

FIRE PREVENTION AND RESPONSE PLAN

Ewloe Barn Industrial Estate Transfer Station, Mold Road, Alltami,
Flintshire, CH7 6LG

Thorncliffe Building Supplies Ltd

Version:	1.2	Date:	20 March 2015		
Doc. Ref:	2875-012-J	Author:	JCM	Checked:	JE
Client No:	012	Job No:	2875		



Oaktree Environmental Ltd

Waste, Planning & Environmental Consultants



Oaktree Environmental Ltd, Unit 5, Oasis Park, 19 Road One, Winsford, Cheshire, CW7 3RY
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:

<i>Version</i>	<i>Issue date</i>	<i>Author</i>	<i>Checked</i>	<i>Description</i>
1.0	02/12/2014	JCM	JE	FOR SUBMISSION TO NRW
1.1	19/03/2015	JCM	JE	INFORMATION REGARDING REFUSE DERIVED FUEL (RDF) ADDED_DRAFT FOR COMMENT
1.2	20/03/2015	JCM	JE	INFORMATION REGARDING REFUSE DERIVED FUEL (RDF) ADDED FOR SUBMISSION TO NRW

*THIS DOCUMENT IS DUE FOR REVIEW IN **DECEMBER 2016** OR AS A RESULT OF ANY INCIDENTS WHICH MAY LEAD TO THE REQUIREMENT FOR IMMEDIATE REVIEW, WHICHEVER IS THE SOONER*

Contents

<i>Document History:</i>	<i>i</i>
<i>Contents</i>	<i>ii</i>
<i>Site Information & Key Contacts List</i>	<i>iv</i>
<i>List of Appendices</i>	<i>v</i>
1 INTRODUCTION	1
1.1 GENERAL	1
1.2 REASON FOR IMPLEMENTATION	1
1.3 SITE DESCRIPTION	2
1.4 STAFFING AND MANAGEMENT	2
1.5 PLANT AND EQUIPMENT	3
1.6 SCOPE OF DOCUMENT	3
2 POTENTIAL FIRE HAZARDS ON SITE	4
2.1 POTENTIALLY COMBUSTIBLE MATERIALS	4
2.2 POTENTIAL BURN TIMES OF MATERIAL	6
2.3 POTENTIAL IGNITION SOURCES	6
2.4 OVERHEAD LINES.....	7
2.5 SENSITIVE RECEPTORS	7
3 MONITORING	8
3.1 SITE INSPECTION PROGRAMME	8
3.2 PREVENTATIVE MAINTENANCE.....	8
3.3 TEMPERATURE MONITORING PROCEDURE.....	8
3.4 RECORD KEEPING.....	10
4 MITIGATION	12
4.1 FIRE PREVENTION.....	12
4.2 BURNING OF WASTE ON SITE	12
4.3 OVERHEATING OF STORED WASTE	12
4.4 PLANT OR EQUIPMENT FAILURE	14
4.5 ELECTRICAL FAULTS OR DAMAGED/EXPOSED ELECTRICAL CABLES	15
4.6 LEAKAGE/SPILLAGE FROM FUEL TANKS.....	15
4.7 ARSON OR VANDALISM	15
4.8 NAKED FLAMES/SMOKING MATERIALS.....	16
4.9 REGULAR CORRESPONDENCE WITH FIRE AND RESCUE SERVICE	16
5 FIRE CONTAINMENT MEASURES	17
5.1 FIRE BREAKS.....	17
5.2 CONTROLLED BURN	17
5.3 STORAGE ON FLAT GROUND.....	18
5.4 SEALED DRAINAGE SYSTEM (CONTAINMENT OF FIREWATER)	18
5.5 ADEQUATE SUPPLY OF WATER	20
5.6 EVACUATION OF STAFF	20
6 FIRE DETECTION & HANDLING PROCEDURES	21
6.1 STAFF TRAINING	21
6.2 INFRASTRUCTURE	21

6.3	ACCESS FOR EMERGENCY SERVICES	22
6.4	FIRE DETECTION PROCEDURE	22
6.5	STAFF/VISITOR PROCEDURE	23
6.6	OUT-OF-HOURS FIRE PROCEDURE	24
7	<i>POST-FIRE SITE RECOVERY</i>	25
7.1	GENERAL RECOVERY PROCEDURE	25
7.2	FIRE DEBRIS	25
7.3	SURFACE WATER CONTAINMENT	26

Site Information & Key Contacts List

Site Address:	Ewloe Barn Industrial Estate Transfer Station, Mold Road, Alltami, Flintshire, CH7 6LG		
Site Operator:	Thorncliffe Building Supplies Ltd	National Grid Ref:	SJ 276 662

<u>CONTACT</u>	<u>Description</u>	<u>Office Hours</u>	<u>Out of Hours</u>
<i>Dan Harper</i>	<i>Site Manager</i>	<i>07818 430257</i>	<i>07818 430257</i>
<i>Deeside Cottage Hospital (Plough Lane, Shotton, Wrexham Maelor Hospital, Croesnewydd Rd, Wrexham LL13 7TD)</i>	<i>Local NHS Hospital (Main)</i>	<i>01244 830461</i>	<i>111 or 999</i>
	<i>Accident & Emergency (A&E)</i>	<i>01978 291100</i>	<i>999</i>
	<i>NHS Direct</i>	<i>0845 4647</i>	
<i>Doctor's Surgery (Mill Lane Surgery, 46 Mill Lane, Buckley CH7 3HB)</i>	<i>Local Doctor Surgery (GP)</i>	<i>01244 550939</i>	<i>999</i>
<i>Buckley Police Station</i>	<i>Local Police Non-Emergency</i>	<i>101</i>	
	<i>Police Emergency</i>	<i>999</i>	<i>999</i>
<i>Mold Fire Station</i>	<i>Fire and Rescue Service (in Emergency Dial 999)</i>	<i>01352 753313</i>	<i>999</i>
<i>Natural Resources Wales</i>	<i>Environmental Regulator</i>	<i>0800 80 70 60</i>	<i>0800 80 70 60</i>
<i>Flintshire County Council</i>	<i>Local Planning Authority</i>	<i>01352 703020</i>	<i>01352 752121</i>
	<i>Environmental Health Dept.</i>	<i>01352 703020</i>	<i>01352 752121</i>
<i>Welsh Water</i>	<i>Sewerage Provider</i>	<i>0800 052 0130</i>	<i>0800 052 0130</i>
	<i>Gas Company</i>	<i>NO GAS ON SITE</i>	
<i>Oaktree Environmental Ltd</i>	<i>Specialist Advisor (Waste and Planning Issues)</i>	<i>01606 558833</i>	

List of Appendices

Appendix I

Temperature Monitoring Sheet

Appendix II

2875/012/03 – Site Layout Plan

Appendix III

Fire Extinguisher Location Plan

Fire Hydrant Location Plan

Comments from local fire and rescue service

This Fire Prevention and Response Plan has been formed with the assistance of the Environment Agency and the local fire and rescue service. A member of the ***** visited the site on ***** and was provided with a copy of this document. Their comments can be found below.

<i>Name</i>	
<i>Comments</i>	

Signed

Date

1 INTRODUCTION

1.1 General

1.1.1 This Fire Prevention and Response Plan (FPRP) considers the risks associated with fire on site at Ewloe Barn Industrial Estate Transfer Station, Mold Road, Alltami, Flintshire, CH7 6LG, which is used as a mixed waste and recyclables including waste wood recycling facility.

1.1.2 The site will be operated by Thorncliffe Building Supplies Ltd in accordance with a fully comprehensive Environmental Management System (EMS) and a Bespoke Environmental Permit (Ref No. EAWML 37266 EPR/BP3797SZ), regulated by Natural Resources Wales (NRW).

1.1.3 All site staff should be provided with a copy of this Fire Prevention and Response Plan and be aware of where it is located on site.

1.1.4 The registered address and contact details for Thorncliffe Building Supplies Ltd:

Thorncliffe Building Supplies Ltd (Head Office)

Alt-Y-Graig

Melidan Road

Dyserth

LL18 6DE

Head Office Contact No. 01745 570670

Site contact details

Ewloe Barns Industrial Estate

Mold Road

Alltami

Flintshire, CH7 6LG

Contact: Dan Harper

Position: Yard Manager

Contact No. 01244 549899

1.2 Reason for Implementation

- 1.2.1 Oaktree Environmental Ltd have been employed to produce this FPRP in response to request from NRW, following an application to vary the existing permit for the site.
- 1.2.2 In accordance with the Environment Agency's/NRW's Technical Guidance Note (TGN7.01), this document will outline fire hazards on site and a number of accompanying measures which will be implemented to ensure every action is taken to prevent fire, contain fire on site if it does occur and ensure quick suppression and detection.

1.3 Site description

- 1.3.1 The site will have two buildings designated for the storage and processing of mixed wastes and one workshop, located as shown on the site layout plan in Appendix II. These buildings will be of metal construction in entirety. Both transfer station buildings will be steel clad, metal framed structures and open fronted.
- 1.3.2 The large workshop is used to conduct general repairs. The transfer station buildings are manned by up to 15 operators during normal hours, plus any visiting drivers. The site is not open to the general public and there are no public rights of way through the site.

1.4 Staffing and management

- 1.4.1 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 (TCM)	2(1)	Overseeing all activities which take place at the site
Machine / Plant Operator	5(1)	Waste handling/processing, reception and plant operation
General Operatives	10(1)	Waste sorting, maintenance & tidying

- 1.4.2 Dan Harper and Steve Harper are the Technically Competent Managers and responsible for the general management of the site.

1.5 Plant and equipment

- 1.5.1 Table 4 below shows the plant on site which are available to assist with the construction of fire breaks. Only trained operators will be permitted to drive/operate the plant listed below and construct fire breaks. Any changes to the list will be notified to Natural Resources Wales prior to implementation. The minimum requirements when the site is operational are shown in bold italic print.

ITEM	NUMBER	FUNCTION
Loading shovel	2(1)	Movement of material for fire breaks
360° excavator	2	Movement of material for fire breaks
Mechanical Grab	1	Movement of material for fire breaks
Telehandler	1	Movement of material for fire breaks

1.6 Scope of document

- 1.6.1 This FPRP details the measures which will be put in place with regards site design, infrastructure and management to ensure the waste operations will be carried out with paramount consideration to the risk of fire. All necessary prevention measures and procedures will be strictly implemented and followed through essential training and inspection regimes as detailed in this document and in the site's EMS.

2 POTENTIAL FIRE HAZARDS ON SITE

2.1 Potentially Combustible Materials

2.1.1 The following list outlines the materials which have been identified on site as having combustible potential along with the maximum quantity of these materials stored on site at any given time:

- a) **Mixed waste (non-degradable and degradable)** (1,250 tonnes maximum total) - All mixed loads are deposited in the mixed waste reception area and subjected to physical sorting by hand (future proposal via trommel and/or picking station) into recyclable materials. The sorted material is subsequently transferred to the appropriate designated storage areas which are positioned either within the transfer building or located externally on impermeable hardstanding with sealed drainage. Up to a maximum of 750 tonnes of non-degradable mixed waste will be on site for a maximum of 14 working days. Degradable fractions of the mixed waste will only be stored up to a maximum of 5 days under normal operating conditions but may be up to one month during an unplanned event/emergency. Biodegradable waste limited to maximum 500 tonnes within the mixed waste transfer building.
- b) **Separated Recyclable Wastes** (250 tonnes) – Including plastic, paper and cardboard, which are received in mixed loads. This waste is processed in the transfer building, subjected to physical sorting by hand (future proposal via trommel and a picking station) and then the segregated material is stored within the building or the designated external bays.
- c) **Refuse Derived Fuel** (1000 tonnes) – Mixed biodegradable material which is accepted and considered suitable for the production of refuse derived fuel (RDF) will be directed into a designated RDF storage building where it will be prepared and shredded for off-site transport and taken for recovery. Future proposals may include baling and wrapping of the RDF feedstock. Such waste will only be stored up to a maximum of 5 days under normal operating conditions but may be up to one month during an unplanned event/emergency.

- d) **Green waste** (50 tonnes) - Green waste arriving on site will be stored in stockpiles and processed externally in the wood storage/processing bay, as shown on Drawing No. 2875/012/03. Maximum storage time 2 months.
- e) **Wood** (750 tonnes) stored externally on impermeable pavement with sealed drainage and stockpiled in accordance with the latest fire risk management guidance provided by EA/NRW and the Fire Service. Proposed locations are shown on Drawing 2875/012/03. Maximum storage time 3 months.
- f) **Cement-bonded asbestos** (<10 tonnes) – This material will be accepted at the site and will be immediately segregated into a covered lockable skip which will be stored outside the transfer building on a concreted and drained area of the site.
- g) **Waste for landfill** - Waste which is not suitable for recycling is bulked up and stored in the waste for landfill bay inside the transfer building to await removal off site for disposal at an appropriately permitted facility.
- h) **Gas cylinders** (max. 20) - Any gas bottles found in the loads will be stored upright in a lockable cage.
- i) **Metals** – (max 75 tonnes) Ferrous and non ferrous metal stored in designated containers
- j) **WEEE waste** – (<20 tonnes) – stored in designated bay or container
- k) **End-of-life tyres** (10 tonnes) – If discovered within a mixed load will be stored on site in designated bay
- l) **Rejected waste** (<2 tonnes) - This material will be stored in clearly labelled enclosed skip/containers if it cannot be removed from the site immediately. The location of these skips may be varied as operating conditions permit (i.e. to permit the loading of rejected wastes but clear labelling and management control will ensure its use as specified). Rejected items can sometimes contain materials which are particularly susceptible to combustion. If any such items or materials are discovered, they will be subject to individual quarantine and NRW will be contacted to agree a course of action.
- m) **Reactive wastes** – Wastes which are likely to be reactive predominantly consist of liquid or drummed wastes, neither of which are permitted for acceptance at the site. If any such wastes are discovered, they will be subject to individual quarantine and NRW will be contacted to agree a course of action.

2.2 Potential burn times of material

- 2.2.1 The following section gives consideration to the burn time of material. The document 'Draft Fire Control Guidance 27 June 2014' was prepared by the Environmental Services Association (ESA) and contains information on how to calculate burn times for material on site. The following calculation was outlined:

$$t_B = \frac{M_s}{Q_{rate}}$$

- 2.2.2 Where t_b = burn time, M_s = the mass of the stack in kg and Q_{rate} = mass rate of burning.
- 2.2.3 The document goes on to state that a figure for mass rate of burning (Q_{rate}) has to be calculated from experimentation through burning wastes in controlled conditions. This figure will vary from waste to waste and is dependent on a number of factors (e.g. density). The aforementioned document states that the data currently available on burn rates of waste is "virtually none" and it is anticipated this will be produced over time by contributors to the guidance.
- 2.2.4 This data is needed for a calculation of the burn time (t_b) and, as it is currently unavailable and the conditions required for testing are not available on site, it is not possible to provide any estimate of burn time for the waste on site. This document will be amended to include this information as data regarding the above is released.

2.3 Potential Ignition Sources

- 2.3.1 The following list outlines potential sources of ignition for the material on site and outlines specific examples of these sources.
- a) Burning of waste on site
 - b) Overheating of stored waste (sources of heat may include heating pipes, light bulbs, space heaters, direct sunlight or self-heating of waste)
 - c) Plant or equipment failure (e.g. spillages of fuel, sparks from machinery)

- d) Electrical faults or damaged/exposed electrical cables
- e) Leakage from fuel tanks (e.g. as a result of damage)
- f) Arson or vandalism
- g) Naked flames/smoking materials

2.4 Overhead lines

- 2.4.1 There are no overhead power lines traversing the site, which, if ignited, would worsen the effects.

2.5 Sensitive receptors

- 2.5.1 The site located within the far south east corner of Ewloe Barn Industrial Estate which accommodates a number of industrial and commercial operations including the applicant's own building supplies business to the north and west of the site. To the south of the recycling facility lies a former landfill site. The A494/Mold Road, which provides access to the site, is unlikely to be impacted by smoke and debris from a fire on site moving across or being deposited onto the highway due to its distance from the recycling centre being >200 metres away.
- 2.5.2 To minimise the impact on the local area from a fire on site, Section 4 will highlight mitigation measures which will decrease the likelihood of a fire occurring on site and limit the size and duration if it does occur. These measures will ensure the potential impact on any of the surrounding land is as minimal as practically possible.

3 MONITORING

3.1 Site inspection programme

- 3.1.1 Regular inspections of all site areas will be undertaken in accordance with the site's EMS which will include areas just outside of the site boundary.
- 3.1.2 These inspections will be conducted by a person who is familiar with the requirements of the management system and of this document. This 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.
- 3.1.3 The results of site inspections will be recorded either on the appropriate record form in Appendix II of the EMS or in the site diary and made available to NRW and local authority upon request.

3.2 Preventative maintenance

- 3.2.1 All items of plant and vehicles are subject to preventative maintenance checks to ensure their safe operation and to prevent any potential situations which may give rise to adverse impacts on the environment.
- 3.2.2 Much of the plant and equipment on site and all vehicles in the fleet are subject to periodic manufacturer maintenance to ensure proper working order in the form of service contracts.
- 3.2.3 Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis to ensure, where possible, the machinery is mechanically sound. These checks will be carried out using a preventative maintenance checklist and any results / defects will be recorded in the site diary and actioned immediately and, in any event, prior to operational use.

3.3 Temperature Monitoring Procedure

- 3.3.1 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.
- 3.3.2 The waste material to be monitored for temperature will include but not be limited to:
- a) Waste wood (stored externally) on impermeable pavement with sealed drainage
 - b) Processed wood (stored externally) on impermeable pavement with sealed drainage
 - c) RDF (stored inside building) or (if baled and wrapped may be stored externally) on impermeable pavement with sealed drainage
 - d) Mixed waste (stored inside the transfer building) on impermeable pavement with sealed drainage
 - e) Green waste (stored externally) on impermeable pavement with sealed drainage
 - f) Processed recyclable wastes on impermeable pavement with sealed drainage
- 3.3.3 Material listed above will be monitored for temperature periodically, using either the metre long temperature probe and/or the hand-held thermographic (thermal imaging) device.
- 3.3.4 Temperatures will be recorded on the designated temperature monitoring form in Appendix I 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.)

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

3.4 Record keeping

- 3.4.1 The following forms will be completed when waste is accepted at the site and will be used to detail how long waste has been on site. This will ensure significant residence times of wastes are avoided.

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

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

- 3.4.3 Unprocessed and processed waste will be stored in stockpiles and separated according to how long the waste has been on site. The range of time for each stockpile will depend on how much material has been brought on site but, for example, it can be estimated that material brought on site in a one week period will be stored together. This, combined with the details in Section 3.4.2, will allow a reliable estimate of how long wastes in stockpiles have been on site.

- 3.4.4 This information will be used to ensure residence time of material does not exceed the maximum duration of storage for each material, listed in the table below.

Waste Type	Max duration of storage <i>Normal/unplanned event</i>	Maximum quantity stored (tonnes)
Mixed waste (non-degradable)	14 working days	750
Mixed waste (degradable) unprocessed	1-5 days / one month	500
Unprocessed demolition waste	6 months	5000
Metal waste (ferrous)	3 months	50
Metal waste (non-ferrous)	3 months	25
Separated recyclable wastes (e.g. plastic, wood, paper, etc.)	3 months	250
Green wastes	2 months	50
Refuse Derived Fuel (RDF)	1-5 days / one month	1000
Cement-bonded asbestos	6 months	<10
Other haz waste WEEE (for recovery)	3 months	<20
Rejected waste	5 working days	<2

- 3.4.5 All the storage durations for combustible materials listed above are significantly below the 6 month maximum duration of storage for combustible materials outlined in section 5.1 of TGN7.01. The aim of the site is to process the incoming material and arrange for its export as soon as practically possible, to minimise risk of odour, dust and combustion.

4 MITIGATION

4.1 Fire Prevention

- 4.1.1 The following prevention measures will be implemented on site to reduce the likelihood of fires on site. The measures required will be discussed in relation to their associated ignition sources.

4.2 Burning of waste on site

- 4.2.1 No waste will be burnt on site other than in plant specifically designed for the purpose and in accordance with the relevant statutory instruments. A wood burner with a net rated thermal input of <0.4 megawatts may be used to heat the buildings and no more than 50 kg may be burned over a period of one hour. The use of a wood burner on site would be covered by a U4 exemption. As a significant source of heat, any wood burner would be kept at least 6m away from combustible materials within the building and will be closely monitored at all times.
- 4.2.2 Extensive training will be provided to all site staff and contractors.
- 4.2.3 Employment contracts recognise the severity of any instances of unauthorised burning of waste and would lead to immediate dismissal and threat of prosecution through civil/criminal courts depending on the circumstances.
- 4.2.4 Firefighting equipment (owned by the applicant) will be kept close to the areas of waste storage should accidental burning of waste occur through negligence. In addition, fire extinguishers will be located across the entire site (externally and internally) to aid the quick suppression of a fire once detected. Fire extinguisher locations are shown on the Fire Extinguisher Location Plan in Appendix III.

4.3 Overheating of stored waste

- 4.3.1 Direct sources of overheating may include generators, heating pipes, floodlight bulbs, space heaters or self-heating of waste. Any particularly reflective surfaces may also present a risk from direct sunlight.

- 4.3.2 Sources of heat will be kept at least 3m away from inert stockpiles and will be increased to 6m for any stockpiles of suspected combustible or flammable materials (i.e. mixed waste, wood, RDF).
- 4.3.3 As outlined in Table 2 (Maximum stack sizes and minimum separation distances) of TGN7.01, wood stockpiles should be limited to 10m in height and 20m in width. Stockpile heights proposed by Thorncliffe Building Supplies Ltd will be a maximum height of 5m as currently agreed with the local planning authority or if stored within bays will be limited to the height of the containment bay which they are stored within. To ensure compliance with TGN 7.01, RDF stockpiles will be limited to 5m in height and 20m in width. These restrictions minimise the susceptibility of material to overheating and are well below the recommended limits in the Environment Agency's (EA/NRW) technical guidance (TGN7.01).
- 4.3.4 To avoid any risk of spontaneous combustion, all combustible materials will be stored on site for no longer than 3 months, which is 3 months less than the 6 months outlined in TGN7.01. It is the intention however to remove combustible material much sooner than the guidance suggests as can be seen from the timescales detailed in section 3.4.4 above.
- 4.3.5 Stockpiles will be preferentially worked from the rear of the stored wastes, to ensure the waste is transferred without significant residence times towards the rear of the stockpile, and stored wastes will be kept adequately agitated in order to prevent the occurrence of "hot spots". A clear recording method will be in place to document how long material has been on site.
- 4.3.6 In the event of the stockpiles overheating, water will be added and the material will be turned to release heat. If a hot spot is identified in stored or imported waste and turning of the material is not deemed sufficient, the hot spot will be dug out of the stockpile and deposited in a designated emergency quarantine area. As it would be high risk, this area would have increased separation distances and be closely monitored until the risk of combustion had ceased.

- 4.3.7 To aid in the mitigation of dust emissions from the site, any processed wood chip stockpiles on site will be regularly dampened, a process which will also decrease the susceptibility of these stockpiles to combustion.
- 4.3.8 Although unlikely due to the types of material stored on site and the strict waste acceptance and verification procedures, consideration will be given to the location of certain stockpiles to ensure no reactions take place between incompatible materials. Furthermore, any wastes identified during the incoming waste inspections which are likely to be either particularly combustible or reactive will be removed and quarantined immediately to await safe removal from site and NRW contacted (where necessary) if the non-conforming waste discovered is likely to lead to a breach of permit conditions.
- 4.3.9 Any End-of-life tyres which happen to be brought onto site within a mixed load will be subject to further measures, in addition to those above, due to their high calorific value. More stringent storage times will be imposed on any tyre stack and stacks size are limited. A maximum of 20 tonnes of end-of-life tyres will be stored on site at any one time and stockpiles will be located at least 6m from other combustible materials on site.

4.4 Plant or equipment failure

- 4.4.1 Any spillages of fuel will be cleared immediately by depositing sand or absorbents on the affected area.
- 4.4.2 All site surfaces will be inspected daily when the site is in operation by suitable trained operatives.
- 4.4.3 Separation distances of 6m will be observed between plant and material when the site is not staffed.
- 4.4.4 Plant and equipment will be subjected to separate manufacturer-specific and operator-specific preventative maintenance programmes which include regular inspections by the Technically Competent Manager or suitably qualified person(s).

4.5 Electrical faults or damaged/exposed electrical cables

- 4.5.1 All electrical cables on site will be inspected and periodically maintained to ensure they are not damaged or exposed.

4.6 Leakage/spillage from fuel tanks

- 4.6.1 Any fuel tanks which are stored on site will be surrounded by a bund capable of containing a minimum of 110% of the volume of fuel stored in the tank.
- 4.6.2 All pipework and associated infrastructure will be enclosed within the bund.
- 4.6.3 A lock will be fitted to the tank valve to prevent unauthorised operation.
- 4.6.4 All valves and gauges on the bund will be constructed to prevent damage caused by frost.
- 4.6.5 The tank will be clearly marked showing the product within and also its capacity.

4.7 Arson or vandalism

- 4.7.1 The main entrance gates are of galvanised steel frame construction to a height of 2.4 metres. The gates will be padlocked when the site is unmanned to prevent any unauthorised vehicular and pedestrian access. The site benefits from 1.8m high steel palisade security fencing. In addition, there is CCTV in operation at the site.
- 4.7.2 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 7 working days. All repairs will be noted on the site diary within 24 hours of the event.
- 4.7.3 The security measures at the site are under constant review. If unauthorised access becomes apparent as a problem at the site the security measures will be reviewed and improvements implemented.

4.8 Naked flames/smoking materials

- 4.8.1 No naked flames or substantial heat sources are to be in close proximity to potentially combustible materials.
- 4.8.2 Smoking is prohibited on site.

4.9 Regular correspondence with Fire and Rescue Service

- 4.9.1 The site manager, and any other relevant parties from Thorncliffe Building Supplies Ltd, will meet with the local fire and rescue service (FRS) on a yearly basis to discuss this FPRP 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.

5 FIRE CONTAINMENT MEASURES

In the unlikely event that a fire were to break out on site, the site has a number of measures in place, in addition to a number of existing characteristics of the site, which would limit the size, duration and impact of a fire on site. These are listed below:

5.1 Fire Breaks

- 5.1.1 Combustible waste will be stored within bays or stockpiles within the building. Stockpiles will be limited to 5m or if stored within bays, the height of stockpiles will not exceed the height of the bay walls, to create significant permanent fire breaks between combustible materials and limit the spread of fire. By restricting the height of the stockpiles to the height of the containment bays in which they are stored, fire will not be blown over the walls of one bay and onto the material located in an adjoining bay. Furthermore, the containment bays will provide a wind break surrounding stockpiles of material, which will impede the acceleration of a fire through the increased oxygen supply provided by wind gusts.
- 5.1.2 In addition, upon the discovery of a fire, site operatives will be trained to create fire breaks on site under the guidance of the emergency services.
- 5.1.3 Site surfaces which are not used for plant or stockpiles, and are therefore providing a fire break, will be cleared using a road sweeper as required, to ensure that any potentially combustible material between stockpiles, which would undermine the effectiveness of fire breaks, is removed.

5.2 Controlled burn

- 5.2.1 In some instances, a plan for a controlled burn might be beneficial on waste sites in the event of a significant fire, to reduce the amount of flammable material surrounding the fire, thereby impeding the spread of fire across the site.
- 5.2.2 However, it has been decided that the initiation of controlled fires on site by site operatives would not be the safest method of tackling a fire, as this technique has

inherent risk associated with it and, if not conducted properly, could actually accelerate a fire on site. If it is deemed absolutely necessary that a controlled fire is initiated on site, it will be conducted under the control and direction of the fire and rescue service (FRS), who have significantly more training with regard to fire management and equipment available to them than site operatives.

- 5.2.3 In the majority of situations, separation distances and containment bays will provide sufficient isolation of a fire prior to the FRS arriving and assessing the situation. If it is deemed that further isolation is required, operatives will be instructed to move flammable materials away from the fire and instructed to place inflammable material in the path of the fire, to impede the spread of fire across the site.

5.3 Storage on flat ground

- 5.3.1 Site surfaces are flat, therefore reducing the risk of falling materials accelerating the spread of fire.

5.4 Sealed drainage system (containment of firewater)

- 5.4.1 All waste with the potential to leach will be stored within the transfer building or within the designated RDF building on a surface of impermeable concrete within a sealed drainage system. The floor to the rear of the storage and processing buildings being laid to fall to the rear of the building, to ensure that any fluids or spillages associated with the reception and processing of mixed wastes will be contained within the building.
- 5.4.2 The surface water from the concreted external areas drain into the site's drainage channels and towards the gullies and pass through the site's interceptors prior to discharge into the estate's surface water drainage system. Details are as shown on Drawing No. 2875/012/03. The external hardstanding areas used to store non combustible inert wastes and processed aggregates are permeable and drain naturally to the ground.

- 5.4.3 Uncontaminated surface waters arising from the roofs of the buildings on site are kept separate from the potentially contaminated yard waters. Surface water from these areas is stored in a tank and used for dampening down stockpiles on site.
- 5.4.4 Any liquid arising in the waste processing building will be prevented from entering the surface water system. The floor of the building will fall to the rear and any liquids arising within the building will be soaked up with sand or sawdust and then shovelled up for disposal with the general waste. The buildings are designed to contain drainage within the building.
- 5.4.5 Drain blocking and surface water control equipment is available for use on site. There is a range of equipment available on site, from sand bags, loose sand (in bags), drain bungs and mats and concrete lintels that are to be used to fabricate temporary bunds.
- 5.4.6 In the event of a fire, interceptors should be blocked off using sand bags to prevent water ingress, by placing them two layers high. Temporary bunds may be constructed to collect contaminated water prior to its removal off site.
- 5.4.7 Surface water protection measures should then be checked by a designated person regularly throughout the duration of the fire whilst water is being applied by the Fire Service. Periodic inspections should continue after the Fire Service have left until all run off has pooled. Breaches in control should immediately be notified to the site management and to NRW to allow additional measures of control to be considered and deployed.
- 5.4.8 Control measures should remain in place until after the clean-up operation has been completed and all contaminated fire water removed from site.
- 5.4.9 These measures ensure that there is sufficient storage on site for any contaminated water and under no circumstances will firewater be released into surrounding waterways, drains or any other system which might lead to contamination of water or land.

5.5 Adequate supply of water

- 5.5.1 There is a sufficient supply of water on site to enable the methods of fire prevention, containment and handling outlined in this document. In the event of a fire which can be tackled with water, a water bowser and hosepipes are available on site for tackling small fires and for dampening down stockpiles. The abovementioned equipment will provide the means to effectively utilise water on site to tackle small fires or impede the spread of larger fires (i.e. dampen down stockpiles to reduce combustibility).

5.6 Evacuation of staff

- 5.6.1 An evacuation plan has been formulated for the site and all persons have been made aware of it (through site induction and refresher training). Every building on site has at least 2 emergency exits, which are easily opened and free from obstruction. The fast and effective evacuation of staff will work towards increasing safety on site and limit the impact of a fire on human life.
- 5.6.2 Regular fire drills may be introduced on site, to ensure evacuation times are acceptable and that site staff remain informed of evacuation procedures. The operator may also appoint and train fire marshals on site, to aid in the above.

6 FIRE DETECTION & HANDLING PROCEDURES

6.1 Staff training

- 6.1.1 Staff will be suitably trained in how to raise the alarm, including supervisory contacts and guidance on how to use the extinguishing equipment should the fire be small enough to tackle.
- 6.1.2 A full understanding of the site's EMS and the procedures outlined in this FPRP document will be required to be demonstrated as part of the site induction for all new staff.
- 6.1.3 Ongoing training will also be provided to ensure site staff are informed of any changes to any of the site management documentation subject to regular review.

6.2 Infrastructure

- 6.2.1 The following measures are in place to ensure that fires are detected and tackled quickly on site:
 - a) **Manual fire alarm systems** - Will be activated on discovery of a fire.
 - b) **Regular manual checks** - The site operator will perform visual checks for fire or situations likely to increase the risk of fire.
 - c) **Fire Extinguishers** - Firefighting equipment will be provided and stored at a number of designated areas on site, which will be known to site operatives, and appropriate and regular training will be given for their use in tackling small fires. The location of fire extinguishers can be seen on the Fire Extinguisher Location Plan in Appendix III. All vehicles on site used for the processing and moving of material will be fitted with fire extinguishers, as required by TGN 7.01.
 - d) **Visible worded signs** - Will be placed strategically around the site, giving full and clear instructions for fire alarm and means of escape (Registration point, 999 instructions).
 - e) **Water supply** – There is a constant mains water supply for the site in the unlikely event that a fire were to occur and that fire was extinguishable using

water. If a fire does occur and the site operatives are unsure of the nature of the fire, guidance will be taken from the local fire service. As previously mentioned, there is sufficient equipment on site to effectively utilise the water for fighting fires or impeding its spread (e.g. water bowser and hosepipes).

- f) **Fire Hydrants** – In addition to the existing water supply on site, there is a fire hydrant available in close proximity to the site for use by the FRS, as shown in the Fire Hydrant Location Plan in Appendix III.

6.3 Access for emergency services

6.3.1 The industrial estate has direct access onto the A494/Mold Road, which subsequently joins the A55 to the east of the site. These surrounding roads provide adequate access for the emergency services.

6.3.2 The width of the surrounding roads and the gateway to the site are greater than those outlined in Table 1 (Fire Appliance Accessibility) in TGN7.01, therefore, providing sufficient access onto the site for the FRS.

6.4 Fire detection procedure

6.4.1 If a fire is detected or suspected it must be immediately reported to the site manager or Technically Competent Manager. The site manager will then conduct the following procedure:

- a) Raise the alarm (if not already done by another staff member), initiate evacuation of staff and visitors on site to a fire assembly point and instruct delegated person(s) to conduct a roll-call to ensure all site users are accounted for.
- b) 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.
- c) If viable and safe, instruct necessary site staff to commence extinguishment. If successfully extinguished, follow procedure in Section 7.

- d) If not viable or safe, call the Fire Response Service (FRS) immediately using 999.
- e) Prior to the FRS arriving, inform all neighbouring premises likely to be affected.
- f) If not previously informed, senior management of the company should be informed at this point of the details, nature and extent of the fire and whether assistance from staff from other depots is required.
- g) Ensure access routes are clear.
- h) 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.
- i) 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.
- j) 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.
- k) 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 the accident plan and update them with relevant information that will assist them in dealing with a fire more effectively.
- l) Implement pollution control measures only when safe to do so.

6.5 Staff/visitor procedure

6.5.1 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

6.6 Out-of-hours fire procedure

- 6.6.1 If a fire is detected on site outside of normal operating hours, the site manager or out-of-hours emergency contact will be notified of the fire by the Fire Service Incident Control Room, NRW or a member of the public.
- 6.6.2 The site manager/out-of-hours contact will then conduct the following procedure:
 - a) Irrespective of whether a Company presence is required by the Fire Service at the site, the out of hours appointed contact 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.
 - b) The site manager/out-of-hours contact will contact as many additional members of staff as required to ensure that surface water protection measures are deployed. Ideally this should be a minimum of three other staff members (enabling safe working in pairs) with at least one machine operator.

7 POST-FIRE SITE RECOVERY

7.1 General recovery procedure

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

- a) Any fires will be reported to NRW on the working day that they occur and will be confirmed in writing by fax or letter within 3 working days, 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 accident plan, FPRP and EMS, associated amendments will be implemented.
- e) Review of any training requirements for site personnel.
- f) All fire extinguishers used to tackle the fire will be serviced and replaced after use.

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

7.2 Fire debris

7.2.1 Fire debris should continue to be turned using the onsite plant and dowsed as necessary with the loading shovel and bowser. Debris should be turned and dowsed until site management confirm that the embers are cooled and there is no chance of a flare up.

7.2.2 Debris can then be cleared and isolated to a series of storage piles for onward temperature monitoring until they have cooled to an acceptable level for landfill disposal (<40 degrees C). Once cooled to an acceptable temperature, as described above, bulk haulage should be arranged for the removal of the ash from the site.

7.3 Surface water containment

- 7.3.1 Surface water protection measures should remain in place and regular checks on them should be maintained until the clean-up and removal of all fire water has occurred, the emptying of all holding tanks, gullies and interceptors has been carried out and the final brushing up of the affected area has been undertaken. It is the site management who are responsible for deciding when an appropriate level of clean-up has been achieved to remove the surface water protection measures.
- 7.3.2 Surface water on site will be cleared using the following methods.
- a) Using the bowser, all standing fire water should be sucked up and discharged to foul sewer or stored prior to removal off site.
 - b) The first 2 – 3 bowser loads of firewater contained within the interceptor should be removed and discharge to foul sewer or stored prior to removal off site.
 - c) Using all available resources, manually clean out all surface water gullies removing the debris to the pile of fire damaged waste for removal to landfill.
 - d) Using the bowser, flush the drainage system to the interceptor with clean water. Repeat no more than twice.
 - e) Remove another 2 loads of firewater from the interceptor and discharge to foul sewer or store prior to removal off site.
 - f) Repeat the previous 2 steps until the water used to flush the drains runs clear into the interceptor.
 - g) Using a road sweeper, sweep the yard (damp as required using the bowser) until all ash and clinker has been removed.
 - h) Repeat steps d and e until the discharge to the interceptor runs clear.
 - i) Empty the interceptor (5 loads from full approx.) and discharge the water to foul sewer or store prior to removal off site.
 - j) Repeat steps d, e and i until the water in the interceptor remains clear.
 - k) All debris has now been isolated and all tanks have been cleaned and emptied.

- l) Wash the yard down in entirety using clean water, or allow a reasonably heavy rain shower to wash the yard down. All runoff should remain discharged to the interceptor.
- m) 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.

7.3.3 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 bunds.
- b) Remove all sand bags.
- c) Surface water discharge from the site is now possible the next time it rains. 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.
- d) Account for all consumables that have been used in the fire and re-order / replace immediately.
- e) Restack, and re-locate all items used for the surface water protection during the fire to their storage locations ready for future deployment.
- f) Check monthly that items are still present and correct and still serviceable for use in an emergency.

APPENDIX I

Temperature Monitoring Sheet

Temperature Monitoring Sheet

Summary of Requirement

- A requirement exists to ensure that temperatures of waste piles both processed and unprocessed, at the Thorncliffe Building Supplies 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 °C	High Temp °C	Probe or Thermo (P or T)	Comment
	WOOD (WASTE)			T	
	WOOD (PRE-PROCESSED)			T	
	WOOD (PROCESSED)			T	
	MIXED WASTE			T	
	MIXED WASTE			T	
	GREEN WASTE			T	
	REJECTED WASTE			P	
	RDF			T	
	RDF			T	

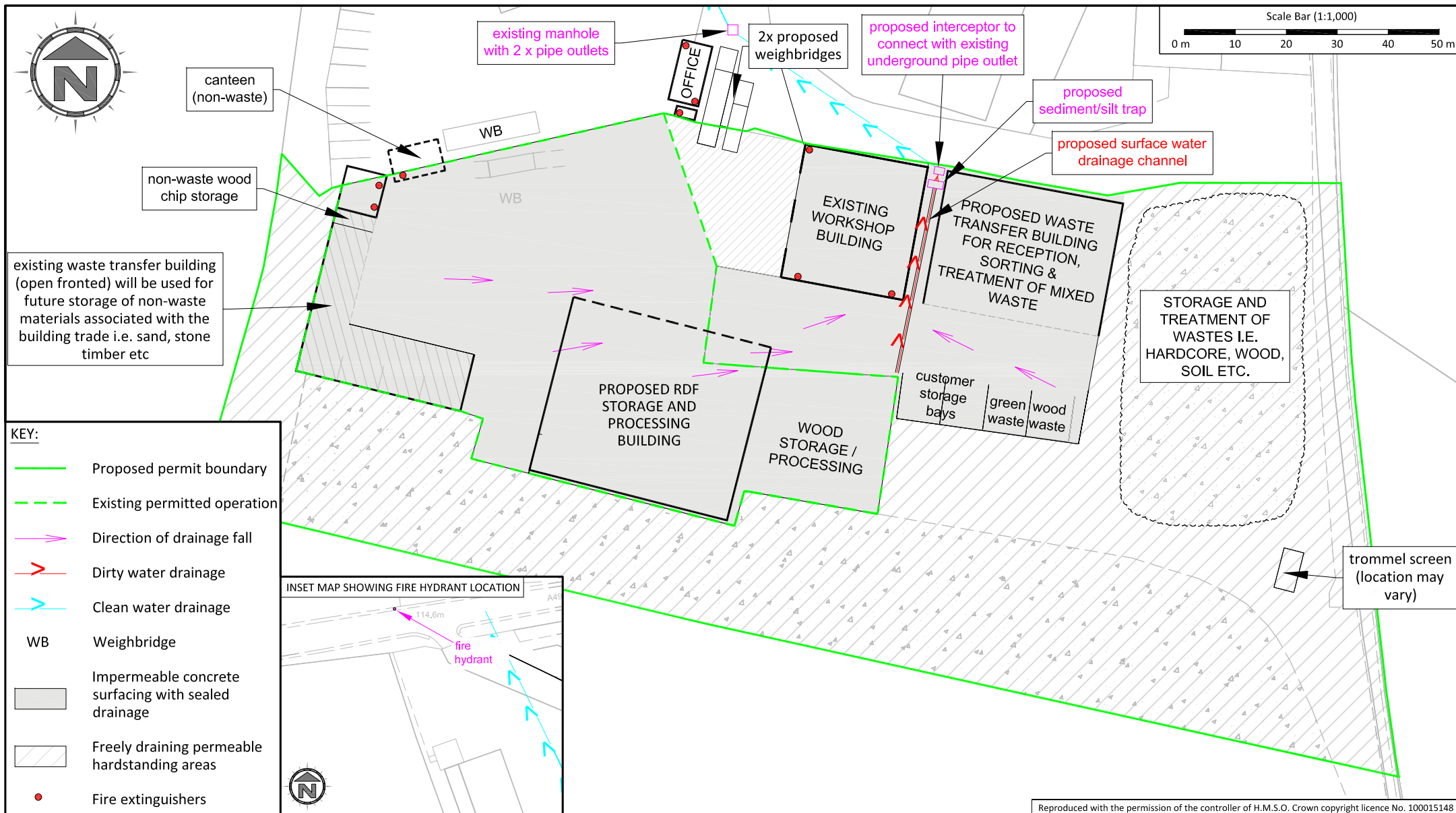
ANY RECORDED TEMPERATURE ABOVE 75°C (FOR COMPOSTED WASTE) AND 50°C (FOR ALL OTHER WASTE) SHOULD BE REPORTED IMMEDIATELY TO A SENIOR MEMBER OF THE MANAGEMENT TEAM

Day_____ Date_____

Name_____ Signed_____

APPENDIX II

Site Layout Plan



 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		Site: Ewloe Barns Industrial Estate, Mold Road, Altami, Mold, CH7 6LG Date: 19 March 2015		Notes: 1. Drawing is for indication only. 2. All measurements have to be verified on site. 3. Site layout and operational changes may occur throughout the lifetime of the Environmental Permit. 4. NRW will be contacted to note any major changes to the above plan. 5. The location of the nearest fire hydrant is situated on the A494 opposite the larger site entrance (see inset plan).		Revision Details: <table><tr><th>Rev</th><th>Description</th><th>Date</th></tr><tr><td>-</td><td>Initial drawing</td><td>18/06/14</td></tr><tr><td>A</td><td>Amended for revised operational layout</td><td>15/08/14</td></tr><tr><td>B</td><td>Amended as per NRW comments</td><td>03/12/14</td></tr><tr><td>C</td><td>Amended for revised operational layout</td><td>19/03/15</td></tr></table>			Rev	Description	Date	-	Initial drawing	18/06/14	A	Amended for revised operational layout	15/08/14	B	Amended as per NRW comments	03/12/14	C	Amended for revised operational layout	19/03/15
Rev	Description	Date																					
-	Initial drawing	18/06/14																					
A	Amended for revised operational layout	15/08/14																					
B	Amended as per NRW comments	03/12/14																					
C	Amended for revised operational layout	19/03/15																					
Title: SITE LAYOUT & DRAINAGE PLAN		Scale: Main 1:1,000 / Inset 1:2,500		Printed At: A4																			
Drawing No: 2875/012/03		Revision: C	Drawn By: CP	Checked: JE																			
Client: Thorncliffe Building Supplies Ltd		Job No: 2875	Client No: 012																				
(c) Copyright Oaktree Environmental Ltd																							

APPENDIX III

Fire Extinguisher and Fire Hydrant Location Plan

SEE APPENDIX II

Drawing No. 2875/012/03