of the containers which is approximately 1.2m • All skips are open to allow access for fire-fighting • In the event of a fire breaking out in one of the skips, they can be temporarily consigned to the quarantine area to reduce the spread i.e. to another skip
8A & 8B - Exempt area for hazardous WEEE i.e LDA's, SDA's and hazardous wastes permitted on S2 exemption i.e. paint tins	• Imported by a Luton Van onto raised platform and then manually placed into the building which is surrounded by 0.6m thick concrete walls. • The waste from the van is removed by hand and carefully placed into a designated skip/container or onto the concrete floor to ensure separation for the different categories of WEEE or hazardous waste. • The skips/container will consist of a 6 cubic yard skip or IBC container and will be removed from the site when full. • All piles are stored in the skips will have been sorted by hand so will not contain any hot loads which could lead to a spark or overheating causing a fire. • The waste in the skips/containers will not exceed the height of the containers which is approximately 1.2m. • All skips/containers are open to allow access for fire-fighting • In the event of a fire breaking out in one of the skips, they can be temporarily consigned to the quarantine area to reduce the spread i.e. to another skip.

5 Prevent fire spreading

5.1 Waste storage general / fire breaks

5.1.1 Combustible waste will be stored as per Drawing No. SPE/2411/03 and within the guidelines of NRW's FPMP. The operator will store waste materials in their largest form and minimise pile sizes wherever possible. All stockpiles of stored wastes are detailed in the Storage Area Details table on Drawing No. SPE/2411/03 in respect of their description, maximum length and width, area, volume and storage duration. Some of the dimensions of the pile are provided on the plan for context (these dimensions are not exhaustive).

5.1.2 Fire breaks are shown on Drawing No. SPE/2411/03 and have been calculated using the information provided in Section of NRW FPMP guidance.

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, to minimise over-stocking which in-turn minimises the risk of overheating and spontaneous combustion. This also ensures the 'first in, first out' principle is met.

5.1.4 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 Fire walls and bays

5.2.1 As specified on Drawing No. SPE/2411/03, where wastes are stored within fire walls, there is an acceptable freeboard to prevent a fire spreading and are all of sufficient height, thickness and construction that offer a fire resistance period of at least 120 minutes to allow waste to be isolated to stop fire spreading and minimise radiant heat.

5.2.2 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.

6 Quarantine area

6.1.1 In accordance with Section 22 of NRW's FPMP guidance a designated quarantine area as shown on Drawing No. SPE/2411/03 which is kept clear at all times. The area allows for a 6 metre buffer from the site perimeter and other stored waste or materials on site.

6.1.2 A separate smaller quarantine areas has also been provided for non-conforming / reactive waste or for any hot loads which can be quickly isolated.

6.1.3 The largest pile on site is considered to be 2B which is waste mattresses and has an area of 175m^2 and a volume of 450m^3. The main quarantine area has an area of 140m^2 and if stored to a height of 2-4m could hold more than 250m^3 of material which is more than half of the largest stockpile on site.

6.1.4 The waste would be moved using the site's loading shovel or forklift.

6.1.5 In the event of a fire the 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 or to remove any wastes stored in bays near any material affected by a fire to prevent fire spreading to adjacent piles. Waste will be moved to the Quarantine Area immediately and within one hour of a fire starting at the latest (providing it is safe to do so).

7 Detecting fires

7.1 Site inspection programme

7.1.1 Daily inspections of all site areas will be undertaken and recorded on the fire checklist shown in Appendix II. These inspections will be conducted by a person(s) who is/are familiar with the requirements of the EMS, EP and this document. This will keep the levels of dust and litter, which could aid in the acceleration of a fire, on site surfaces to a minimum and ensure all containment of wastes on site is functioning effectively in accordance with the storage limitations provided in the 'Storage Details Area' table on Drawing No. SPE/2411/03.

7.2 Automated detection

7.2.1 Units 4, 5 and 7 benefit from a UKAS accredited automated flame detection system with extensive and wide-ranging coverage of the buildings. The system has call points installed throughout the offices, canteen, workshops and storage areas and was installed by NJR Gas & Renewables who are UKAS accredited. The system is fitted with a Duelcom communicator (Cat 4) and linked to 3 out of hours (on call) staff who can be at the site within 5-10 minutes of a call or view the CCTV footage in case of a false alarm.

7.3 Manual detection

7.3.1 If a fire is detected or suspected by a member of staff, it must be immediately reported to the site manager or TCM. The site manager 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) 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.
d) If viable and safe, instruct necessary site staff to commence extinguishment.

7.4 Staff training

7.4.1 Staff will be suitably trained in how to raise a fire alarm and how to use the extinguishing equipment, including hose reel should the fire be small enough to tackle. Managers will also ensure formal fire extinguisher training has been provided for anyone specifically designated to use such equipment.

7.4.2 A full understanding the procedures outlined in this FPMP document will be required to be demonstrated as part of the site induction for all new staff and any existing staff that are not familiar with the documents. In particular all staff will be trained to ensure that they know what to do in the event of a fire and more importantly how to undertake their work in a way that minimises the risk of a fire occurring.

7.4.3 Ongoing training, including tool box talks, will also be provided to ensure site staff are informed of any changes to any of the site management documentation as this is subject to regular review.

7.4.4 A full test (drill) of the procedures in this document will be carried out every 6 months. The first test will take place within one month of the agreement of this document with NRW. The outcome and any follow up training for staff will be documented in the site diary and relevant forms in the EMS. The Site Inspection Form in Appendix II will also be used during the drill.

7.4.5 All staff will be rigorously tested about the requirements of this FPMP on a 6 monthly basis to ensure they know the procedures in the event of a fire.

8 Suppressing fires & water supply

8.1 General

8.1.1 Section 20 of the NRW's FPMP 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 the largest waste pile catching fire.

8.1.2 Based on the above scenario, the largest waste pile of combustible waste on site measures 450m^3 (when at full capacity) – this would require 540,000 litres (540m^3) of water to extinguish the fire within 3 hours requiring a flow of 3,000 litres per minute.

8.2 Internal suppression

8.2.1 **Units 4 & 5** benefit from an automated suppression system and fed by an external 20,000 litre water tank which is connected to the mains water supply; details of the system are shown in Appendix IV.

8.2.2 **Unit 6** will rely on manual techniques as it is considered that as all waste has been hand sorted and is visually inspected upon deposit, it is highly unlikely a fire would break out in this Unit.

8.2.3 **Unit 7** has 6 no. roller shutter doors which provide access for fire-fighting purposes and the waste is continually being processed meaning that it would not be stored long enough to self-combust if all acceptance, storage procedures are met.

8.2.4 **Unit 9** benefits from five large roller shutter doors which provide full access in terms fire-fighting meaning the FRS do not need to enter the Unit in the event of a fire.

8.2.5 Furthermore, no waste would be stored in this Unit after cessation of works and it is considered that if a fire broke out in this Unit, manual techniques following early detection would suffice.

8.3 Fire Hydrants

8.3.1 There is an on-site fire hydrant located at the centre of the site connected to 150mm main and Welsh Water nor the FRS are unable to provide a flow rate for the hydrant therefore the following guidance on water supplies for industrial estates has been referenced in order to determine an average flow:

a) Up to one hectare minimum of 20 l/sec (1200 l/min)
b) One to two hectares minimum of 35 l/sec (2100 l/min)
c) Two to three hectares minimum of 50 l/sec (3000 l/min)
d) Over three hectares minimum of 75 l/sec (4500 l/min)

8.3.2 The Spencer Trading Estate measures approximately 5 hectares which would easily exceed the required 3,000 litres per minute to ensure the fire is extinguished within 3/4 hours.

8.4 Additional suppression measures

8.4.1 There are a number of fire extinguishers located around the site which can be deployed in the event of a smaller fire incident for fire suppression.

8.4.2 The site has mains water points (the majority fitted with hose reels) at various locations around buildings and some which will be connected to the external concreted area.

9 Response procedures

9.1 Access for emergency services

9.1.1 The site is located to the south of the Spencer Trading Estate off Rhyl Road and provides direct access to the site for the emergency services with the nearest fire station located 1.4 miles away situated at Maes Mathonwy. The response time is expected to be 5 minutes.

9.1.2 The width of the surrounding roads and gateway exceeds the minimum required in Section 5 of the FRS (3.7m). The on-site traffic co-ordinator also ensures that the 3.7m access routes are maintained throughout the working day and before cessation of works.

9.1.3 Access routes for emergency services around the site are clearly shown on Drawing No. SPE/2411/03.

9.2 Fire response procedures

9.2.1 Further to the above measures, the following procedure would apply in the event of a fire at the site:

a) Call the Fire and Rescue Service (FRS) immediately using 999.
b) Call NRWs' 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.

9.2.2 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. The operator's waste consultants Oaktree Environmental Ltd are contactable on 01606 558833 and have the appropriate staff who are FPMP trained and familiar with the site and operations.

9.3 Staff/visitor response procedure

9.3.1 The following actions will be undertaken by site operatives when 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 the site manager

9.4 Evacuation of staff (and drill procedure)

9.4.1 An evacuation plan has been formulated for the site and all persons have been made aware of it through site induction and refresher training. The fast and effective evacuation of staff to the Meeting Point as shown on Drawing No. SPE/2411/03 will increase safety on site and limit the impact of a fire on any persons on site.

9.4.2 Fire drills will take place every 6 months to ensure evacuation times are acceptable and that site staff remain informed of evacuation procedures. The operator will also appoint and train fire marshals on site, to aid in the above.

9.4.3 The full drill involving a dry run of the procedures involved in this document will be carried out every 6 months. 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 will be completed and a detailed report of the outcome of the exercise will be prepared to assist with staff training as stated in 7.2.

9.5 Out-of-hours fire procedure

9.5.1 It is considered arson would be the only cause of a fire outside of operating hours. The site has 24 hour CCTV which is remotely accessible during times where the site is closed (i.e. not operational or open for receipt of wastes), the 24 hour security guard / watchman would be trained to identify any fires or potential for fire.

9.5.2 If a fire were to occur, once notified by the security guard, the site manager/out-of-hours contact will then conduct the following procedure:

a) Irrespective of whether a company presence is required at the site by the FRS, the out of hours appointed contact (or delegated responsible person) will attend the site to assist in any way possible and to ensure that surface water protection and control measures are deployed, if safe to do so, under the instruction of the FRS.

The site appointed out-of-hours contact will subsequently contact as many additional members of staff as required to ensure that surface water protection, smothering and/or separation measures may be effectively deployed. Ideally this will be a minimum of three other staff members (enabling safe working in pairs) with at least one machine operator.

10 Managing fire water

10.1 Drainage

10.1.1 The drainage for the site is clearly shown on Drawing No. SPE/2411/03.

10.1.2 If there is any deviation from the current drainage arrangement, an amended FPMP will be submitted for approval by the NRW and FRS.

10.2 Containment of fire water

10.2.1 In the event of a fire there are two outlet points for foul and surface water from the site surface to the south and foul to the north. As shown Drawing No. SPE/2411/03 the last manholes of each drainage point would be plugged in the event of a fire on site. In the event of an emergency this would close all potential drainage outlets until such a time when the emergency has been dealt with and the drains have been emptied, collecting all contaminants and thus preventing an environmental incident.

10.2.2 The area of the concrete pad which will be used for fire water containment measures approximately 2,150 m^2. The concrete pad falls to the south and to the centre of the site which is contained by 85mm (0.085m) concrete kerb. Where the concrete is not contained by kerbing, it is proposed that these areas be protected by Darcy Poly Booms which would ensure the entire concrete pad has a minimum 85mm seal.

10.2.3 With an effective storage capacity of 85mm, the site would be able to provide 1,825 m^3 of containment for firewater. Given that a worst case scenario fire would require a total of 54 m^3 (see Section 8.1.2), this would provide more than adequate water containment.

10.2.4 If a fire broke out in Unit 4/5, the building would contain the majority of fire water and the rest would flow to the south of the site towards the drainage system where containment is provided.

10.2.5 In the event of a fire additional capacity would be provided by using a vacuum tanker to extract some of the collected fire water as the concrete pad would take at least 3 hrs to

reach capacity in a worst-case scenario event, giving ample time to provide a vacuum tanker.

10.3 Darcy Poly Boom deployment procedure

10.3.1 The poly boom rolls will be located within the site office (as shown on the Site Layout and Fire Plan). These would be deployed in the event of a fire and positioned as per the plan to contain any fire water runoff from the quarantine area. The polybooms have a 160mm diameter tube each side. Using a standard water mains i.e. the hose in the centre of the application site, these would be filled and provide containment in <10 minutes. The detailed specification of the poly boom roll (product code 0419/500/100) is provided at Appendix III to this document.

10.3.2 A key member of senior staff will be responsible for arranging the deployment of the poly booms and will be trained in this procedure.

10.3.3 Upon confirmation that a significant volume of water is likely to be required for extinguishing a fire on site, the following deployment procedure for the poly booms will be observed:

a) Take the boom roll from the site office;
b) Emplace the boom as shown on the Layout & Fire in the Annexe by rolling the necessary length;
c) Use supplied cable ties (also available in the site office) to seal the front end of the boom;
d) Using a sharp knife, cut the laid out section from the remaining roll;
e) Using the Hose Reel, begin filling the first of the two chambers of the boom being sure to elevate the ‘fill’ end to prevent the water leaving the tube;
f) Once the first chamber is filled, repeat in second chamber ensuring the ‘fill’ end is kept elevated to prevent escape of water;
g) When both chambers are full the ‘fill’ end should be sealed using a cable tie thus completing deployment.
h) Typically one side of the roll would be filled which has a 160mm diameter,

10.3.4 The above process should be completed as above for all lengths of boom shown on Drawing No. SPE/2411/03.

10.3.5 Once deployed, all booms should be regularly checked during a fire event to ensure that they are providing effective containment and that there are no breaches. Secondary/additional lengths of boom can be deployed in addition to the compulsory locations using the same procedure (as above) if deemed necessary.

10.4 **Removal of fire water**

10.4.1 Upon successfully extinguishing a fire all standing fire water would be pumped using a hired-in vacuum tanker and sent to a suitably permitted site for treatment.

11 During and after an incident

11.1 Contingency Planning

11.1.1 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 facility in the borough; details of which can be found on the NRW public register.

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

11.2 Post fire site recovery

11.2.1 If a recovery procedure is required, C A D Recycling Ltd 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 FPMP and EMS procedures and improve upon where found 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 treatment/disposal.

Appendix I

Drawings

Storage Area Details - Shaded rows denote non-combustible wastes

Plan Ref	Description	Storage form/containment - all concrete fire walls are at least and 0.18m thick and >2 hour resistant to fire	Max Length/ Width (m)	Max height (m)	Max Area (m^2)	Max Volume (m^3)	Max Duration of storage
1A	Temporary holding area for mattress springs	Free standing pile	12	2.5	36	90	Working day
2A	Mattress temporary holding & dismantling area	Free standing pile	4	2.5	16	40	<2 hours
2B i	Mattress storage area prior to processing	Free standing piles against concrete fire walls	12	2.5	12.5	90	<2 weeks
2B ii	Mattress storage area prior to processing	Free standing piles against concrete fire walls	8.5	2.5	35	90	<2 weeks
2B iii	Mattress storage area prior to processing	Free standing piles against concrete fire walls	16	2.5	125	265	<2 weeks
TOTAL FOR PILE 2B					**<175**	**<450**	
2C	Holding area for mattress springs	Free standing pile	9.2	2	30	60	<4 weeks
2D	Holding area for mattress springs	Free standing pile	7.5	2	25	50	<4 weeks
3A i	Articulated trailer for RDF/textiles	Articulate trailer	12.5	2.55	35	90	<48 hours or removed once trailer full
3A ii	Articulated trailer for RDF/textiles	Articulate trailer	12.5	2.55	35	90	<48 hours or removed once trailer full
TOTAL FOR PILE 3A					**70**	**180**	
4A i - vi	Separated recyclables (combustible)	Mixture of sealed 40 cubic yard skips, trailers and stand trailers for sorted recyclables i.e. wood, RDF, WEEE, plastic, paper/cardboard, scrap metal plasterboard, green etc..	6.1	2.5	15	40	Skip removed from site once full or stored for less than <1 week
TOTAL FOR PILE 4A					**90**	**<250**	
5A i - vi	Separated recyclables (combustible)	Mixture of sealed 40 cubic yard skips, trailers and stand trailers for sorted recyclables i.e. wood, RDF, WEEE, plastic, paper/cardboard, scrap metal plasterboard, green etc..	2.6	2.5	15	40	Skip removed from site once full or <1 week
TOTAL FOR PILE 5A					**90**	**<250**	
6A	Baled RDF	Concrete legio block fire wall	6.5	3	40	120	Bay cleared upon capacity reached or <1 week
6B	Baled RDF, mixed HIC or separately collected DMR	Concrete legio block fire wall	6.5	3	40	120	Bay cleared upon capacity reached or <1 week
6C	Reception / holding area for mixed waste HCIU or CDE waste	Concrete legio block fire wall	6.5	3	40	120	Tipping so turned hourly; occasional out-of-hours storage so <48 hours.
6D	Fines	35/40 cubic yard skip	6.1	1.8	15	35	Skip removed from site once full and empty after working day.
7A i - vi	Sorted wastes from the picking line	8 cubic yard skip	3.66	1.68	6.2	7.5	Skip removed from site once full or stored for less than <48 hours
TOTAL FOR PILE 7A					**<35**	**<40**	
8A i	Exempt area for WEEE i.e. LDA's and SDA's	Stored in dedicated IBC containers or similar for different categories of WEEE	10	1.2	25	30	Containers are removed from site when full or <3 months
8B i-ii	Exempt area for aqueous liquid i.e. paint tins, varnish tines etc..	Stored in dedicated IBC containers or similar	10	1.2	25	30	
TOTAL FOR PILE 8B					**50**	**60**	
9A	Glass / soil, inerts	Concrete bunker	4	2.5	20	50	N/A - removed from site following processing; dependant on fluctuating demands of material
9B	Glass / soil, inerts	Concrete bunker	4	2.5	20	50	N/A - removed from site following processing; dependant on fluctuating demands of material

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

Access / egress to site (2.4m steel palisade gates)
Access route for emergency services
HGV /arctic waiting area
2.5m steel and barbed wire fence
3m concrete stone wall
(1A)
HGV /arctic waiting area
Extraction system outlet
Baling area for mattress springs
1.5m embankment with 2.0m post and wire fence
Roller shutter for access
Dust extraction system
Lean to / covered area
(2A)
UNIT 4 - MATTRESS DISMANTLING BUILDING
(2C)
Poly baler
Cotting ticking baler
Workshop
Roller shutter for access
(2B i)
Soft shoddy baler
Lean to / covered area
(2D)
Out-of-hours plant storage
(2B ii)
UNIT 5 - MATTRESS STORAGE BUILDING
Weighbridge & offices
20,000 litre water tank feeding Unit 4/5 suppression system - tank connected to mains system and can be externally filled using hose/ fire hose
0.4m high wall acting as seal for impermeable surface
1.5m embankment with 2.0m concrete stone wall
2,500 litre DERV tank
(2B iii)
Area fenced off restricting access
Interceptor
85mm kerb acting as seal
Site offices / welfare
Storage area for hand tools and fire water containment measures i.e. booms, drain mats, plugs
Manhole with shutoff
Site offices / welfare
Site offices / welfare
UNIT 9 - OPEN FRONTED BUILDING CONTAINING WORKSHOP AND TEMPORARY ARCTIC STORAGE
(3A ii)
(3A i)
Staff / visitor parking
Workshop
Electricity sub-station (fenced)
2 no. waste bunkers (location may vary)
(9A)
(9B)
13m
150mm main fire hydrant
1m high brick wall and raised platform
WC & shower
4m high v-mesh security fence (1m concrete wall and 2/3 embankment beyond)
Laundry room
Laundry drying room & PPE storage
WC
Site offices / welfare
(8 Ai)
Sorted waste containers (location may vary)
(4Ai)
(4Aii)
(4Aiii)
(4Aiv)
(4Av)
(4Avi)
UNIT 6 = WEEE & hazardous waste building - ***EXEMPT FROM PERMITTED OPERATIONS***
Empty bins, skips & container storage area
Accessible by forklift only - no other plant used
4m high v-mesh security fence
16m
12m
Manhole with shutoff
Interceptor
4-bay picking line
(8B i)
(8B ii)
(5Ai)
(5Aii)
(5Aiii)
(5Aiv)
(5Av)
(5Avi)
(7Ai)
7Aii)
7Aiii)
7Aiv)
7Av)
6m
Roller shutter doors
3m high concrete stone wall
Sorted waste containers (location may vary)
(6D)
Trommel
Conveyor out for light wastes
85mm concrete kerb acting as seal for concrete pad
Conveyor
Loading hopper
(6C)
Roller shutter doors
Manhole with shutoff
Interceptor
(6B)
(6A)
4m high, 0.6m thick legio block fire walls
RDF baling area
Fenced quarantine area for non-conforming loads
UNIT 7 - MAIN MIXED WASTE RECYCLING BUILDING CONSTRUCTED WITH BS FIRE RETARDANT CLADDING
3m high v-mesh security fence
85mm concrete kerb acting as seal for concrete pad
Aco drainage channel
3m steel wire access gates
3m high concrete stone wall
3m high v-mesh security fence

Oaktree Environmental Ltd
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Title: SPE/2411/03
Drawing No: SITE LAYOUT & FIRE PLAN
Revision: -
Client: C A D Recycling Ltd
Site: Spencer Trading Estate, Rhyl Road, Denbigh LL16 5TQ
Date: 9 April 2018
Printed At: A1
Scale: 1:250
Job No: 3687
Client No: 2411
Drawn By: CP
Checked: TS

Key:
- Permit boundary
- Waste storage areas
- Tempory waste holding areas
- Non-waste storage areas
- Exempt waste storage area
- Waste recycling buildings
- Concreted areas
- Impermeable tarmacadam surface & hardstanding surfaces
- Unsurfaced / landscaped area (earth bund)
- Other buildings (offices, etc.)
- Mains water
- Spill kit
- Fire fighting equipment (extinguishers, etc.)
- Fire fighting equipment - 50m hose reel
- Access routes for emergency vehicles (min. 3.7m width across the site
- Fire alarm
- Concrete yard surface drainage
- Foul water drainage
- Concrete yard surface water manholes
- Foul drainage manholes
- Manhole's with shut off valves in the event of a fire
- Surface water gully's
- Foul water gully's
- Plant shut off
- Fire assembly point
- Fire door
- Emergency services box

NOTES:
1. Drawing is for indication only.
2. All measurements must be verified on site.

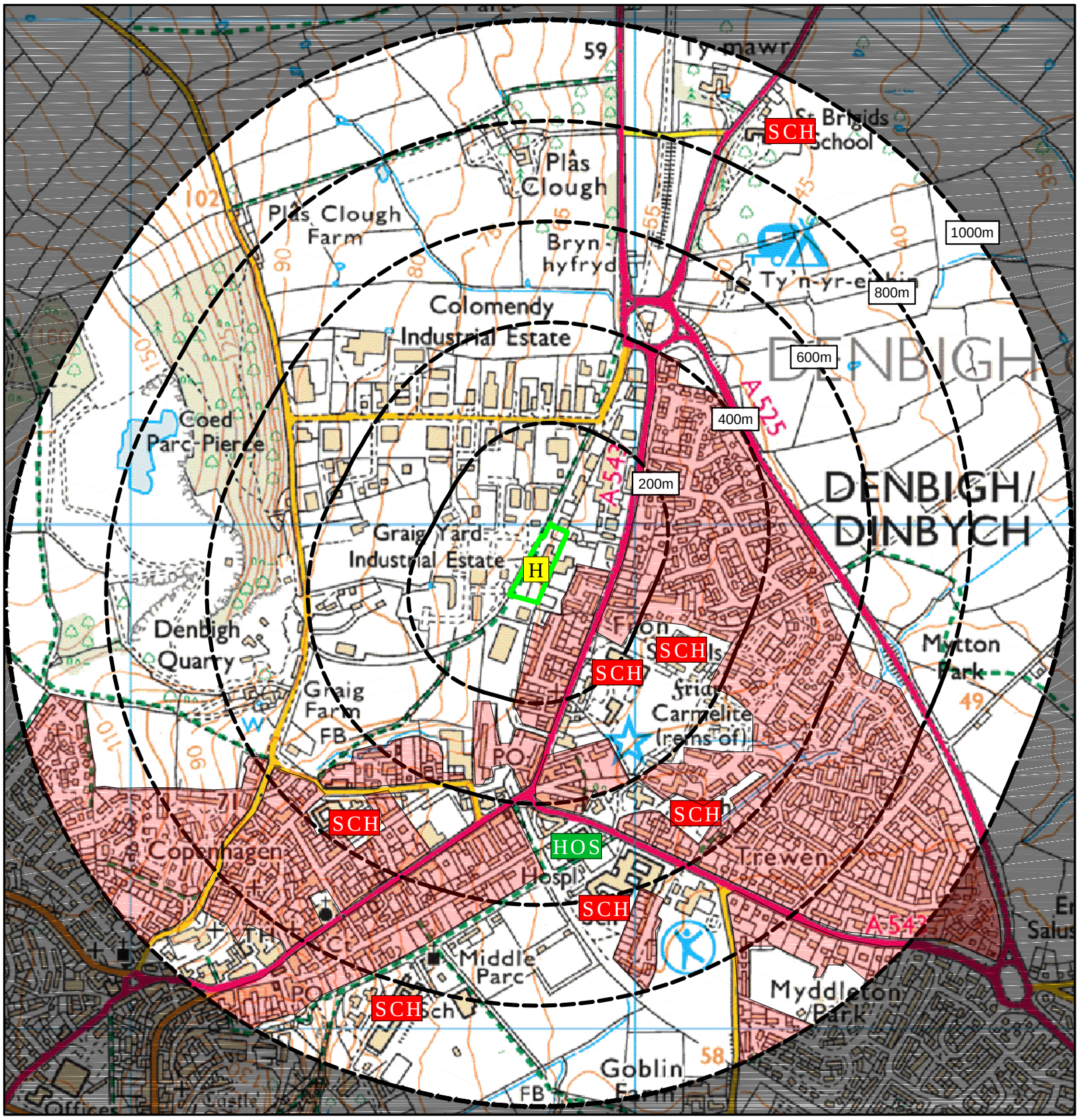
Symbols found on fire extinguishers & what they mean	Water	Foam spray	ABC powder	Carbon dioxide	Wet chemical
A Wood, paper & textiles	✓	✓	✓	✗	✓
B Flammable liquids	✗	✓	✓	✓	✗
C Flammable gases	✗	✗	✓	✗	✗
Electrical contact	✗	✗	✓	✓	✗
F Cooking oils & fats	✗	✗	✗	✗	✓

Revision Details:

Rev:	Init:	Description:	Date:
-	CP	Initial drawing	09/04/18
	CP	Client comments	10/04/18

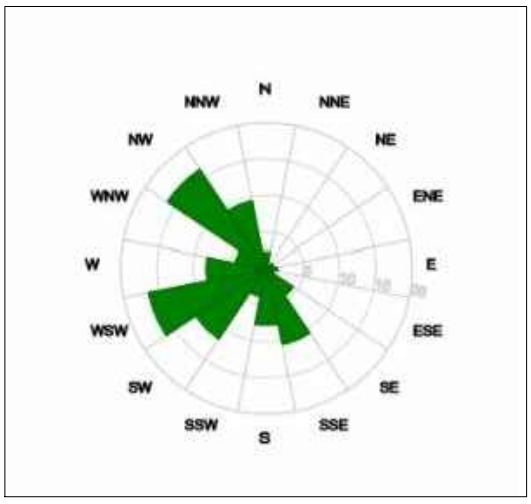
Scale Bar (1:10,000)

0 m 100 200 300 400 500 m



KEY:

- Permit boundary
- Watercourse i.e. ditch, stream, river
- Workplaces (includes agriculture industry, commerce and retail)
- Residential blocks
- Class B roads
- Class C roads
- H — Fire hydrant
- Railway line
- SCH — School
- HOS — Hospital
- Woodland areas



Compass Wind Rose for Hawarden (EGNR) Period

Oaktree Environmental Ltd
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Tel: 01606 558833
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Client:	C A D Recycling Ltd
Site:	Spencer Trading Estate, Rhyl Road, Denbigh LL16 5TQ
Date:	10 April 2018
Printed At:	A3
Title:	RECEPTOR PLAN
Scale:	1:10,000
Revision:	-
Drawn By:	CP
Drawing No:	SPE/2411/04
Client No:	2411
Job No:	3867
Checked:	--

Notes:

(1) Boundaries are shown indicatively.
(2) Wind rose data taken from RenSMART shows the prevailing wind direction to be NW & WSW.

Revision Details:

Rev:	Description:	Date:
-	Initial drawing	10/04/18

Appendix II

Record Keeping Forms

C A D RECYCLING LTD
SITE INSPECTION FORM (DAILY INSPECTIONS) – CRL/RF/4

WEEK STARTING								
TYPE OF INSPECTION		**DAY**						
		M	**T**	**W**	**T**	**F**	**S**	**S**
SITE ENTRANCE/NOTICE BOARD								
SECURITY - GATES								
SECURITY - FENCING								
SITE ROADS (CLEAR FROM HAZARDS)								
IMPERMEABLE CONCRETE AREAS (INTEGRITY)								
BUND AROUND CONCRETE PAD (INTEGRITY)								
HOLDING TANK / SUMP								
BAY WALLS (STRUCTURAL INTEGRITY)								
FIRE BREAKS IMPLEMENTED (WHERE NECESSARY)								
WASTE STORAGE LIMITS	MATTRESSES							
WASTE STORAGE LIMITS	BALED WASTE							
WASTE STORAGE LIMITS	WASTE STORED IN CONTAINERS							
STORAGE LIMITS	OTHER WASTE							
COMBUSTIBLE WASTES (AWAY FROM POTENTIAL IGNITION SOURCES)								
REJECTED WASTE TYPES / STORAGE								
NOISE LEVELS								
FIRES (ANY INCIDENTS REPORTED)								
QUARANTINE AREA CLEAR OF WASTE								
NO SMOKING SIGNS IN PLACE								
FIRE FIGHTING EQUIPMENT								
PLANT/EQUIPMENT MAINTENANCE CHECKS								
HOT EXHAUSTS FIRE WATCH (DUST/FLUFF CLEANED REMOVED)								
OFFICE/WELFARE FIRE RISKS CHECKED								
LITTER								
DUST								
ODOUR								
VERMIN								
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***	

C A D RECYCLING LTD
PREVENTATIVE MAINTENANCE CHECKLIST – CRL/RF/5

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						

Temperature Monitoring Sheet

Summary of Requirement

- A requirement exists to ensure that temperatures of waste piles both processed and unprocessed, at the C A D Recycling Ltd facility are monitored and recorded periodically.
- Decomposition of various waste piles can generate sufficient heat that the material may combust. This monitoring sheet is to be used for the purpose of manually recording these temperatures.

Instructions

- Two temperatures should be taken from each waste pile using either the metre temperature probe or the hand-held thermographic unit.
- Both temperatures should be recorded in the table below, identifying the time, waste type and monitoring method (probe or thermographic).

TIME	Waste Type	Low Temp ^{0}C	High Temp ^{0}C	Probe or Thermo (P or T)	Comment
	BALED RDF			T	
	DMR			T	
	MIXED HIC WASTE			T	
	OTHER BALED WASTE			T	
	WASTE STORED IN CONTAINERS			T	
	REJECTED WASTE			P	

ANY RECORDED TEMPERATURE ABOVE 75^{0}C (FOR COMPOSTED WASTE) AND 50^{0}C (FOR ALL OTHER WASTE) SHOULD BE REPORTED IMMEDIATELY TO A SENIOR MEMBER OF THE MANAGEMENT TEAM

Day_____ **Date**_____

Name_____ **Signed**_____

Appendix III

Darcy Poly Land Booms Specifications

SPECIFICATION FOR POLYBOOMS

PRODUCT CODE: 0419/500/10 and 0419/500/100

DESCRIPTION: Polybooms – various sizes

DIMENSIONS: Lay flat: 250 x 100 x 250mm sections
Filled: 160mm dia x 100mm x 160mm dia
COMPOSITION: Low density polyethylene
COLOUR: Yellow
THICKNESS: 500 gauge (125 microns)
PACK TYPE: polythene wrap or box

PRODUCT	0419/500/10	0419/500/100
LENGTH (m)	10	100
WEIGHT (kg)	1.5	15.0
PACK QUANTITY	1	1
PACK INCLUDES	4 ties	-
PACK SIZE (cm)	65 x 15 x 3	65 x 27 x 20

PROPERTIES: Lightweight, good flexibility, good puncture resistance
Sealable by cable tie or by knotting end of boom

COMPATIBILITY: Polybooms are resistant to most liquids for the duration of a spill cleanup. However it is not recommended that they be used with strong oxidizing agents as contact may lead to spontaneous combustion. Normally they are used once and then disposed of. If reusing they should be cleaned with soapy water before reuse.

SHELF LIFE: If stored away from direct sunlight the shelf life is unlimited.

SAFETY DATA: This product is non-toxic to both users and to the environment.
Note: After use care should be taken when handling the boom if contaminated with hazardous liquids.

DISPOSAL: May be disposed of by landfill or incineration, in accordance with local and national regulations, taking into account the classification of the liquid which may contaminate the polyboom.

NOTE: All weights, dimensions, and other figures quoted are approximate

Revision date: May 2005
File: 0419.spec

Appendix IV

UKAS Accredited Detection & Suppression System

MJR GAS & RENEWABLES

Unit 9 Clwydfro
Lon Parcwr ind.estate
Ruthin
Tel 07958545461
Email Mjrgas@btinternet.com

D Driver
CAD recycling
Denbigh

Specification for design Fire sprinkler system

Class of hazard - OH fire protection required for mattress sorting area
Fire sprinkler type - Dry system incorporating a differential fire valve and an air compressor for initial pressurisation and system make up
Water feed - Town main feed to 2 x 800lt/min industrial pumps which feed 2 x accumulators ensuring a feed of 750lt/min is maintained for 1hour
Sprinkler type - Pendant type glass phial with 68 degC rating. 30 sprinklers in total. Requiring flow rate of 20/30 lt/min
Pipe work - Supply pipework will be ABS fire rated and will be sized and supported in accordance to EN12845
Controls - Fire system will incorporate :

- Differential fire valve located in adjacent heated control room
- A control valve (lockable) in mattress sorting area
- Drain test point located in control room
- Various control valves on the pumps located in control room
- Various control valves on pneumatic pipework located in control room
- Various pressure guages for monitoring purposes
- Low pressure switch located in control room downstram of fire valve
- Electrical fire alarm located in mattress sorting area
- Hydraulic motor alarm located in mattress sorting area

Note - The fire system has been designed to comply with EN12845 standards and all materials will be suitably specified


HETAS
GAS safe REGISTER
MCS
The Certification Mark for Onsite Sustainable Energy Technologies
OFTEC