FIRE PREVENTION PLAN

Version 4.1

WASTE MANAGEMENT
TRANSFER and TREATMENT,
COMPOSTING FACILITY
and
BIOMASS BOILER OPERATIONS
at
Sinkfall Farm
Barrow-in-Furness

FIRE PREVENTION AND MANAGEMENT PLAN

Prepared on behalf of:

Brian Armistead
Brian Armistead Ltd.
Sinkfall Farm
Rakesmoor Lane
Barrow-in-Furness
Cumbria LA14 4QE
Tel: **01229 465000**
Mob: **0783141414569**

Site Detail:

PERMIT EPR/DB3701SN/V003

Preparation assisted by:

Brian Armistead
Luke Armistead
Tony Layfield

Revision v4.1 date: **24th August 2024**

V4 Revisions Summary: Revised for increased tonnages, Inclusion of 'Treatment' and Hazardous/Clinical Wastes
Full Revisions Record now at Appendix 15.
V4.1 Revisions Summary: Revised to include 'self-combustion', storage separation and fire detection/suppression systems.

PREFACE

The purpose of this Document is to minimise the risk of uncontrolled FIRE at the site and therefore keep people, living things and the environment safe.

The aim of this document is to highlight the high risk areas and activities; and provide simple rules, guidance and procedures for identifying the significant risks and for dealing with small or large outbreaks of fire if they occur.

This Fire Prevention and Management Plan includes consideration of new treatment activities, the revised site capacity, new buildings, and new waste types including hazardous and clinical waste.

The Fire Management Plan is guided by the following ethos:

PREVENTION IS BETTER THAN CURE

It refers to the FIRE TRIANGLE as the basis for determining Risk and control.

Starving a fire of oxygen may be used as a measure of control; however, for most activities and processes at this site, ambient air supplied oxygen is ordinarily available.

Therefore the RISKS and the CONTROLS are largely dependent upon the control of the FUEL availability and prohibition of any uncontrolled means of ignition by way of HEAT, whether intentional, accidental or incidental

This Plan considers 'Failure' scenarios, and considers CONTINGENCY plans.

For you, the Manager, The Visitor or first responder or member of the public; please read the simple 'FIRE MANAGEMENT' POSTER.

If in doubt, or if an incident or emergency arises then please contact one or more of the following as quickly as possible:

	Responsible Person		telephone	mobile
1	Brian Armistead	Brian Armistead Ltd - Manager	**01229 465000**	0783141414569
2	Tony Layfield	Sinkfall Recycling Site Operations Manager	**01229 465000**	07918626168
3	Luke Armistead	Brian Armistead Ltd - Deputy Manager	**01229 465000**	07793324897

A	**In Case of major FIRE**	**Fire Brigade**	**999**
B	Personal Accident or Injury	Ambulance	999
C	Security breach, vandalism or arson	Police	999
D	Major Effluent/Liquid spillage or leak	Environment Agency	03708 506 506

This Fire Prevention Plan is to be kept at the main (Weighbridge) office (Sinkfall Farm)

LIST OF CONTENTS

REVISIONS TABLE.

10/11/2016	a) Accessibility to windrows if needed.	P4, Box 1
	b) 'Oversize' Stockpile rotation & max volume 150 m^3; separated; frequently checked temperature	P4, Box 2
	c) Action Taken if trigger temperatures reached. d) remote Quarantine area e) fire water availability	P4 Box 2 P1 Fig 1. P3 Fig 3. Quarantine P15 Fig 4. & 8.1
15/02/2017	Boiler and Drying System	New section added. & Ann 5
7/11/2017	Revised Permit Boundary Plan – new Permit	Fig 2 and Fig 4
	Revised Drawings throughout document. Added Drawings for Waste Wood storage	Fig 5 Fig 6
7/01/2018	Revised parts as advised by EA includes fire suppression, training, pile sizes etc Waste Wood storage	Various parts, see List at p 2.
27/01/2018	See EA Comments Reconciler at Page 3. All new information highlighted yellow	Additional Revisions 24 Jan
27/02/2018	Revised quarantine area location and construction now of concrete. Revised drawings accordingly Revised the Fire Response Plan relating to the new Quarantine area. And drainage from that.	Appendix 8b and c Page 43 Appendix 8c Page 44
6/03/2018	Added in Calculations to detail the collection and storage of spent fire water Added a Drawing to show Surfacing, kerbing and Drainage Plan for the new Quarantine area.	Page 44 Page 45
5/04/2019	Revised Site Plans in all sections, to show INTERIM waste Storage arrangements; annotated to state the pile size and separation distances used.	
	Revised Site Plans in all sections, to show the new and additional potable water storage tank at the north-west of the yard kept for fire-fighting purposes.	
	Revised Site Plans in all sections, to show that the development of the 'New MRF' is not yet at operation stage. Also to show that the proposed hydrant is not yet available.	
	Revised Water availability calculations to show the water availability in relation to waste storage	
	Added Section 4.2.4 to reference the Kerbside Collected Materials (includes paper card and plastics)	
	Added Figure 7 to show the arrangement of the Recyclate storage and segregation of piles.	
19-24/7/24	Added details of new transfer and treatment building.	
	Added new site plans showing revised layout and location of the quarantine area.	
	Revised calculation of water tank – fire water availability	
	Reviewed waste types and considered fire implications	
24/08/2024	Self combustion new information relating to mixed waste and wood waste added at 5.4.4b and 5.4.4c [existing self combustion for composting becomes 5.4.4a]	
	Storage separation. Is described in section 4.2.2 to 4.2.6. A new section 4.2.7 has been added to describe the storage of mixed waste. The original 4.7 renumbered as 4.2.8	
	Fire detection: Wood biomass (boiler fuel) process exists at Box 5 p13. Now shows the fire detection extends to the mixed waste storage areas Waste Transfer Building - Weekly walk round checks now revised as 'End of Day' walk round checks at 11.5. p34 and also referred to at 5.48. New section 5.5 added at page 24	
	Fire suppression: New section 5.5 added at page 24	

SAFETY GUIDANCE

VISITOR SAFETY GUIDE

1. Always Notify the Site manager that you are entering the site and 'Sign in'
2. Always wear protective Clothing, including safety boots and hi-visibility jacket/vest
3. Wear Hard hat if entering into an area where high level works are undertaken
4. Wear safety Glasses, ear defenders (or plugs) and face masks where required
5. Be accompanied and do not leave your escort or colleague alone.
6. Be aware of vehicles at all times, lorries, loading shovels or tractors.
7. Be wary of slippery surfaces
8. Have a means of communication and the office/managers phone number (see below)
9. Do not enter into confined spaces, including vessels, tanks, sumps, ducts or pits.
10. DO NOT SMOKE or light naked flames, smoke bombs or similar
11. DO NOT tamper or amend the settings on any equipment, control system or machine; without prior permission from the manager; and obtain Permits to Work when required.
12. Observe Health & Safety rules and wash hands etc. when leaving the facility. 'Sign out'.

PERMITS TO WORK ARE REQUIRED FOR

a. Any **HOT-WORKS** entailing equipment that entails a source of heat, flame, spark or friction or any unshielded electrical appliance whether fixed or portable.
This includes welding, arc welding, grinding of metals, heat guns, electrical heaters, unshielded electrical motors in fixed or mobile equipment including hand-drills etc.

b. Any **CONTACT WORKS** that entail adjustment or setting of any computer, controller, valve, pipe, pump, electric motor, engine, machine or equipment that holds fuel or oil, or controls the flow of such fuels or oils, or monitors any part of the plant that contains fuels, oils or liquids that could inadvertently be released.
This includes all tanks, vessels, pipelines and equipment that are within the composting site area.

FIRE EMERGENCY

GET OUT, CALL THE FIRE BRIGADE OUT (Call 999), GET EVERYONE ELSE OUT
CALL THE SITE MANAGER: **Tony Layfield** (**01229 465000**) OR **Brian Armistead** (**0783141414569**)

GAS OR FUEL LEAKS:

GET EVERYONE OUT,
CALL THE SITE MANAGER: **Tony Layfield** (**01229 465000**) OR **Brian Armistead** (**0783141414569**)

PERSONAL ACCIDENT EMERGENCY

CALL THE SITE MANAGER: **Tony Layfield** (**01229 465000**) OR **Brian Armistead** (**0783141414569**)
CALL THE AMBULANCE SERVICE (Call 999), GET HELP

1	Brian Armistead	Brian Armistead Ltd - Recycling Director	**01229 465000**	**0783141414569**
2	Tony Layfield	Sinkfall Recycling Site Operations Manager	**01229 465000**	07918626168
3	Luke Armistead	Brian Armistead Ltd - Deputy Manager	**01229 465000**	07793324897

SECTION 1.0 INTRODUCTION

1.1 Introduction to the Fire Management Plan – Purpose, Scope and Style

This Plan has been prepared with the main aim of preventing accidents and incidents that may cause a Fire Incident at the Waste Transfer and Treatment Facility at **Sinkfall Farm, Rakesmoor Lane, Barrow-in-Furness, Cumbria. LA14 4QE**

- The Plan considers the Fire Triangle as the means of identifying Fire Hazards both existing and those that may be caused by incident
- The plan considers the Location of these
- It considers the Risks and the people at Risk.
- It considers the Technological Controls and the Managerial Controls
- It considers the Fire Emergency Response Plans and Contingency Plans

In order to be concise and clear the Plan is produced in short statements and illustrations.

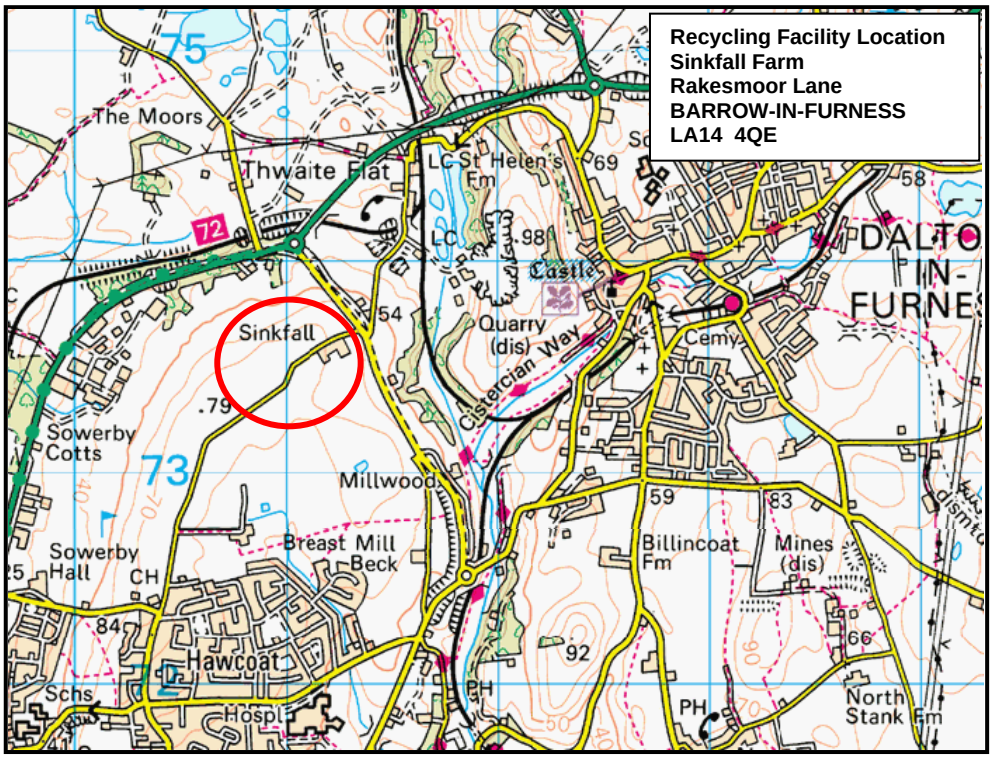
1.2 Introduction to the Site

1.2.1 Site Location

The site is located at the following address and grid reference. A location map and site plan is shown below at Figures 1 and 2.

Sinkfall Farm
Rakesmoor Lane
Barrow-in-Furness
Cumbria LA14 4QE
National Grid Reference: **SD2118,7358**

Figure 1: **Sinkfall Recycling *Facility Location Map***



SECTION 2.0 THE SINKFALL RECYCLING FACILITY

2.1 The Recycling Facility

The site now provides facilities for a wider range of materials transfer and treatment, including composting, aggregates recovery and recycling; and facilities for the sorting and transfer of waste materials including clinical and hazardous waste. The site is operated under an Environment Agency regulated Environmental Permit EPR/DB3701SN/V003 that was updated in 2024.

The total capacity of the site is for 120,000t/yr. Limits specified for various materials include:

500 t limit for material prior to disposal
10,000 t limit in total for the material in storage on the site.
1000t limit for materials associated with composting – pre-storage, maturation etc.
There are some suitably low tonnage limits for the clinical waste, and Hazardous waste.

In 2017 a new biomass boiler system was added to enable agricultural crops and other materials to be dried and conditioned to form products including animal feeds, animal bedding and dry woodchip biomass to be used in agriculture and associated industries. The Combustion Process is operated under a Local Authority regulated Environmental– LAPPC Part B - Permit.

2.2 The Waste Transfer and Treatment Activities

2.2.1 Waste Transfer – Non Hazardous Waste

The site provides simple waste transfer facilities for household waste that is collected and delivered by the Local Authority, together with other contract waste such as from 'Bring centres' (collection of glass, paper, cans, plastics etc.) and commercial premises.

In addition, wood, metals, soil and aggregates are stored and recovered and swiftly despatched off site to their respective markets.

2.2.2 Waste Transfer – Clinical and Hazardous Waste

The site provides secure waste transfer facilities for Clinical Waste and for Hazardous Waste. These do not undergo treatments (but Permitting rules regard the re-bagging or uploading of bagged clinical waste as a treatment). Not all clinical waste is Hazardous.

Hazardous waste materials need to be retained segregated and not mixed. These are kept in very small quantities and held in specialist containers, within a secondary lockable shipping container or similar. There are site rules for accessibility and training of the relevant staff in regard to these.

2.2.3 Waste Treatment

The site has been upgraded to provide simple treatment activities for some of the household, commercial and Industrial waste that is received. Specifically this is for compost, wood, aggregates, soils and some other recovered materials.

Some of the treatments entail the use of powerful heavy duty machinery.

2.3 The composting scheme

2.3.1 The composting Activities

The site provides composting facilities for green waste and is operated in keeping with the conditions of an 'Environmental Permit'. The Permit provides the requirement for a range of management systems, including training of staff, waste acceptance criteria and standards for the

management of the composting processes. The systems help ensure that the materials can be composted at the site without causing environmental nuisance.

The composting is undertaken in accordance with a Quality Management System. It shows that the facility can produce quality compost that can be beneficially used in agriculture or for landscaping purposes. Historic incidents are taken into account in forming this plan.

The facility provides a good measure of environmental protection as follows:

1. Separation distance of the principal areas of activity away from sensitive receptors
2. The quantity of material in process externally is managed to a relatively low quantity
3. The site has for several years undertaken composting of green waste
4. The site is linked to a farm and operatives work to established Health & Safety procedures
5. The process provides the facility for harvested rainwater water-based damping down of material to control of airborne emissions such as dust and bioaerosols.
6. Harvested rainwater is stored in a below ground tank at the site to provide a useful fire suppressant.
7. The external operations are undertaken with due consideration for the wind direction
8. The site does not store materials for extended periods and there-by minimises risks.

2.3.2 Green Waste Composting Process

The green waste composting process is based on a proven system:

External reception and checking of both kerbside collected green waste and that arriving from the civic amenity sites and landscapers. Material is received to external areas, with the green waste material being stored externally on the impermeable paved yard area to the north of the site. The fresh material is sorted and stored prior to preparation/ shredding treatment.

The feedstock material is managed in storage to ensure that risks to the environment are minimised (effluent and airborne emissions) and that combustion risks are minimised by managing the material to minimise forms of ignition including self-heating (spontaneous combustion).

Figure 2 shows an illustration of the facility spatial layout. The Permit provides for flexibility so that the seasonal variation in the wood and green waste inputs is allowed for, as well as areas for the movement of material within the external pad and for the passage of vehicles.

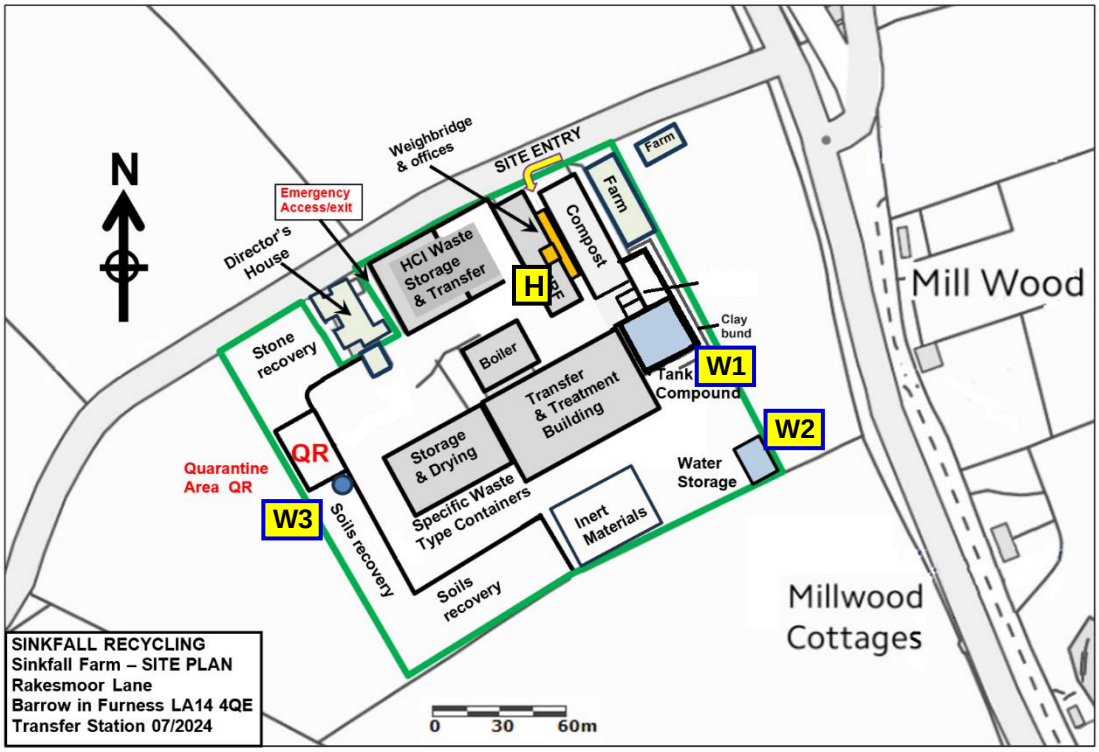
Shredding is carried out so that the material is processed and discharged to the northern building within the site. Material is moved into ‘windrows’ (Batches of material) and follows the aerobic ‘turned windrow composting process. Screening may be undertaken externally with a suitable screener when weather conditions are appropriate. Product maturation after screening is undertaken within a second building to the east of the site. Environmental measures are in place for the damping down of the composting activities and dust on the exposed yard surfaces using harvested rainwater. Oversize storage is to the south of the site and the quantity stored at any time is limited. This material is pre-treated to remove litter and then re-utilised with fresh feedstock.

2.3.3 Green Waste Processing Capacity

The capacity of the composting site is up to 7,500 tonnes per year of imported waste material. This indexes to the need at peak times to keep to the limit of 1,000 tonnes of material at any one time; however, not all of this tonnage would be in process at the same time. Some of the material will be in the form of oversize, some material will be in the reception area and some material will be finished product awaiting despatch. Box 1 summarises the tonnages of materials onsite at any one time and the annual throughput capacity.

Green waste comprising grass, leaves and vegetation shall be processed within the composting system to make compost and large wood pieces (oversize) shall be screened within the area just south of the centre and then stored in a segregated storage area along the southern perimeter of the site. Finished Compost product is stored within a segregated walled area to the east of the site.

Figure 2. Site Plan including External Pad areas. (Detailed drawings at Appendices 6 & 7, FULL PLAN at Apx14)



After sorting and shredding into the primary windrow area, the green waste shall be composted so that any effluent drainage is directed to the drainage system. The effluent shall be collected by gravity drainage over the surface, thereby reducing drain blockage issues. The compost undergoes the sanitisation / stabilisation is then screened and matured.

Box 1: key Parameters Relating to the Composting Process. (NOTE: revised to 2024 actual)

The maximum throughput is calculated as 2,500-3,000 tonnes per year.
This equates to an average of 50 t/week input material and no more than 70 t/week at peak of the season.
There is a maximum of 750m^3 feedstock storage/processing material on site at any one time.
For a process time of 12 weeks, this equates to <350 t of material in process at any one time.
The screening of product and storage on site shall provide for <200t product at any one time.

Total maximum material on site at one time = 600 tonnes

The **MANAGED** windrows for the composting process shall enable natural ventilation based on dimensions: average settled height 3m, width 5m and length 30m. (450 m^3)
There shall be a gap of approximately 1m between the windrow and any other material; to provide separation and ease of access for monitoring.
As a managed composting process, this is exempt from the maximum pile size requirements.

2.4 Fire safety of the Compost Feedstock and Oversize material

The composting system entails the processing of green vegetation material that may in some instances be dry and also which may generate dust.

Stockpiles are closely monitored for temperature and shall not be allowed to exceed 75° C.

a) for the benefit of the biological process and
b) for the prevention of spontaneous combustion.

Any dry woody material such as oversize; is either kept separate and used as biomass or else is added to the feedstock (e.g. when the feedstock is very grassy/dense and needs amendment material) and is then composted within the processing system. Feedstock and oversized material held in readiness for composting is first wetted and retained in a damp (40 – 60% moisture content) state and monitored throughout the composting process.

The stockpile shall be of a size and arrangement (see Box 2) that is easily monitored and cooled. The material in storage is separated from material in process.

Box 2: key Parameters for the Composting Process Oversize and Feedstock Stockpile(s)

The maximum stockpile of over-size shall be limited to 100 m^3 of material (typically 50m^3).
As an example this equates to an average of **6m length x 6m wide and 3m** deep stockpile.
The typical stockpile of feedstock material is limited to 750 m^3 of material (typically 450t).
As an example this equates to an average of **20m length x 12m wide and 3m** deep stockpile.
The stored material shall be utilised on the basis of 'first-in, first-out', i.e. older material removed as a priority to fresh material.
The **stockpile** is monitored by checking the core temperature at least once each week.
If the trigger temp (75 C) is reached, then the stockpile is cooled by physical aeration or wetting.

2.5 Fire safety for any Fuels or other accelerant

There are no fuels, oils or gases stored on the composting site, with the exception of that which is within the fuel or oil tanks of the vehicles or machines that are being operated.
[Reference to mobile bowser deleted].

2.6 Fire safety for Other Wood or Combustible Materials on Site

The Wood / Biomass facility is described in detail below at 2.7. In tandem to this is the wood recovery and recycling activty.

As a building materials recovery facility there are times when waste wood, board and panels are received and prepared for recovery, recycling or disposal. These materials are generally held in skips or specialised containers and in relatively small quantities.

The Fire Prevention Plan provides the focus of attention on the minimisation of ignition with such storage of wood based materials. Checking of the material as it is received, to ensure there has not been any previous ignition within the materials, care in handling to avoid friction or sparks and care in the use of machinery to ensure that the machines do not provide a source of ignition (e.g. electrical systems, batteries etc.) and also rules in regard to specialised 'hot-works' (welding, cutting and grinding) on site.

Other Combustible Materials on Site
Other materials on site are predominantly inert materials including hardcore, aggregates, sand and soil. The Hardcore materials may comprise slate and stone, bricks, blocks and paving slabs.

Potentially flammable materials include:
Tyres, paper, plastics, textiles.
These materials are received, segregated and loaded to individual containers for short term storage during bulking up. The containers may comprise builders skips to 15 m^3,or else are 'Roll-On, Roll-off type of 6m x 2.4m x 3m = 45m^3 . These are parked within the open area of the MRF (Area 3) and positioned so that each is accessible. **Refer to Appendix 7 and 8.**

2.7 Fire safety for Biomass Raw Wood and Biomass Products on Site

These materials shall be held in skips or specialised containers or in the specially assigned holding areas and in relatively small quantities in order to maintain a uniform flow of inputs and outputs.

As for other wood materials The Fire Prevention Plan provides the focus of attention on the minimisation of ignition with the storage of wood biomass materials.

Care in handling to avoid friction or sparks and care in the use of machinery to ensure that the machines do not provide a source of ignition (e.g. electrical systems, batteries etc.) and also rules in regard to specialised 'hot-works' (welding, cutting and grinding) on site.

The Biomass is either Virgin Biomass and will be dried for resale; or else is Grade A waste wood that may be used for manufacture of animal bedding or else used as a fuel for the Biomass Boiler on-site. The Grade A type biomass is described as follows.

In summary, this describes the biomass wood fuel types as

a. Fresh cord wood from the forestry e.g. supplied by Tilhill Forestry Ltd. This to be chipped and dried to G30 and G50 woodchip.
b. An agreement with a Local Biomass Supply company is well advanced, this is where they will provide wet G30/G50 wood-chip to be dried.
c. Contracts for removal, or acceptance of landscaper and tree-surgery thinnings and branches (virgin wood) are being escalated e.g. a recent one for tree thinnings from schools will produce over 250 tonnes.
d. In the past there has been no outlet for tree roots and other wood that is too large or mis-shapen to go into the composting system, but with new size reduction equipment, these will be a valuable feedstock.
e. A separately run operation deals in forestry products generates 'sawmill' type waste. Arrangement with other sawmills will enable the sawmills-residues such as fence post offcuts, sawdust and shavings which amount to 5 – 10 tonne per week.
f. The site has contracts for the removal of surplus timber pallets from the paper manufacturing Industry and local Councils; these shall be Grade A.
g. For the woodchip, logs and other biomass materials the site will join the national BSL scheme that considers the source and supply route of biomass.

   In addition to virgin wood/biomass, the boilers will be fuelled by Grade A waste wood.
   Grades B, C and D waste wood will not be used in the boiler.

The following outlines the operational procedures that will be in a place to inspect wood delivered to site. Grade A waste wood is delivered to site in Wagons, Skips or trailers. The loads are weighed using the weighbridge facility. Once the load is weighed, it is directed to the wood recycling reception area. **(Marked as Wood Reception – Building 2)**

2.8 Reception of Grade A Wood – To Building 2

Upon arrival at the reception area, the driver must announce arrival on-site and report to the Site Supervisor or Loading Shovel Driver.
The vehicle driver is instructed where to unload the wood and once unloaded, a visual inspection of the load is undertaken to ensure that the wood comprises Grade A material only. Wood of Grade A quality will be visibly identifiable using established criteria and will typically include untreated and uncoated pallets, packing cases, cable drums and process off-cuts.
If the wood has been delivered by a third party, the driver is required to wait on-site until the visual inspection has been completed. Once the load has been verified as comprising Grade A waste wood only, the driver is permitted to leave the site. The unloaded wood is transferred to the internal wood storage and processing area as shown on the site layout plan.

Figure 3 Waste Reception MRF

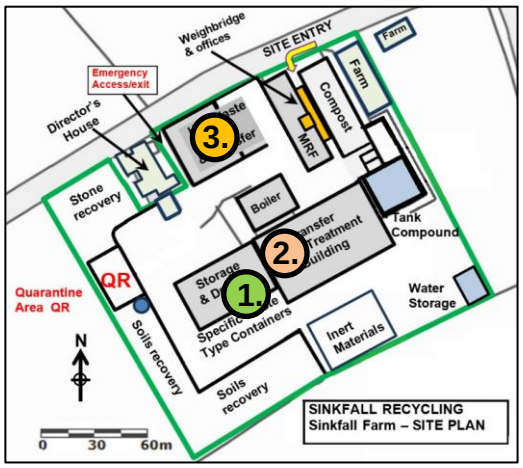
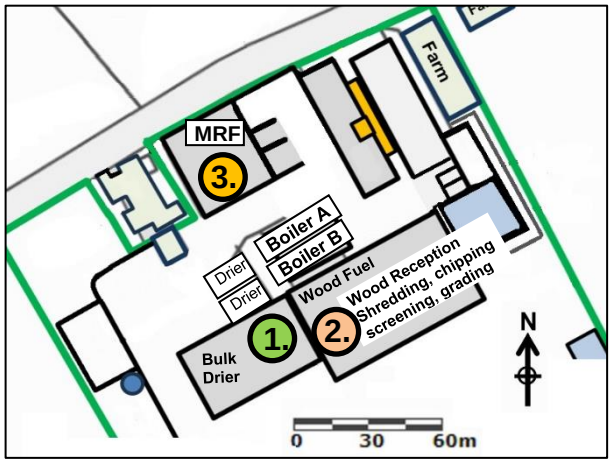


Figure 4 Waste Wood Reception and Pre-treatment



2.9 Reception of Mixed Grade Wood to MRF Area 3

Any loads of Mixed Waste that comprise wood, shall be directed to the Materials Reclamation Facility to be sorted and segregated. Any Grade A Wood sorted, segregated and checked for compliance shall then be **transferred to the Wood Reception Building 2.**.

This is summarised in the following Table. 1

Area	Material	Directed to on arrival	Processing
1.	Clean Virgin Wood Materials	Arrives to site at weighbridge; then taken direct to the Wood drying Facility	Virgin wood may be chipped. Dried on the wood drying facility, either on the floor or within containers
2.	Pre-sorted Grade 'A' wood	Arrives to site at weighbridge; then taken direct to the Wood Processing Facility	Pre-sorted wood may contain small percentage contrary material that is required to be extracted, or is extracted during processing (e.g. nails from pallets). Any such contrary material is removed to the MRF area. Grade A wood is shredded or chipped; then screened for fuel or animal bedding.
3.	Mixed Wood Types - 'A', 'B'	Arrives at weighbridge; then taken direct to the Materials Reclamation Facility Area	Such material must be sorted and checked and then allocated to correct waste stream, AND the wood categorised into its CLASS A, B etc. Then ONLY Grade 'A' wood is transferred to the Wood Processing Area 2.

Figure 5 Boilers and Wood Fuel Store

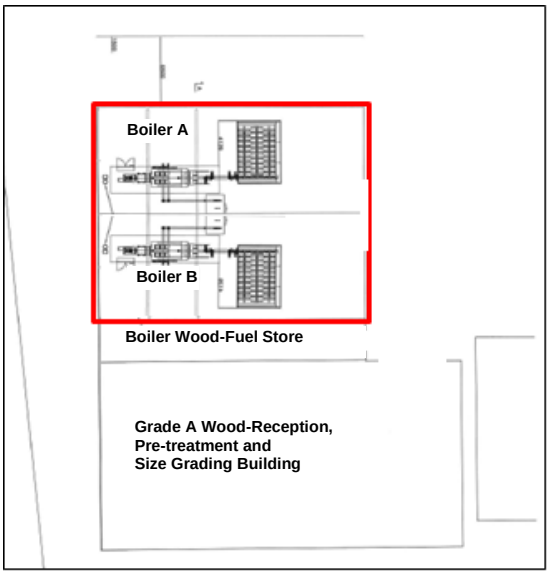
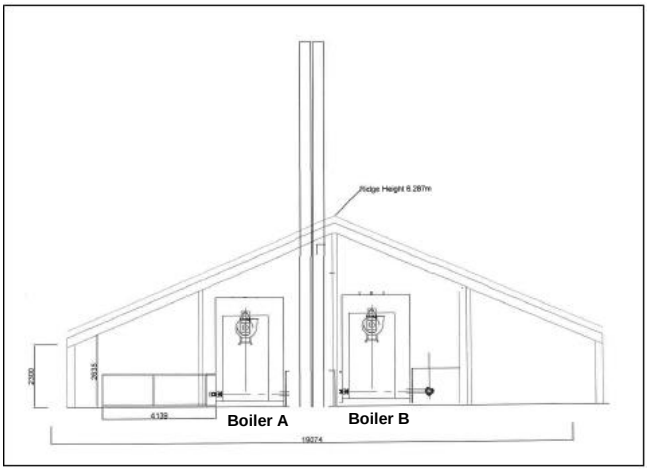


Figure 6 Twin Boiler Building



2.10 Fire safety for the Biomass Boiler

The Biomass Boiler is housed in its own specially assigned building that has been fitted with Fire Prevention equipment, water based fire extinguisher system and monitoring systems.

These include for remote monitoring and there are in-built smoke and alarm systems.

The wood-fuel feeding system is outside of the Boiler House in its own enclosure and the conveyor and auger feed system includes for guillotine type shut off systems with integral water shower to prevent fire-spread from the boiler back to the fuel storage.

2.11 Fire safety for Crop and Product Drier

The Product Drying system is housed in its own enclosure and is based on indirectly heated airflow as the source of drying. The system is limited in temperature to that from the 'Low-Pressure' hot water system (i.e. is less than 100°C) and so there is no direct linkage between the Boiler or its products of combustion and the drying system.

Materials go form the dryer to a cooler and then to storage in specialised holding containers and are exported from site without any prolonged storage requirement.

2.12 Flow Chart 1. Summary of Waste Wood Process Flow including the Wood, Paper Wastes for Bedding and Wood for On-Site Fuel Use.

Virgin Wood (Logs or Chip) for Drying as Biomass

Pre-store in Drying Area	In Drying	After Drying
Bulk ~ 250 m^3 Max. storage 5 days Containerised 4 x40m^3 = 160m^3 Max. storage 1 day	Bulk ~ 250m^3 over 2 weeks Containers = 4x 40m^3 over 2 weeks	Bulk ~ 240 m^3 1 week Containers = 4x40$m^3$for 2<7days

Containers 6m x 2.4m x 3m = 43m^3

Paper Crumb and Associated Waste Paper Material for Drying as Bedding

Pre-store in Drying Area	In Drying	After Drying
Bulk ~ 240 m^3 Max. storage 5 days Containerised 4 x40m^3 = 160m^3 Max. storage 1 day	Bulk ~ 240m^3 over 2 weeks Containers = 4x 40m^3 over 2 weeks	Bulk ~ 240 m^3 1 week Containers = 4x40$m^3$for 2<7days

Grade A Waste Wood for Drying as Bedding

Pre-store in Wood Reception Area	In Drying	After Drying
Bulk ~ 240 m^3 Max. storage 2 wks Containerised 4 x40m^3 = 160m^3 Max. storage 2 weeks	Bulk ~ 240 m^3 over 2 weeks Containers = 4x 40m^3 over 2 weeks	Bulk < 240 m^3 1 week Containers = 4x 40m^3 over 7 days

Grade A Waste Wood for Grading and Consequent Use as Fuel on Site

Pre-store in Wood Reception Area	In Grade A Wood Fuel Store	After Combustion
Bulk ~ 240 m^3 Max. storage 2 wks Containerised 4 x40m^3 = 160m^3 Max. storage 2 weeks	Bulk ~ 240 m^3 over 2 weeks Containers = 4x 40m^3 over 2 weeks	Ash (<1%) < 1 t/week Containers < 1t for <7days

2.13 Quarantine Arrangements.

On-Site Quarantine Facility

The site has a Quarantine Facility within the New Permit boundary. This is to the West of the site on open ground. It is formed of cast in situ reinforced concrete, impermeable with kerbs and bund surrounding it. It has integral drainage to the south to a channel and drain system that directs surface water to a sealed underground tank. The area is greater than 25m from the buildings containing wood and is within easy reach of the main water storage hydrant if it is required for the purpose of dousing hot or 'at-risk' material. Any spent fire-water will be collected within the drain system and tank in the south east corner of the quarantine area.

The area is >30m x 20m and this will accommodate smaller piles (10m x 8m x 3m = 240m^3) of material including 6m areas of 'fire-breaks' between these piles

2.14 Quarantine Operation.

Materials that are either at risk, or else have been subjected to fire damage and which represent a risk of re-ignition shall be taken to the Fire Quarantine area (West of Main site) and if necessary shall be doused with water until any ignition risk has been minimised.

Hot material that requires dousing with water shall be stored so there is least risk of flames, sparks or hot materials being blown onto other material. Refer to Procedure at Appendix 8C.

2.15 Site Access, Safety and Security

The main access to the site is via the entry gate off Rakesmoor Lane and into the northern entry to the site. The site is easily accessible by full-sized (articulated) HGV's, lorries, tankers and other vehicles. Buildings and equipment are kept secure; and high risk items are kept locked. Fire-fighting facilities are available: water supplies and small extinguishers. There are no long period high level working areas, stairwells or lifts; but there are varying ground levels on which work is carried out interconnected by slightly sloping paved surfaces. The rainwater storage tank is below ground level. From time-to-time there may be livestock (cattle) present at or near to the site and there is a poultry house to the immediate east of the site.

The site Security Measures include steel gates and fencing, with barbed wire deterrence. The site has 24/7 CCTV that is monitored by the Site Manager with motion detection system and alarm to personal mobile phone app.

SECTION 3.0 BASIS OF THIS FIRE MANAGEMENT PLAN

PREVENTION IS BETTER THAN CURE

In order to minimise the incidence of fire, great emphasis is placed on the careful management of 'woody material' and the minimisation of uncontrolled sources of ignition.

Box 3: Principles of the Plan
The Plan comprises the following:

RISKS INVENTORY	This Provides a Register of Potential Hazards that may be encountered during normal operation; and abnormal operation, due to an accident or failure or third party intervention
FIRE PREVENTION	Fire Prevention considers the Fire Triangle and determines how the generation of a fire may be restricted. This includes Preventative measures, fire detection, training and small fire extinguishment.
FIRE RISK ASSESSMENT	Risk Assessment considers the Hazards and Determines the potential Risks of a Fire within the facility and provides a rating for the various Risks so that Preventative Measures can be planned accordingly.
FIRE EMERGENCY RESPONSE	This provides a concise and clear message to Staff regarding the Procedures to take in the event of a fire.
FIRE MANAGEMENT	This considers the Safe Systems for managing a Fire, and provides a guideline for when site based staff should, or should not attempt fire control.
FIRE IMPACT MANAGEMENT	This considers the potential Risks and Impacts of a Fire on the Environment; including personnel, environmental media, wildlife and neighbours.

Box 4: FIRE MANAGEMENT, Training and Review

All personnel whose activities may have an effect on, or be affected by the risk of Fire must be appropriately trained. Training shall include technical and operational aspects of the relevant aspects of Fire Prevention, Raising the Alarm, Personal Safety, Fire Management Control, and Fire Impact Management.

Personnel shall from time to time receive refresher training that shall as a minimum consider the actions to take in the case of an emergency

Box 5: FIRE DETECTION and ALARM

The Facility has been designed to be simple and unsophisticated and relies on temperature monitoring of the process and regular checks by the operator as the means of fire detection.

A new FIRE-ALARM system has been installed, to include a heat sensing wire within the head-space of the buildings that represent greatest fire risk, including the Boiler house, the Grade A wood store, where the main storage of waste wood is held; and the Mixed Waste Transfer building. In addition there are smoke detectors and CCTV which alarms if activated and will communicate directly to the manager's telephone.

Fire detection within the boiler house, wood-fuel feeding system is automatic and will provide water to extinguish fire within the fuel feed system.

The sprinkler system within the boiler room, wood processing area and wood-fuel storage area has been designed by experienced professional and shall be manually operated.

(Manual operation is necessary due to the potential for false activation when shredder screener/loading shovel exhausts are in close proximity to the headspace for long periods)

Box 6: ENFORCEMENT OF A BAN ON THE BURNING OF MATERIAL AT OR NEAR TO THE SITE
Open Fires or burning of any material at the site is NOT Permitted.
This Site also enforces the provision that there shall be
NO Open Fire or Burning of material on the site
or within the fields within 200m of this site.
There shall be no smoking on site

SECTION 4.0 FIRE RISK INVENTORY

The consideration uses the FIRE Triangle (Fuel, Oxygen, Ignition) to aid inventory development:

4.1 Oxygen

4.1.1 Composting Site
Oxygen is readily available from the ambient atmosphere, and is readily available within the open sided buildings. In the event of a fire incident in the compost or woody material; the flow of oxygen into the combustion area cannot be restricted other than by smothering the fire with non-combustible material.

4.1.2 Effluent Storage Tanks
The effluent tanks, and sumps, are maintained under atmospheric conditions and due to the presence of waste materials some respiration may contribute to a slightly elevated level of CO2 and other gases within the air spaces within these tanks and therefore a depletion of oxygen (and an increase of other gases, some of which may be combustible).

4.1.3 Vehicles and Equipment
The site utilises loading shovels and excavator and several mobile plant and equipment that are either engine powered or driven indirectly by a separate power plant or tractor. These machines and equipment are operated in fresh air and therefore it is accepted that oxygen supply to the machines as always available.

4.2 Fuels - 1. Organic materials (wood, timber, shrubs etc.); 2. Machinery Fuels and Oils (mobile & stored); 3. Contrary material and litter including plastics packaging extracted from the materials for composting. 4. Kerbside Collected Waste. 5. Mixed Waste. 6. Biomass and Dried Products 7. Other Fuel Sources

Further details of the combustible waste materials, volumes and types is shown at Appendix 8.

4.2.1 Organic (wood) Fuel Sources
The green waste (with other feedstocks) comprises wood, shrubs, manure, oversize compost, and fresh material that may have some (but minimal) paper and plastics inclusion.

Materials for external windrow composting may comprise a higher proportion of wood as branches, twigs and shrubs.

The moisture content of these materials is approximately 50% and for the most part is unlikely to catch alight unless there was a very hot or prolonged exposure to ignition. Where the material has become dried, or fragments of the material have become drier due to prolonged exposure to heat and dry air, or spontaneous heating then the material is a fuel; can be ignited and will support combustion.

Virgin Wood- that is in storage for drying; is in drying or is stored after drying. These materials range from 60 moisture content to as low as 20% moisture content after drying. The materials are well away from the rest of the activities at the site, however these materials are readily combustible.

Grade A Waste-Wood- that is in storage prior to treatment (chipping, shredding screening); is in stored within the Wood Reception Building. These materials range from 50 moisture content to as low as 20% moisture content. The materials are at the centre of the activities at the site, the materials are readily combustible and shall be processed using machinery that entail a fire ignition risk due to friction.

Grade A Waste-Wood- that is in storage after treatment (chipping, shredding screening); and is in storage within the Wood Fuel Storage Building. This material is in the range from 50% moisture content to as low as 30% moisture content. The materials are at the centre of the activities at the site and is moved in 2-3 t batches into the Boiler feed hoppers. See 4.2.5.

4.2.2 Vehicle and equipment Fuels and Oils

Loading shovels are diesel fuelled and entail the use of hydraulic oils as well as engine oil. The equipment is maintained to minimise the risk of leaks or spills, however, it is possible that a failure in a pipeline could release fuel or oils into the environment. Drivers are required to make regular checks in accordance with the EMS. Regular training is undertaken.

The fuel and oils store is in a double bunded tank system central to the site, but away from combustible materials. The fuel store is locked and guarded.

There is a spill kit appliance held in the storage next to the office, close to the fuel tank.

Fuelling of vehicles and equipment is ONLY allowed within the fuelling area adjacent to the Fuel Oil Tank. There shall be no dispensing of fuel for use in other areas of the site.

4.2.3 Fuel in the Form of Contamination

The feedstocks may comprise elements of paper and plastics inclusion. As the majority of the material arrives via landscapers the proportion of contamination is very low.

4.2.4 Kerbside Collected Waste Materials

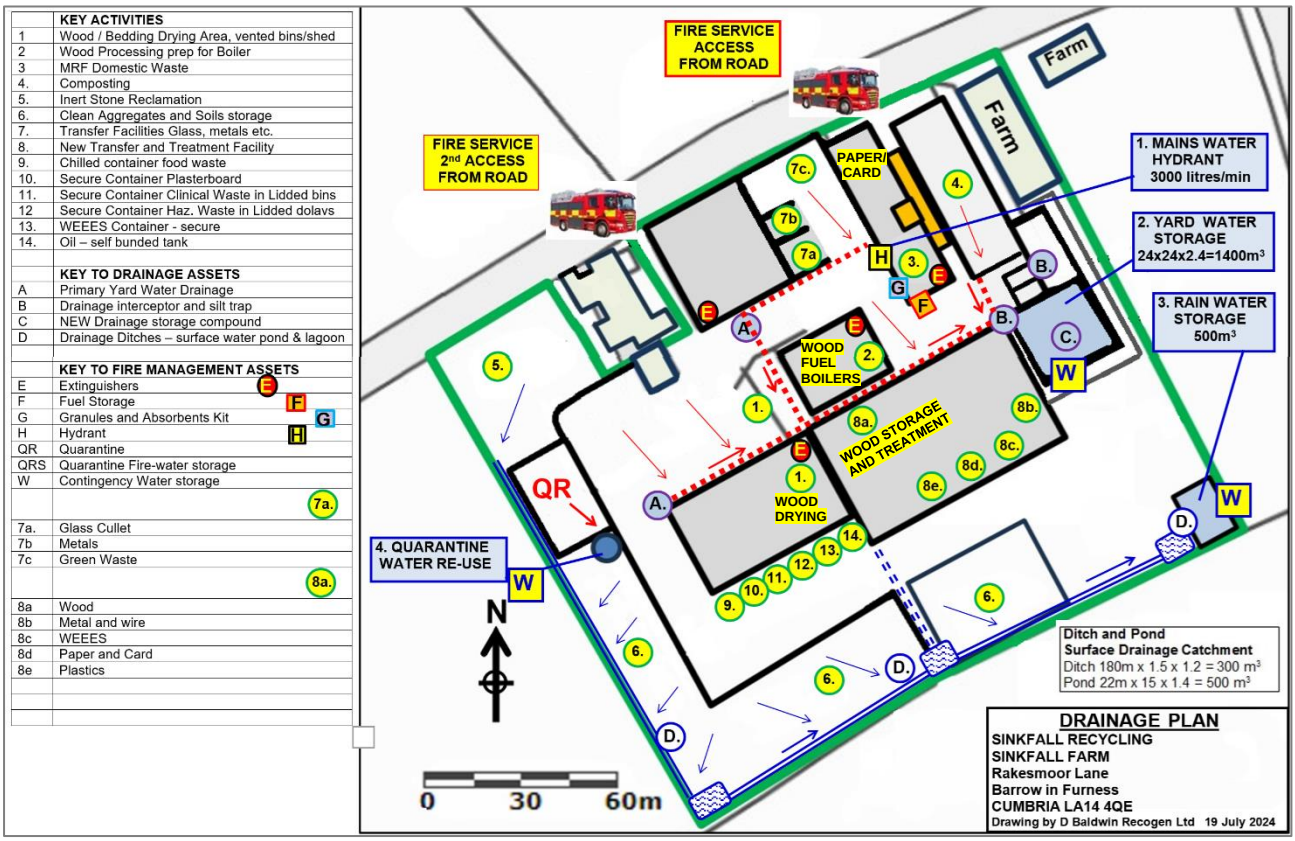
With the exception of glass and steel cans, the materials collected from household kerbside collections are flammable and need to be segregated and pile-sizes maintained within the guidance. These are currently stored within the building North of the main yard where they are baled and removed swiftly without extended storage. The storage bays are arranged so that here are 6m spaces between them. These include:

Table 2 Kerbside Collected Recyclate Materials stored on site

Paper and Magazines	Stored loose in specific bay	Maximum pile size 240m^3 Typical pile size 180m^3
Cardboard	Stored loose in specific bay	Maximum pile size 240m^3 Typical pile size 180m^3
Plastic Bottles/containers	Stored loose in specific bay	Maximum pile size 240m^3 Typical pile size 180m^3
Aluminium cans	Stored mixed with the steel cans. Approx. 5% aluminium	Maximum pile size 240m^3 Typical pile size 180m^3
Steel cans	See aluminium above	

Glass and bottles	Not flammable	Typical pile size 180m^3

Figure 7 Site Plans showing arrangement and Location of Flammable Materials



4.2.5 Biomass (Fuel for the Boiler)
These Biomass materials are combustible and are therefore stored in specially assigned containers or enclosures and only in small quantities. These materials pose greater risk when they are reduced to the form of 'wood-chip' or sawdust and so there are increased supervision and management controls and monitoring for these materials.

4.2.6 Dried Products, including Woodchip and Animal Bedding)
These materials are drier and therefore of increased combustibility. These materials pose greater risk and therefore are stored in specially assigned containers and stored only in small quantities prior to export from the site. There are increased supervision and management controls and monitoring for these materials.

4.2.7 Mixed Waste and Waste in Transfer Building (other than wood)
The transfer building exists for the purpose of transferring materials; but some materials may be resident awaiting treatment such as segregation, shredding or compacting and baling.
In these instances the stockpile sizes are maintain at less than 450m3; and typically are less than 250m3 being one storage bay of 6m width, 15m length and 2.5m high.

The bays are separated by concrete walling blocks and flammable materials are separated by non-flammable materials or spaces that provide minimum 6m separation between flammable materials.

The concrete walling shall afford at least a 1 hour fire retardant benefit.

4.2.8 Other Fuel Sources
There may be materials within the site that are flammable; though for the most part these are in small quantities or are protected. However, these materials may be present in sufficient quantity to

accelerate a small fire and should be managed accordingly or else avoided by the way in which materials (e.g. insulation) are specified within the construction:

Table 3 Other Combustible Materials on site

Materials as part of the site construction	Materials as Part of operation	Materials arising as by-product from the feedstocks
Timber panels used in construction. Insulating materials	Office paper and waste paper	Equipment maintenance residues, rags, wipes
Electric cable insulation	Computers and office equipment	Fuel for portable equipment
Wooden panels, doors furniture	Textiles: Furniture Clothing soft furnishings	Waste Plastics
Plastic panels, conduits	Laboratory chemicals	Dried organic waste
Plastic furniture	Vehicle Interiors	

4.3 'Heat' (Source of ignition)

Table 4 Heat (Ignition Sources) on site

Ref	HEAT (IGNITION) SOURCE	CONSIDERATION	Cat.
1.	Heat source within Office/ Cabin	Computer overload, printers etc.	A
2.	Naked Flames from personnel smoking	Staff, Visitors or third parties	
3.	Loading Shovels Engine Ignition or electrical system Friction in moving parts	Electrical Fire, Battery, exhaust fuel spill, oil spill, bearing failure, friction on axles	B
4a.	Primary **Green Waste** Shredder Engine Ignition or electrical system	Electrical Fire, Battery, exhaust fuel spill, oil spill, bearing failure, friction within the shredding rotor, the feed mechanism or in the drive-train	B
4b.	Secondary **Waste Wood** Shredder Engine Ignition or electrical system	Electrical Fire, Battery, exhaust fuel spill, oil spill, bearing failure, friction within the shredding rotor, the feed mechanism or in the drive-train	B
5.	Compost Screener Engine Ignition or electrical system	Electrical Fire, Battery, exhaust fuel spill, oil spill, bearing failure, friction within the shredding rotor, the feed mechanism or in the drive-train	B
6.	Generator and fan Engine Ignition or electrical system	Electrical Fire, Battery, exhaust fuel spill, oil spill, fan bearing failure, friction within the fan casing.	B
7.	Electric Motors in other Plant and equipment- i.e. ventilation fan	Electrical short/over heat & dust	B
8.	Electric Motors in Pumps	Electrical short/over heat & dust	B
9.	Metal to metal Spark within site		B
10.	Heat source during machine maintenance	Welding, cutting, grinding, drilling	B
11.	Sun's heat magnified through glass		B
12.	Spontaneous Combustion in process	Due to self-heating	C
13.	Spontaneous Combustion in oversize	Due to self-heating	D
	Spontaneous Combustion in compost	Due to self-heating	E
	Spontaneous Combustion in waste	Due to self-heating	F
14.	Third Party Haulage vehicles, used for Delivery or Waste removal Operations	Engine exhaust, fuel spoil, oil spill, bearing failure, friction on axles	F
15.	Combustion source within load received	From ignition source, or self-heating	F
16.	Spark or ignition from outside of site	Firework. Flue stack, engine exhaust	G
17.	Vandals or arsonist		G
18.	Biomass Boiler	Boiler Hearth, combustion system	H
19.	Biomass Boiler flue stack.	Flue Stack by contact or emitted spark	H

SECTION 5.0 IGNITION HAZARD LOCATION PLAN – SINKFALL FARM

Figure 8. Illustration Showing Zones where Ignition Sources may be located within the Facility

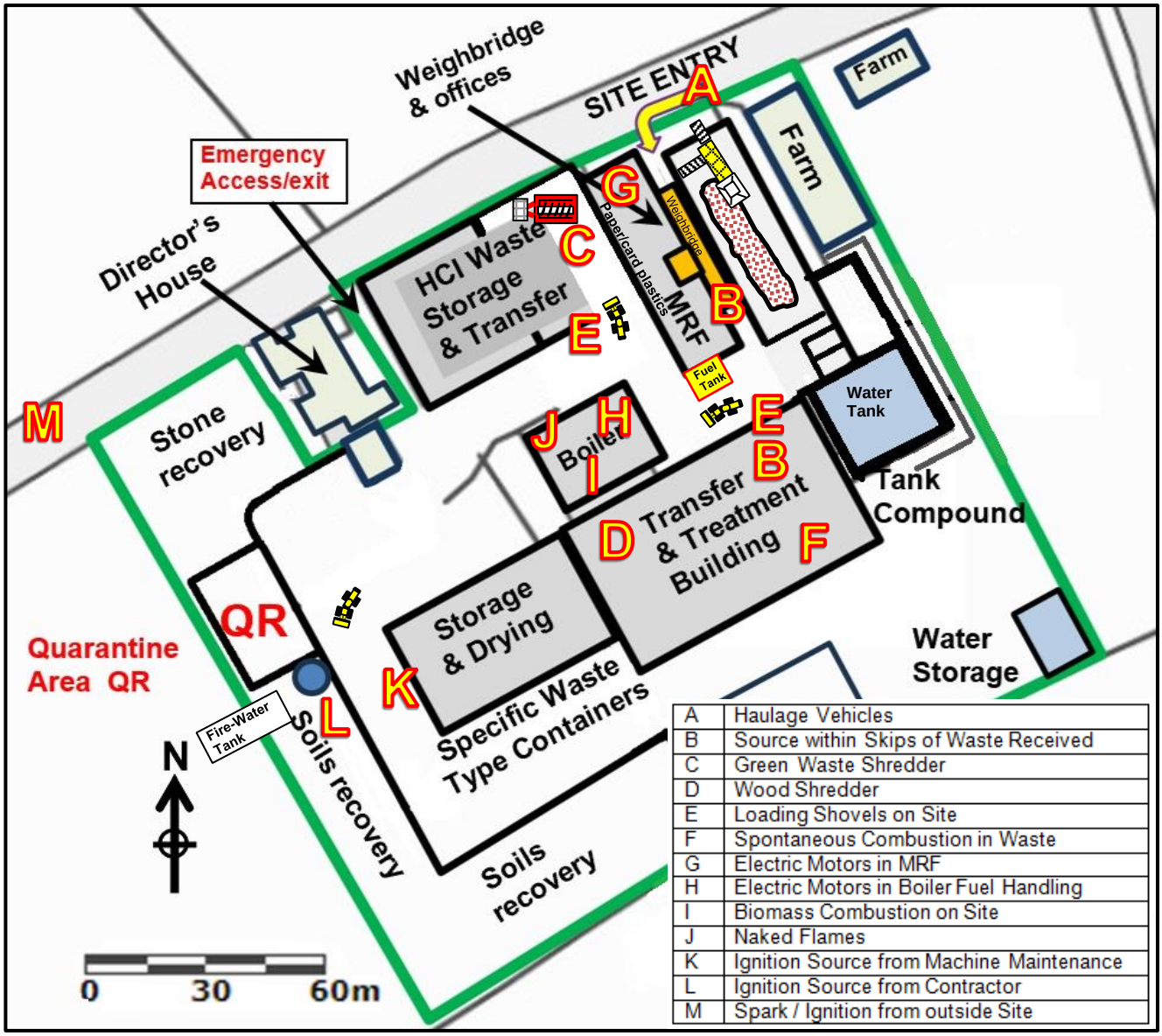


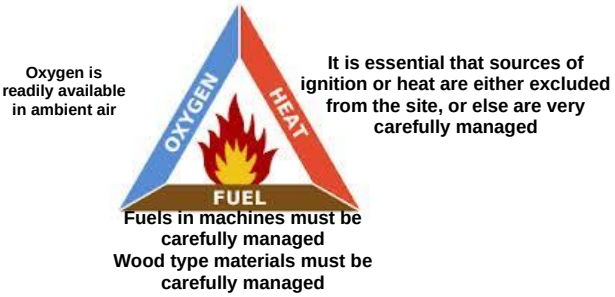
Table 4 Potential points of Ignition on site

		Fuel types present	Ignition source	Fire Risk
A1	Haulage Vehicles	Fuel, diesel, oils, rubbish	Electric spark Lighted flame	Controllable LOW
A2	Offices/stores/ equipment	Electricity & paper. Flammable items	Electric spark Lighted flame	Controllable LOW
B	Feedstock material	Subject to 3rd parties, could comprise random fuel type	Subject to 3rd parties, could entail any random ignition/heat source	Checks on entry; known suppliers LOW
C1	Green Waste Shredder	Fuel oil, oil-lube, hydraulic oil, dust & Debris, battery Dry waste, wood fragments	Electrical spark, electrical short; friction heat. Bearings, wearing surfaces	Operator managed MEDIUM
D1	Wood Shredder	Fuel oil, oil-lube, hydraulic oil, dust & Debris, battery Dry waste, wood fragments	Electrical spark, electrical short; friction heat. Bearings, wearing surfaces	Operator managed MEDIUM
E	Loading shovels	Fuel oil, oil-lube, hydraulic oil, dust & Debris, battery	Electrical spark, electrical short; friction heat.	Operator managed MEDIUM
E	Screener	Fuel oil, oil-lube, hydraulic oil, dust & Debris, battery Dry waste, wood fragments	Electrical spark, electrical short; friction heat. Bearings, wearing surfaces	Operator managed MEDIUM
F	Waste Self Heating	Wood and dust. Wood drying. Rubbish, paper card etc.	Spontaneous combustion or else from other source	Must be Managed process MEDIUM

		Compost windrows		
G	Generator or Electric Motors	Fuel oil, oil-lube, hydraulic oil, dust & Debris, battery	Electrical spark, electrical short; friction heat.	Enclosed unit but at times Unsupervised MEDIUM
H	Electric Motors	Dust & Debris, Contactors. Friction Electrical short	Electrical spark, electrical short; friction heat.	Enclosed unit but at times Unsupervised MEDIUM
I	Biomass Combustion	Biomass Materials,	Ashes, Hot Flue and Sparks	Subject to Management checks MEDIM
J	Naked Flames Biomass Boiler	Workers, negligence, smoking. Hot Works	Smoking, Hot works and Sparks	Subject to Management checks MEDIM
K	Machine Maintenance	Fuel oil, oil-lube, hydraulic oil, dust & Debris, battery. Hot Works	Electrical, Hot works and Sparks.	Subject to Management checks MEDIM
L	Contractor	Hot Works, vehicles, other sources	Electrical, Hot works and Sparks.	Subject to Management checks MEDIM
M	Public/ firework	Subject to 3rd parties, material (fuel) could be brought to site	Subject to 3rd parties, could be deliberate (arson) or accidental	Site secured LOW

5.1. Hazard Management to Prevent Fire Risks

Fire Prevention is essential to the Fire Management Plan. Figure 7 identifies where the greatest Risks of fire are located and reveals that because oxygen and combustible material are generally available then the key to fire prevention is to very strictly control the risks of ignition.



5.2 Control of oxygen

Oxygen is readily available from the ambient atmosphere, and so there are limited opportunities to control or minimise oxygen levels during normal practice. Also, the very nature of composting requires air ingress.

However in the instance of a fire or combustion there may be opportunities to smother burning materials in order to restrict air ingress.

Similarly in the instance of a fire or combustion then burning materials should not be moved or aerated by digging into a heap, because that will enable oxygen supply direct to the seat of the fire. The use of copious application of water onto burning material helps reduce the temperature and displaces oxygen from the air voids within the bulk, thereby suffocating any combustion within a heap.

5.3 Management of the various Fuels on site

5.3.1 Vehicle Fuel.

Vehicle fuels have a very high calorific value and are readily combustible. In normal practice they are managed by containment in fuel tanks and vehicle systems. Fuel oil and other oils that are flammable, are rarely hazardous while they are properly contained within the vehicle systems; however, the risks of spillage or escape of fuel is very much greater at the times of fuel filling or machine maintenance.

For these reasons, the filling of fuel tanks on machines must be undertaken within a specially dedicated area (near to the weighbridge), that has been cleaned and cleared of wood materials and which prevents the risk of fuel back-spilling into the operating area.

Besides this, special measures are required during re-fuelling so that there is no associated risk of ignition from a spillage, e.g. exhaust heat, electrical sparks or open flames nearby.
There are procedures for filling and drivers receive training and refresher training each 3 months.

There are procedures for operatives (machine/vehicle drivers) checking their vehicles regularly for fuel/oil leaks. Procedures are held within the EMS.

5.3.2 Wood-Waste from Composting and Biomass 'Fuel'.
Woody green waste and other associated materials being prepared for, or already in process at the site need to be stored and managed carefully in accordance with industry standard guidance.
REFER TO BOXES (Revised 2018) 1 and 2 ON PAGE 4
Woody oversize shall be properly managed/ re-used on site or else removed from the site for processing as timber products or biomass at appropriate facilities elsewhere.

Green waste and the residues from wood processing shall be prepared and conditioned by shredding and wetting with yard water or yard effluent, in order to increase their moisture content in accordance with the quality management system, i.e. to the higher end of the range 40 - 60% moisture content. Composting loses moisture as vapour during the process and so moisture shall be regularly checked using the 'touch test' to ensure its moisture does not drop below 40%.

5.3.3 Other 'Fuels' and contraries including dust and fluff
Inspections shall be made at least weekly, and each night following specific tasks where dust is generated; to determine the levels of dust and fluff that has been generated, the dustiness of the air, and the amount of dust settling. Dust inspections shall be made regularly twice per week, within the boiler house.

Materials such as litter, contraries, dust and fluff, pulled from the feedstocks or swept up from the floors are expected to be a very small quantity. However, these should be managed carefully. Steel bins with lids should be used for storage and the materials should be regularly taken away for disposal and NOT stored in large quantities. Plastic films are readily flammable and may act as an accelerant within a bin or skip containing waste paper. The residual items from machine servicing or any sawdust or shavings that have been used to soak up oil spills should not be deposited in the contraries skip and must be disposed of separately.

There shall be frequent and regular cleaning and clearing of dust and fluff/ loose combustible debris from floor areas, wall and sills each week, with additional more thorough cleaning each 6 months. Where possible dry cleaning is undertaken using vacuum suction industrial machines. Dust and debris shall be removed to a dedicated container and taken for disposal as appropriate.

5.4 Management of Ignition Sources on site

The primary Hazards that present ignition risks have been identified in Section 4. Some of these may be categorised as being of a similar type of ignition hazard and this makes it simpler to understand and therefore put in place prevention measures:
As a general principle: ignition sources must be kept separated from combustible materials by a spacing of at least 6 metres.

Table 5 Management of Ignition Risks on site

Category	General Description	Ignition Hazard
A1	Third Party Vehicles	Due to the heat from the engine or exhaust Electrical fault on the machine, battery etc.
A2	Office machines and equipment Personnel	Electrical failure. Heaters. Naked flames/ smoking
B	Ignition source Imported in Feedstock material	Ignition Hazard within the material or Spontaneous combustion within material

C, D, E, F and K	Vehicles, machines and equipment Green Waste Shredder Waste Wood Shredder Loading Shovels Screener Maintenance of the above	Due to the heat from the engine or exhaust Electrical fault on the machine, battery etc. Friction heat within working parts of machine Friction heat in the material being processed Equipment Maintenance – HOT-WORKS
G and H	Electrical Equipment	Pumps, motors, fans cables, computers etc.
I	Spontaneous combustion on site	Spontaneous combustion due to self-heating of material that has not been properly managed
J	Naked Flames, Biomass Boiler Biomass Boiler- Combustion Hearth, Ashes and Hot Flue	Smoking, naked flame in hot works Ash from Biomass Boiler In-Built Fire Protection Systems, Monitoring and Alarms with Water Sprinklers
L	Contractor, Third Party	Equipment Maintenance – HOT-WORKS
M	Abnormal or External source	Site maintenance External source, flame, fire-work etc. Vandalism or arson

5.4.1 Office and Personal / Portable Equipment

Portable machines and equipment must be properly maintained and inspected to ensure that the heat prevention and protection systems are all properly provided.

Computers and other electrical (portable) equipment shall be PAT tested annually and checked to ensure they are fit for purpose. There are no cooking facilities within the staff mess-room. There shall be no smoking within the staff rest room.

5.4.2 Vehicles, Machines and Equipment

Vehicle machines and equipment must be properly maintained and inspected to ensure that the heat prevention and protection systems are all properly provided. Exhausts shall be shielded and of the correct height and shall be directed away from combustible material.

- Each vehicle must carry an approved, checked (full) Fire extinguisher
- All vehicles must be maintained in accordance with the site EMS and services recorded.
- All vehicles and static equipment must be inspected by a suitably qualified Electrical Engineer,
- Where appropriate a certificate issued to show that the machine is electrically safe / fit for use.
- Vehicles and equipment must be parked in the dedicated storage area over-night, Appendix 6.

There shall be NO use of bare element electrical heaters, oil fired or gas fired heaters on site, except those operating under a Permit to Work for Hot works, or being operated under the direct supervision of the site engineer or site manager.

Electrical systems, cables, wiring, generators, motors and switchgear shall al be properly shielded and checks made regularly to ensure that there are no chaffed or exposed cables, broken terminals etc. and that all circuits are properly fused and protected.
This shall be undertaken by the qualified site engineer using an electrical continuity meter and vehicle diagnostics tool at least once per 6 months and after any incident or maintenance that may affect the wiring harness, electrical fittings, sensors, motors or solenoids.

Bearings need to be lubricated and/ or greased properly to minimise the risk of friction heating; and the working parts need to be kept cleared of debris so that proper cooling takes place and so that there is reduced risk of overheating.

5.4.3 Electrical Equipment

There is minimal requirement for electrical equipment , however this is one of the most common

causes of fire in rural/remote locations due to abrasion of cables, rodents, and physical damage via machinery or improper use. The management system is in place to ensure that cables and electrical equipment are regularly inspected to ensure that the cable protection is not compromised and ensure that fail-safes and circuit breakers are fully functioning. The procedure follows below: In dusty environments, the motors shall be ATEX approved.

Sinkfall - Electrical Checking Procedure
Annual electrical inspection and testing is undertaken by fully qualified Electrical Engineer Periodic inspection and testing should be carried out only by electrically competent persons, i.e. registered electricians. Electrician to check the condition of the electrics against the UK standard for the safety of electrical installations, BS 7671 – Requirements for Electrical Installations (IET Wiring Regulations). Check list for regular site and equipment electrical inspections is in EMS.

5.4.4a Spontaneous Combustion on Site - Composting.
The risks of spontaneous combustion within the composting materials shall be managed by monitoring temperature of the material at regular intervals and compliance with the EA guidance that it should not exceed 75°C. (PAS100 maximum is 80°C.)

Material shall be kept damp and if necessary wetted with either yard water, harvested rain water or freshwater depending on the stage of processing. Moisture content shall be retained within the range 40 to 60% MC. REFER TO BOXES 1 and 2 ON PAGE 4

Cooling of the material may be achieved by aeration during normal composting practice. Screening the material provides rapid cooling because it loosens all the material, maximises the surface area, and also provides the opportunity for evaporative cooling as moisture vapour is released.

It shall be essential that material towards the edges and rear of the site are properly incorporated into the process, so that such materials are not left untreated and unmonitored.

5.4.4b Spontaneous Combustion on Site – Mixed Waste Transfer.
The risks of spontaneous combustion within the mixed waste materials shall be managed by visual inspection and monitoring of the material each working day.
Mixed waste materials (in transfer building) shall not be stored in one place for more than 7 days.
Materials in the Mixed waste transfer areas shall be checked at the end of each working day by the manager as part of the walk round inspection check.

5.4.4c Spontaneous Combustion on Site – Wood Biomass and Drying Process.
The risks of spontaneous combustion within the wood waste biomass materials shall be managed by visual inspection and monitoring of the material each working day.
Wood waste biomass materials (in transfer building) shall be checked at the end of each working day by the manager as part of the walk round inspection check.
Woody biomass materials and paper sludge undergoing drying (in drying containers or drying building) shall be checked at the end of each working day by the manager as part of the walk round inspection check. The temperature of these materials shall be maintained at less than 50 deg C for the purposes of drying without undue temperature raising.

5.4.5 Management of Other Ignition Hazards.
Maintenance (Site or equipment). The maintenance of machines on such a site quite commonly requires the use of welding, heating, cutting and grinding of metals. Clearly all of these activities present a high risk that material or waste on the floor or nearby could be ignited.

Ideally, work requiring such activities should be undertaken away from the site in a workshop or on a cleared external surface. If this is not possible, then an area within the site must be cleared and all material moved away by a minimum of 10 metres, and the floor area hosed.

The equipment needs to be emptied so that there is no remaining debris within the work area.

Special precaution will be required, including extra staff to monitor for any fires, sparks or flames; water available for wetting down and fire extinguishers available.

Permission should be sought from the site manager before works is commenced. A 'Permit to Work' system shall be used if an external contractor is brought in; this will help ensure that everyone knows what is proposed and understands the risks; and procedures to be followed.

Site management should train and communicate the risks of ignition to neighbours, so that the risk of inadvertent sparks, flame heated lanterns or fire-works shall be minimised.

The site should be kept secure to minimise entry by vandals or arsonists.

5.4.6 Third Party Vehicles

Third parties shall be given site entry guidance to explain the need to ensure that their vehicles do not present a risk of ignition. Exhausts shall be shielded and of the correct height and shall be directed away from combustible material.

5.4.7 Imported Hazard

Third parties shall be given site entry guidance to explain the need to ensure that the materials that they carry must have been checked to ensure there are no items deposited within the load that may present an ignition source and also that the load of material itself is not adversely heated.

5.4.8 Fire Watch

There is a Policy of 'Fire Watch' at this site. **At least once per day, and always once at a time of 2 hours after the end of the normal working day**, the Fire Watch shall comprise a site walk around and include a check on the state and condition of any machines that have high temperature working components including hot engines, exhausts or components that become hot due to friction (including bearings and bushes). The Fire Watch includes checks on storage piles of potentially combustible materials, notably within the wood processing and mixed waste activities. The Fire Watch shall include a check within the machinery maintenance building (workshop) and the boiler house.

5.5 Fire Detection and Suppression

Fire detection is mentioned in Box 5 (page 13) and above at 5.4.8.

This is an automated detection system within the Boiler room, the wood storage area and the mixed waste storage areas. These comprise a 2 core 1.5mm fire detection cable to PH30 fire rating that complies with EN50200:2006 and BS5839-1:2013 standards. And conforms to PH30 certification.

Fire suppression

Fire suppression is automated within the Boiler room.

Elsewhere, fire suppression is by Industry Standard Mobile Fire Suppression Appliance, comprising a Fire Tender (vehicle) with self contained 800 litre water reserve and 100 litre foam reserve.

The hose reel inclusive of additional sections extends to 500 feet of 2.5 inch hose with 3 inch suction hose available for connection to the hydrant of suction supply from below ground tanks or water sources.

SECTION 6.0 SUMMARY FIRE EMERGENCY PROCEDURES

Table 6 Emergency Procedures

	RISK CONTROL & CONTINGENCY	EMERGENCY PROCEDURE IN INSTANCE OF FIRE
1. Diesel Fuel Tanks	Diesel fuel tank is located in the yard to the south nearer to the office, well away from composting site. Fuelling of vehicles shall only take place at this location. Fuel shall not be dispensed for use elsewhere	1. Report Incident to Manager 2. Call Fire Brigade 3. Move mobile plant away 4. Consider use of inert material containment for oil spillages 5. Implement Liquid Spillage Accident plan
2. Vehicles Fuel and Electrical Equipment	Modern vehicles, regularly checked and serviced. Checks specifically for fuel/oil leaks Checks undertaken to ensure no exposed wires, wiring loom; and the battery covers are in place.	1. Report Incident to Manager 2. Move mobile plant to remote area; and away from combustible material or fuel storage. 3. Switch off engine 4. Use extinguisher if fire is small 5. Implement Liquid Accident plan 6. Ensure other people keep away from danger area.
3. Shredder Fuel, Electrical Equipment and friction during operation. **External Green Waste Shredder (engine)**	Modern vehicles regularly checked and serviced. Checks specifically for fuel/oil leaks Checks undertaken to ensure no exposed wires, wiring loom, and the battery covers are in place. Maintain cutting blades in good order for efficient operation to reduce heat build-up.	1. Report Incident to Manager 2. Move mobile plant to remote area; or out of building/enclosed area and away from combustible material or fuel storage. 3. Switch off engine 4. Use extinguisher if fire is small 5. Implement Liquid Accident plan 6. Ensure other people are kept away from danger area.
4. Screener Fuel, Electrical Equipment and friction during operation	Modern vehicles, regularly checked and serviced. Checks specifically for fuel/oil leaks Checks undertaken to ensure no exposed wires, wiring loom, and the battery covers are in place. Maintain roller bearings in good order for efficient operation and avoid blockages reduce heat build-up.	1. Report Incident to Manager 2. Move mobile plant to remote area; and away from combustible material or fuel storage. 3. Switch off engine 4. Use extinguisher if fire is small 5. Implement Liquid Accident plan 6. Ensure other people are kept away from danger area.
5. Feedstock containing materials and inadvertent ignition source.	Checks undertaken to ensure that the ignition sources are not present in received materials. Ignition sources may include: Residues of embers from previous fires, Cigarette ends, Batteries/ electrical equipment	1. Report Issue or incident to Manager 2. Remove ignition source to safe place (steel container outside of working area) 3. Use extinguisher if fire is small 4. Implement Liquid Accident plan 5. Ensure other people keep away from danger area.
6. Weighbridge/ Offices	System fail-safes and interlocks. Recourse to manager	1. Report Incident 2. Stop Activities 3. Check Monitors 4. Full System Re-check 5. Site walk checks 6. Implement Liquid Accident plan
7. Waste Materials on site	Ensure that these are protected from ignition sources. Ensure that combustible materials such as waste plastics (litter) are contained and removed from sensitive areas, e.g. compacted and stored in steel containers.	1. Report Incident to Manager 2. Call Fire Brigade 3. Move mobile plant to remote area; away from the waste materials. 4. Ensure other people keep away from danger area. 5. Implement Liquid Accident plan
8. Woody Materials on site	Ensure that these are protected from ignition sources. Ensure that combustible materials such dry woody materials, wood chip or sawdust are removed from sensitive areas, i.e. stored externally in controlled areas.	1. Report Incident to Manager 2. Call Fire Brigade 3. Move mobile plant to remote area; away from any woody or other combustible materials. 4. Ensure other people keep away from danger area. 5. Implement Liquid Accident plan
7. Biomass Boiler, Stack and Hot Air drying System	Boiler Systems to be regularly checked and serviced. Checks specifically for hot-gas leaks Checks undertaken to ensure that all safety systems are intact and effective Checks to ensure that all water sprinkler systems are effective.	1. Report Incident to Manager 2. Sound Alarm and get help 3. Call Fire Brigade 4. Ensure other people keep away from danger area. 5. Activate Fire Sprinkler system if it has not been activated automatically. 6. Activate Site Fire Suppression system 7. Implement Liquid Accident plan (drainage)

FIRE ACCIDENT / SAFETY PLAN	System fitted with fail-safes Fire-water supply points Fire Extinguishers Training Fire practice 'drills'	1. Report Incident 2. Call Fire Brigade telephone 999 3. Get everyone out 4. Use fire-fighting equipment for small fires or if necessary to get people out. 5. Assess Risk of fire spread 6. Shut off area 7. Get out; Move to fresh air area 8. Arrange for Fire brigade arrival 9. Implement FIRE WATER PLAN
FIRE –WATER PLAN	All areas are on impermeable surfaces with kerbs or bunds. No drains are directed to discharge outside of system, except clean roof water drains.	1. Review situation 2. Prepare portable bunds, drain covers 3. Close/cover Clean-water Drains 4. Contain Liquid 5. Allow fire-water to drain to effluent sump 6. Prepare tanker. 7. Prepare absorbents 8. Re-use fire-water if appropriate

SECTION 7.0: FIRE EMERGENCY ACTIONS & RESPONSES

Purpose: The emergency response plan is designed to facilitate the safe evacuation of all occupants from Composting Site in the event of fire or other emergency.

System Components: alarm raising, alarms, water hose reels and fire extinguishers

Evacuation Procedures:

1. **Supervision during the Emergency:**
   a. The Site Manager will supervise the evacuation of the site, in particular the building.
   b. The Site Operatives will assist in ensuring evacuation and report to the Site Manager any persons missing or unaccounted for.
   c. After a fire, re-entering the building shall be subject to authorization by the Fire Brigade.

2. **Person discovering a fire:**
   a. Recruit assistance from persons in vicinity if possible to:
   b. Sound Fire alarm at Weighbridge Office.
   c. Call 999 report name, location, description of emergency,
   d. If trained, use fire extinguishers to aid in evacuation and to confine the area of the fire
   e. Remove victims in the immediate area of the fire
   f. Confine or contain fire using sand, wetted compost or soil.

3. **All Personnel:**
   a. All building occupants will exit the buildings upon announcement by the Site Manager or sounding of the fire alarm.
   b. NEVER MOVE INTO A CLOSED AREA OR ENCLOSED SPACE DURING A FIRE OR OTHER EMERGENCY.
   c. Close doors, smoke barrier doors, and windows in the vicinity. Shut off potentially dangerous equipment and electricity in the work area.
   d. Assist all injured or disabled persons from the building.
   e. Report to the appropriate assembly area.

FIRE EMERGENCY RESPONSE

FIRE ALARM AND EVACUATION PROCEDURE

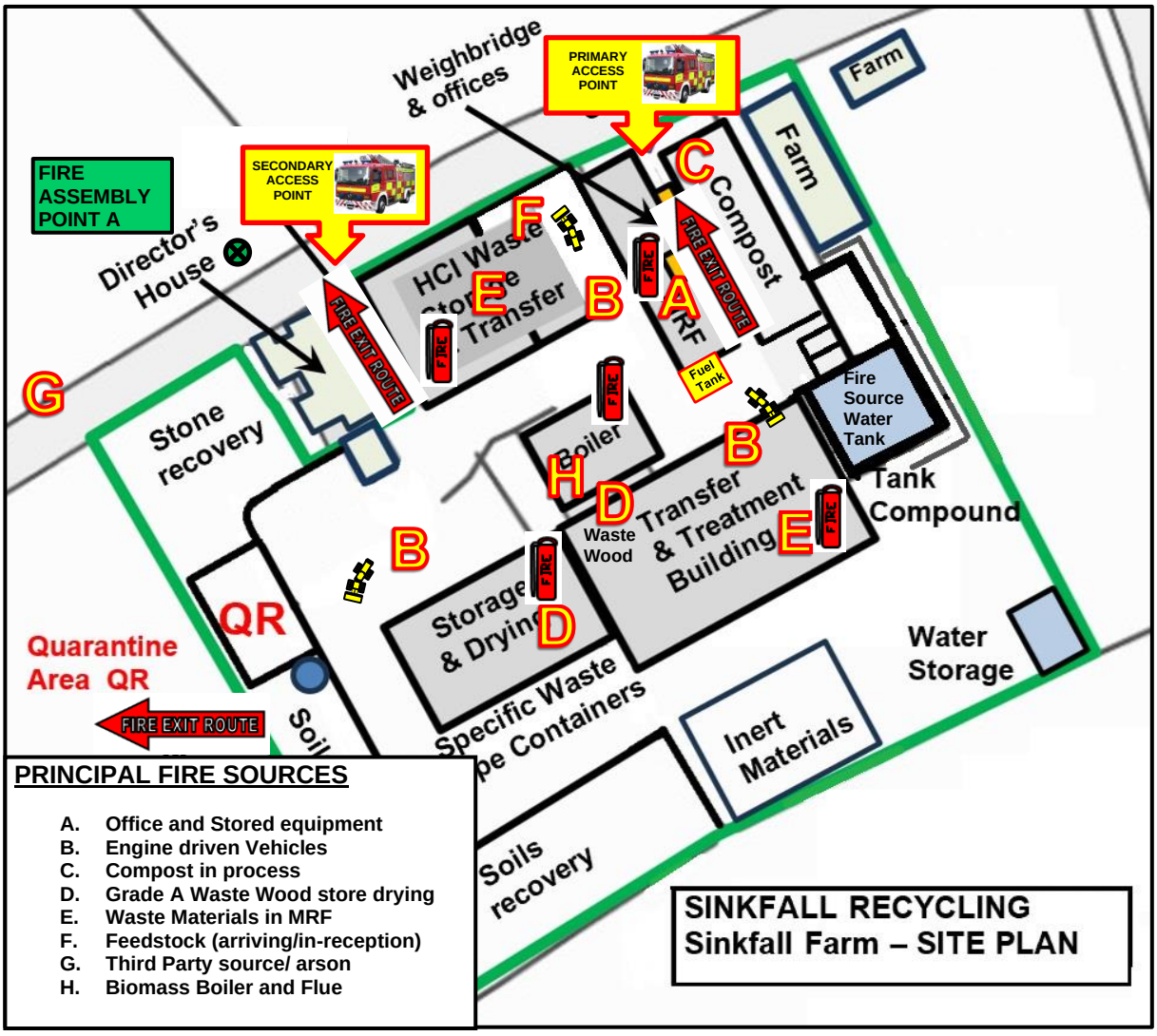
1. RAISE ALARM – Operate Hooter in 3 second bursts
2. CALL FIRE BRIGADE OUT – Call 999.
3. GET EVERYONE OUT – Do NOT re-enter any buildings
4. STAY OUT UNTIL FIRE OFFICER SAYS IT'S SAFE TO RE-ENTER
(Fire extinguishers are there for sensible use to provide a measure of fire-control during evacuation)

- **Exit Buildings and or site following the plan below,**
- **Do Not Run and Do not enter closed spaces**
- **Assist others as needed**
- **Do not re-enter building until "All Clear" is given by Fire Brigade**

4. Site Manager responsibilities:

a. Identify another person to aid in clearing rooms, including restrooms, of assigned area. Work as a pair. If possible, shut off air handling units in assigned area.
b. Close smoke bearing doors in assigned area.
c. Direct persons to assigned exits and assembly areas.
d. Verify assigned area is evacuated.
e. Check all persons in assembly area and identify missing persons.
f. Report missing person(s) presumed to be in the building to the Fire Brigade.
g. Remain in assembly area until Fire Marshall says that it is safe to re-enter the site.
h. If Assembly area becomes unsafe, relocate as a group to another assembly area.
i. Select a staff member in same location to serve as deputy if Site Manager be absent.
j. Train personnel and staff within assigned area in this procedure.

Figure 9: Sinkfall Recycling Site, Showing Fire Escape Routes and Extinguisher Availability



SECTION 8.0: FIRE FIGHTING RESPONSE

Refer also to APPENDIX12 for a Schedule of Tasks and responsibilities delegated to personnel.

8.1 Quarantine Area. (see fig 2)

Prevention of a fire and prevention of any fire spreading has to be the highest priority, in order to minimise the extent of any smoke or emissions drifting toward the main road. Therefore, fast removal of adjacent material in order to create fire-breaks and decrease the volume of combustible material at the site, is an essential element of the fire management. This plan provides for the removal of material into quarantine area remote from other combustible material.

Smouldering or high risk material shall be removed to the west to the quarantine area for further wetting using water from the storage tank. The quarantine area has its own drainage to an underground tank, with capacity to store over 100 m^3 of water.

8.2 Fire-fighting

Interim measures rely on the reduction in pile size for the storage of waste materials. The water availability has been supplemented by the addition of a 50m^3 clean water storage tank.

The main water supply is from the yard/rain-water Storage Tank Total capacity (1400m^3) and this is maintained so that at least **300m^3** of water is available. This is located to the east of the buildings. See Figure 2.

With the addition of the new tank, this shall provide >300 m3 of water available on site.

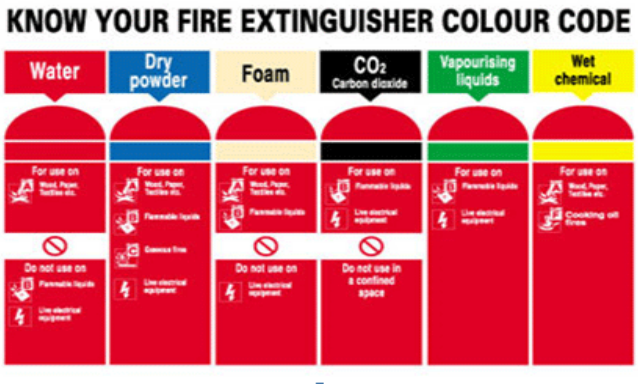
Fire-fighting is a very specialised and dangerous activity. Fires can develop and spread quickly and escape routes can easily become blocked by flames, smoke and falling debris. In many instances, the fire brigade will isolate fires and allow them to burn out in a controlled fashion; this is something they can assess depending on what the risks and values are in each case.

Smoke can kill. Smoke can blind your vision so that you cannot see the way out. Water sprayed onto a fire becomes steam and can burn your mouth, throat and lungs from the inside.
The MOST IMPORTANT action is to get everyone out of the building and away from the area.

Fire extinguishers and fire hoses are available to provide a measure of protection and giving you added time to make your escape and help others with their escape from the area.

ONLY if the fire is very small and your exit path is clear should you attempt to extinguish the fire. Your priority is to ensure that other people are safe.

You should use the correct extinguisher for the task; REMEMBER that water onto an electric fire may allow short circuiting of electricity and danger of electric shock, or further fire risk.



Label Colour	White	Blue	Cream	Black	Green	Yellow
Contains	**Water**	**Dry Powder**	**Foam**	**CO2**	**Vaporising Liquids**	**Wet Chemical**
Use on the following Fire types	Paper, Fabric, Wood, Textiles.	Paper, textiles, flaming liquids (i.e. oil, alcohol, solvent paint and gases) & Electrical.	Flammable liquids **(not electrical fires).**	Electrical Fires and burning liquids such as grease, fat, oil, paint **(not chip pan)** electrical fires, but switch off supply first.	Flammable liquids and live electrical equipment	Paper, Fabric, Wood, Cooking Oil

British Standards BS7863 means that a block of colour has now been placed above the operating instructions to cover 3-5% of the extinguisher area. The most common types of fire extinguisher available are shown.

8.3 Fire-fighting Resources

The site has a number of valuable resources that may be deployed for the purpose of fire-prevention or fire-fighting:

The resources include:

- Available water supply – Refer to 8.2. and 8.4 Fresh Water Reserve, Stand-pipe etc.
- Trained Drivers
- Large capacity loading shovels for moving waste around the site
- Long reach high capacity 360° rotation excavator for moving materials, earth etc.
- Chain lift and Hook lift vehicles for moving skips and containers around the site


Skip with Chain Lifting Vehicle


Container with Hook Lift type Vehicle

8.4 Fire Fighting Water Supply and Rate of Use – Box 7

EA Guidance - A worst case scenario would be your largest waste pile catching fire.
You'll need a water supply of at least 2,000 litres a minute for a minimum of 3 hours for a 300 cubic metre pile of combustible material. (i.e. 2m^3/min for 3h = 360 m^3 overall) or 1.2 m^3 of water per m^3 material.

Interpreting EA Guidance –
For a **240m^3** pile then 240/300 x 2,000 = 1600 litres/min. (1.6m^3/min or **96m^3/h**) **for 3 hrs.**
i.e. **96 m^3 per hr for 3 hours therefore requires 288 m^3 water overall.**

The capacity of the pump at the new water storage tank is 1m^3/min
The capacity of the pump at the yard-water storage tank is 1m^3/min
Water can be supplied by tanker 10 m^3 each 20 minutes (i.e. 0.5 m^3/min)
Water available from the tanks is >300m^3.
Additional water available from drainage pond is **200 - 500m^3.**

CONCLUSION: This site has adequate overall water supply and supply rate >1.6m^3/min to enable a fire to be extinguished within 3 hours.
Total water requirement based on the maximum pile size of 240m^3 is estimated as 288m^3.

8.5 Fire Fighting Water Containment

The area is and this will accommodate smaller piles of material including 6m areas of 'fire-breaks' between these piles

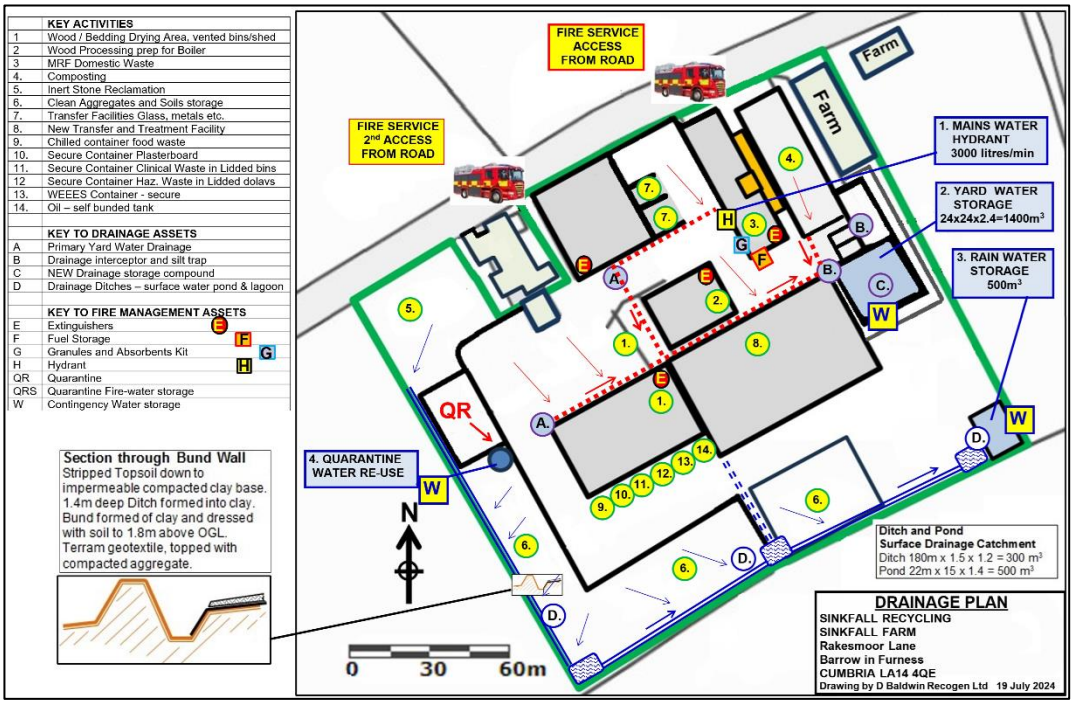
8.5 Containment of Water within and from the building areas.

This relates to a scenario of a fire within the area of the buildings, including the composting, wood processing, the MRF Area or the Wood drying area. It has been calculated in section 8.4 that the potential volume could be 288m^3.

When wetting down materials such as compost, wood and wood fuel etc. there will be some retention of water. Water use in suppressing a fire is evaporated. Retention/evaporation is taken as 50% to accommodate the fire-water storage. The main storage piles of material are as in Table 7.

Table 7 Fire-Water Drainage

Area	Material/activity	Drainage	Capacity
1	Wood drying (refer 2.12 240m^3)	Perimeter drain, leads NE to sump to tank. Dry Wood pile size 240m^3. Fire-water estimated 288m^3	Tank 454 m^3
2	Wood processing (refer Appx.8 240m^3)	Kerb and drain along southern wall to tank Wood pile size 240m^3. Fire-water estimated 288m^3	Tank 454 m^3
3	MRF sorting	Material in skips or containers, piles limited size <100m^3 Gentle fall south to gulley, drains to below ground tank	100m^3
4	Composting (refer Appx.8 240m^3)	Compostable green waste as raw material at maximum 240m^3 is wet material. Fire-water estimated 288m^3 and drains to the perimeter drain system within the building and is held within the building, or released via a drain system to the sump adjacent to the water tank.	Tank 454 m^3
Q	Quarantine area (refer Section 2.13) >20m x 30m e.g. Pile 15 x 15 x 3m with 6m spacing	Presuming that a 'hot' pile of material is relocated to the Quarantine area then a pile at 240 m^3 may generate 288m^3 Fire-water. The Quarantine area drains to an impermeable drain system and below ground storage tank of 100m^3 with overflow to the integral drainage collection system connected to the main 450 m^3 tank - total capacity 550 m^3	Interceptor drains to 100m^3 Tank and to 450m^3 tank.



Box 8 –Containment of Drainage

The site is arranged so that the drainage systems are separate.

In the event of excessive fire-water use and consequent drainage, then if the primary drainage tank system at the quarantine area within the site were filled to capacity, then there would be controlled drainage to the main drainage system. The scheme is self-contained and is not joined to the clay lined ditches and ponds of the inerts storage area.

The Inert Materials Area Drainage

The extended site is formed on a sealed clay base, with geotextile cover and layers of graded aggregates to form a working surface.

The ditch and pond systems are safe-guarded by a 2m clay bund on the lower sides of the site. Ditches are built of compacted clay.

The capacity of the ditch and pond is at least 800m^3 of water without overflow.

SECTION 9.0: FIRE IMPACT ASSESSMENT

9.1: Fire Impact Assessment Materials and Liquids

Inventory of Potential Products from a fire at the Composting Facility:

1. Ash and part burnt compost
2. Burnt waste materials, including plastics
3. Burnt machinery and equipment, including burnt rubber tyres
4. Burnt woodwork
5. Burnt office equipment, computers, fans, motors and switchgear, (electrical equipment)
6. Burnt building cladding, roof sheets and insulation materials
7. Burnt and melted plastics from ventilation ducting
8. Oil and fuel spillages from machines
9. Waste-water from fire fighting
10. Foam and powders from fire fighting
11. Soot and smoke residues on walling and equipment
12. Poor quality air within closed spaces

During a fire, the greatest impact is gaseous emission in the form of smoke and products of combustion from a variety of materials, including plastics and metals. The smoke cannot be contained and subject to the materials being burnt may not be very toxic or hazardous, except as an asphyxiant and people/animals must be kept clear from breathing the smoke fumes.

During fire-fighting, large volumes of water may be used, and large volumes of foul effluent generated.

The site provides the capability to contain effluent from the compost, both inside the building and the external yard areas. In the same way, any effluent from fire-fighting can also be contained and directed to the effluent storage sump.

The residues from a fire may comprise gases, solids and liquids.

- With air access the gases will become ventilated and return to fresh air quality.
- The solids can be contained within the area
- The liquids can be contained within the effluent system i.e. will drain to the lagoon.

9.2: Fire Impact Assessment Smoke and Fumes

For this site with the prevailing wind direction from the South-West, then in the incidence of a fire, there is a strong likelihood that smoke may drift from the site in the direction of the main Highway.

This would pose risks to traffic as the smoke may reduce driver visual field of vision, may cause distraction and may cause discomfort, such as coughing.

For these reasons, the early suppression and smothering of a small fire, using inert materials (such as bucket of sand) or fire-blanket will help serve to mitigate the risk of a small fire spreading.

Small supplies of damp inert material including bucket of sand are stored at the site; near the office at the workshop and within the boiler house.

9.3 Fire Debris Clean Up and restoration of site.

In event of a fire; a specialist team is called in and a number of waste skips are provided for waste and debris to be loaded and taken away to landfill or similar specialised waste disposal. The waste and residues from such a fire are not re-sorted/treated on site.

Contact Details for Waste Re-direction and Cleaning up after a fire:

FCC Environment 0344 736 9990
http://www.fccenvironment.co.uk/

Brian Armistead (Sinkfall Recycling) has an existing commercial arrangement in place with FCC Environment. FCC is a multinational Waste management Company that has multiple service capabilities ranging from Waste collection to Recycling, incineration to Hazardous Waste Landfill.

In the aftermath of a fire, FCC Environment shall be contracted to provide dedicated Industrial and Hazardous Waste Solutions services as required including:

- Detailed assessments of the waste and residues by FCC experienced and technically qualified assessors.
- Safe, professional and sustainable treatment, recycling, resource recovery and disposal using the very latest technology.
- A collection service with specialised containers and vehicles.
- Transportation of the waste to a dedicated, specialist waste management centre.
- Full documentation and compliance with all relevant legislation and regulations.

FCC have extensive infrastructure including industrial waste plants, asbestos disposal sites and a dedicated hazardous waste landfill site that, between them, can cater for most forms of industrial and commercial waste. FCC also specialises in petroleum decontamination and can provide sustainable, effective and affordable solutions.

FCC are able to handle and process all waste, including chemical and hazardous waste, in a safe, secure and sustainable way without landfilling where appropriate.

FCC Waste Treatment Division comprises three ISO 14001-accredited treatment facilities that together process 250,000 tonnes of liquid, solid and packaged wastes every year.

Alternative contacts include:

Cleansafe 0800 668 1268
Rentokil 0808 115 6710

SECTION 10.0 FIRE EMERGENCY PLAN - STAFF AND MANAGEMENT

10.1 Staffing Issues

The facilities standby staff rota will be actively managed, and in the event of staff illness, the next name will be drawn down from the list, and the standby system will continue. Equally during staff holidays the standby rota will be updated to ensure there is suitable cover continuously.

All staff listed on the standby rota will be provided with a list of emergency contact names and numbers. (Refer to Page 1 of this Plan)

10.2 Staff Responsibility – Fire and Spillage Management Training

All staff shall ensure that they have received training and instruction in regard to fire safety and accidental spillage management.

SECTION 11.0 SENIOR MANAGEMENT RESPONSIBILITIES & REVIEW

11.1 Policy and Commitment

Sinkfall Recycling is committed to managing the risks of fire at the Composting facility at **Sinkfall Farm**. This commitment extends from the Directors through to the on-site staff managing work based resources and activities on the site.

11.2 Roles and Responsibilities

The operation of the **Sinkfall Recycling** is the responsibility of the Directors of the company and the person responsible for this FIRE MANAGEMENT PLAN is:

The Senior Director - Mr. Brian Armistead

The Facility has a dedicated Site Manager who is responsible for the daily operations of the site.

The Site Manager 1. is Mr Tony Layfield. The Site Manager 2. is Mr Luke Armistead

Senior COTC (Certificated Technically Competent Manager) is Mr Brian Armistead
Deputy COTC (Certificated Technically Competent Manager) is Mr Tony Layfield
Deputy COTC (Certificated Technically Competent Manager) is Mr Luke Armistead

The facility's designated Technically Competent Person will be responsible for ensuring the site complies with the conditions of the Environmental Permit and will be the primary point of contact for the Environment Agency.

Site staff shall be responsible for maintaining an awareness of general site performance during their daily activities. Staff will be instructed to report any unusual odour occurrences to the Site Manager without delay.

11.3 Training – Fire Prevention

Brian Armistead Ltd employs a dedicated member of staff to oversee Statutory Compliance and Training. This person organises regular Training and maintains up to date records for each operative on site. Fire Prevention Training is undertaken at least once each 6 months, inclusive of Site Emergency Procedures and Practice.

11.4 Training – Spillage Prevention and Management

Brian Armistead Ltd employs a dedicated member of staff to oversee Statutory Compliance and Training. This person organises regular Training and maintains up to date records for each operative on site.

Spillage Prevention and Emergency Response Training is undertaken at least once each 6 months and led by senior management there is Site Emergency Procedures and Practice annually. Details are within the EMS.

11.5 End of Day Site Walk Round Checking

A walk round check shall normally be carried out by the Site Manager/ i.e. The person who is in charge of the facility. In his/her absence, a third party (administrator) will carry out the site walk checks. During the walk round, other checks may be carried out at the same time.

11.6 Fire Management Plan Review

The Fire Management Plan will be reviewed by senior management every year or immediately following any major incident / event; or any technical or managerial change on site.

SECTION 12.0 CONTACTS FOR SERVICE & CONTINGENCY

Note: The Site Manager contact details are given at the front cover and page ii.

	Responsible Person		telephone	mobile
1	Brian Armistead	Brian Armistead Ltd - Manager	**01229 465000**	0783141414569
2	Tony Layfield	Sinkfall Recycling Site Operations Manager	**01229 465000**	07918626168
3	Luke Armistead	Brian Armistead Ltd - Deputy Manager	**01229 465000**	07793324897

12.1 Service Engineers

Sinkfall Farm
Rakesmoor Lane
Barrow-in-Furness
Cumbria LA14 4QE

12.2 Environmental Consultant

David Baldwin.
Recogen Ltd.
1 Shackleton Way
Shrewsbury SY3 8SW Tel: 01743 340630

12.3 Contingency Tanker/haulier

Sinkfall Farm
Rakesmoor Lane
Barrow-in-Furness
Cumbria LA14 4QE

12.4 Contingency COTC (operator)

The Senior Director - Mr. Brian Armistead - COTC
The Site Manager is Mr Tony Layfield – COTC, Mr Luke Armistead - COTC

12.5 Contingency 'link to facility' for waste material diversion

Contact Details for Waste Re-direction and Cleaning up after a fire:

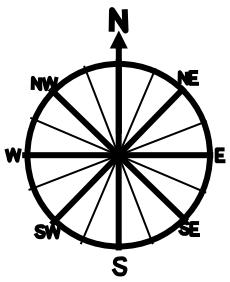
FCC Environment 0344 736 9990
http://www.fccenvironment.co.uk/

APPENDICES FOLLOW. (See Contents - Page for List)

APPENDIX 1. SITE WALK ROUND FIRE RISK REPORTING

SITE FIRE RISK WALK-ROUND
CHECKING FOR UNCONTROLLED FUEL, AIR-LEAKS AND IGNITION SOURCES

Name of Person undertaking the Walk Round – Fire Check	Date				
Time of Condition check:					
Activity at Site - Normal	Tick normal ☐				
Activity at Site - Abnormal due to Planned Service/Maintenance	Tick if abnormal ☐				
If Abnormal due to Failure Incident; then what was occurring?					
Wind direction (mark compass with arrow as direction of wind					
Wind strength (circle or tick)	none	light	steady	gusting	strong
Weather conditions (circle or tick)	dry	Mild rain	Heavy rain	foggy	snow
Temperature (circle, tick or provide temperature: deg C	very warm	warm	mild	cold	freezing



Site Walk Round – Locations for Checks: Look for UNCONTROLLED FUEL, LEAKS and HEAT/ Ignition Sources

Check Record (tick =OK or add comment)

Zone ref	Zone Location	Ignition Sources	Electrical Equipment	Vehicles & Equipment	Vehicle Fuels	Temperature of material	Visitor and Third Party equipment	Other Issue
A	Entrance roadway							
B	Feedstock in Reception							
C	Loading shovels							
D	Shredder engine etc.							
E	Screener engine etc.							
F	Process Windrows							
G	Oversize Storage							
H	Drains & Effluent Tank							
I	Biomass Boiler							
J	Woodchip and Products							
K	Weighbridge							
L	Fencing and security							
M	Fuel storage							
N	*Fire extinguishers*							

(Water Tank; is part of composting site and knowing the reserve of water there-in will be useful).

APPENDIX 2: FIRE INCIDENT REPORTING

This is the report of the Fire Incident at the following Site:

Site Name	**Sinkfall Recycling Facility**	**Permit Number:**	
Address	**Sinkfall Farm**	**Contact person**	**Brian Armistead**
	Rakesmoor Lane, Barrow-in-Furness	**Contact Tel. No.**	**01229 465000**
Postcode	**Cumbria LA14 4QE**	**Contact Mobile.12**	**0783141414569**

Fire incident record	
Was there any significant pollution – for example: oil entering a surface water drain. If so what?	
If there was then you must notify the Environment Agency on 0800 807060 ASAP. Have you done so?	

Please print your name and sign

General Description of Incident/Accident	
Date of the incident	
Time of the incident (duration)	
Was anyone else aware of this – other witnesses? If so who?	
What was involved?	
What caused it?	
What happened?	
Material Consequences?	
Environmental Consequences?	
Personnel/Human Consequences?	
Summary of the scale of the Environmental Impact.	
Pollution consequence?	
Emergency Response measures taken	
Actions taken to rectify the problem?	
External agencies involved?	
Actions/procedures or facilities implemented to make sure that it does not happen again?	
Emergency Services Called and actions taken	
Incident reported to the Environment Agency?	Yes/No/not applicable
	E.A Incident number:
	Reported to: (officer)
	EA Office
	Reported Date: Time:

APPENDIX 3: LIST OF WASTE MATERIALS ON SITE

Waste Code	Description of Waste	Typical %age
02 01 03	**Plant Tissue waste**	10%
02 01 06	Animal faeces, urine and manure (including spoiled straw)	
02 01 07	Wastes from forestry (biodegradable only)	
02 01 99	Fully biodegradable animal bedding	
17 05 06	Plant tissue waste from inland waters only	
19 05 03	**Compost in Process and Off specification compost**	30%
19 05 03	**Compost Oversize as Off specification compost**	5%
20 02 01	**Biodegradable waste (plant matter only) (feedstock)**	10%
	General mixed waste destined to be sent off site (in skip)	10%
20 01 01	Paper and cardboard (excluding veneers, plastic coatings or laminates)	10%
20 01 xx	Packaging Plastic Containers	5%
	Waste Wood within Transfer Station/Recovery Centre	**5%**
	Biomass as Fuel for Boiler	5%
	Biomass (Woodchip) as Raw Products or Finished Products	5%
	Animal Bedding Raw Material or Finished (Dried) Products	5%

Typical tonnage of materials on site: 1000t associated with composting,
500t Biomass / Paper associated with Drier
500t as Waste Wood (Fuel) associated with Boiler
500t as Other Waste – Paper/Card Plastics in MRF

Permit to Work – Hot-Works

APPENDIX 4: HOT-WORKS PERMIT TO WORK –

For all operations involving flames, welding, hot cutting, Grinding

This permit is valid only for the job described and the timescales provided

Description of work

Location of Work

Building	Area of Building	Yard	Location

Date required (max duration 1 day)		Valid From (time)		To	

Contact Details
(method of Contact)

Mobile Phone		Site telephone		Office No.	
Project Officer		Admin		Security	

Potential Hazards	☐ Oxygen enrichment ☐ Oxygen depletion ☐ Toxic Gas ☐ Explosive Gas ☐ Bio Hazard ☐ Poor lighting ☐ Heat ☐ Noise ☐ Tripping/falling/striking objects ☐ Other- provide details		
Control Measures	☐ Hazard / equipment Isolated ☐ Department staff informed ☐ Protective equipment required - specify:		
Other Identified Hazards		Controls Measures	

Mandatory Safety Requirements *(See FPP for further guidance)*	**Actioned**
All areas to be checked and combustibles removed or protected before commencement of work	
All areas to be screened, protected, roped off as necessary and warnings signs displayed	
All systems associated with the work to be isolated, inclusive of smoke alarms	
Assistant to standby with fire extinguisher suitable for task. (Competent in use)	
Building Facilities Manager notified	
Area to be checked/inspected for combustion **1 Hour** after completion of work	

Person entering work area

Permit issued by		Date		Time	
Permit Received by		Date			

Permit cancellation
(Administrator/Site Manager)

Name		Date		Time	

What is 'Hot Works'?
All temporary operations involving open flames or producing heat and/or sparks, this includes, but is not limited to, Brazing, Cutting, Grinding, Soldering, Thawing, and Welding.

VALIDITY
Hot works permits are only valid for a maximum of 1 working day.

HOT WORKS CHECKLIST
The Permit form guides you through the requirements, this is additional guidance.
Sprinklers and hose streams in service/operable. (Where applicable)
Hot Work Equipment in good condition (e.g., power source, leads, torches, etc. must be inspected prior to use to ensure they are fit for purpose)
Multi-purpose fire extinguishers (2) readily available.
Operative must be competent to use the fire extinguisher
Contact to be made with the Networks Engineer to ensure the fire alarm system is protected / isolated as appropriate. **At least 2 days' notice is required.**

REQUIREMENTS WITHIN THE WORK AREA
Area to be checked for combustible materials which must be removed before work can commence, this can include paper, cardboard, dust, lint, debris, flammable liquids and oily deposits. Floors swept clean.
Combustible flooring and other combustible surfaces must be protected with heat protection mats, or other suitable materials.
All wall and floor openings covered.
Walkways protected beneath hot work.
Explosive atmosphere in area eliminated.
Flammable liquids / gas cylinders removed from work area or stored appropriately
Area to be screened, protected and safety signs displayed

WORK ON WALLS OR CEILINGS
Combustibles moved away from other side of wall.

FIRE WATCH/HOT WORK AREA MONITORING
Fire watch must be provided during and for a period of 1 hour after work, including any coffee or lunch breaks, remember that adjacent surfaces need to be checked. (Walls, ceiling voids etc.)

COMPLETION OF WORKS AND FIRE WATCH
Ensure that any fire alarms protection devices have been removed and returned.

NB In the event that it is not possible to reset the fire alarm system, and or remove covers for the fire alarm detector heads, then a site specific assessment must be carried out and appropriate controls measures implemented. Security and/or Networks Engineer must be made aware

APPENDIX 5: BIOMASS BOILER AND FUEL STORAGE PLANS

Biomass fuel storage and processing area

Drawings for the Fuel Storage, boilers and flues are shown below.

The boiler systems comprise the following principal infrastructure:

- 2 no. 999KW biomass boilers;
- Walking floor fuel loaders
- Biomass fuel storage and processing area; and,
- Elevated flues for dilution and dispersion of residual emissions.

Figure A5.1. Site Plan including Boiler Installation within red lined area.

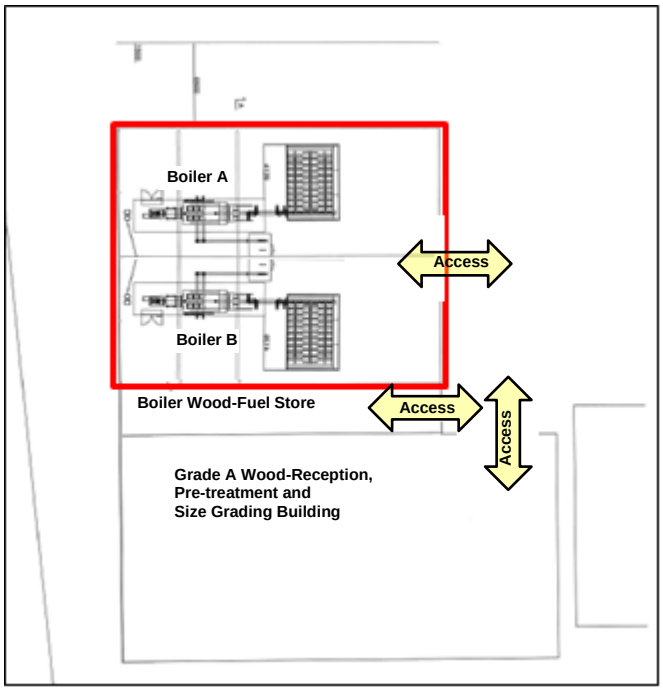
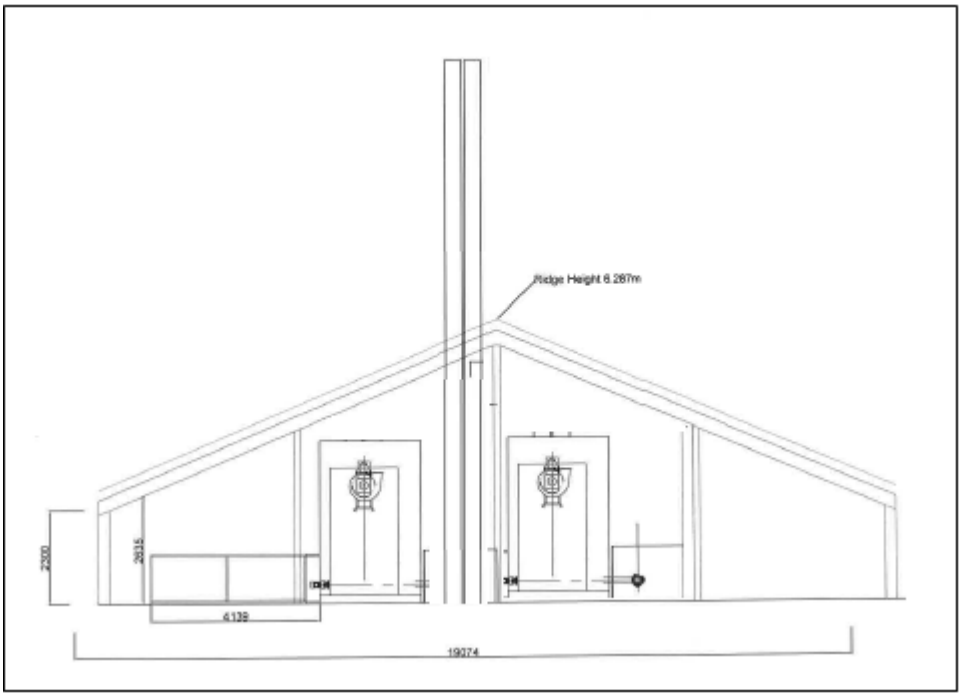
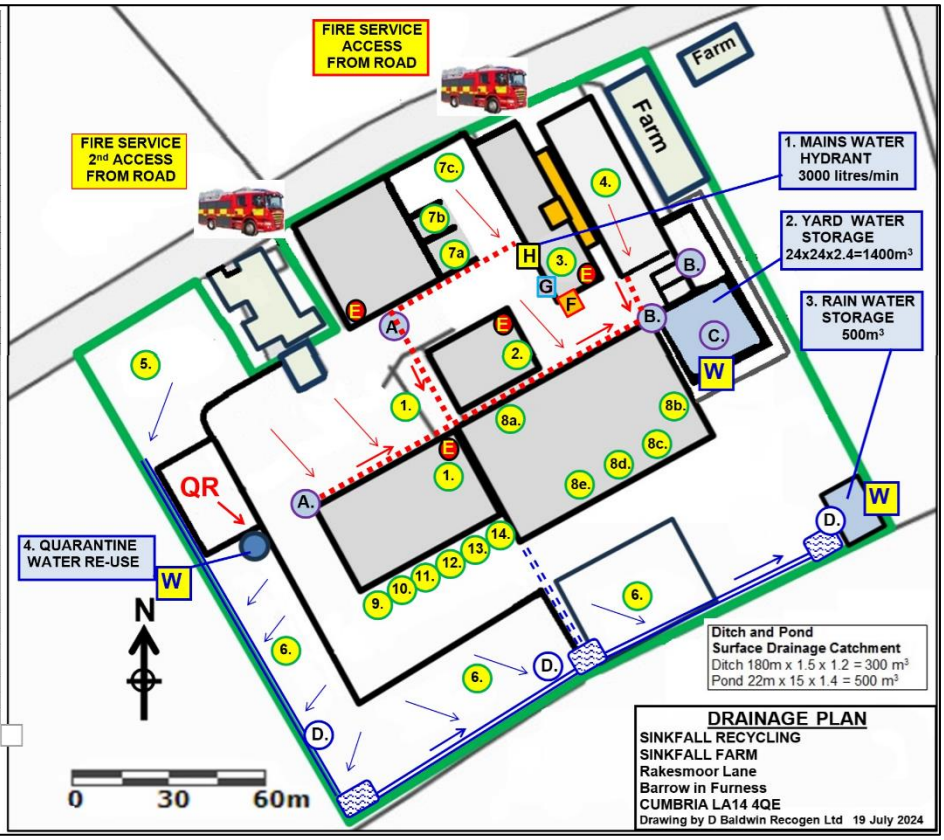


Figure A5.2. Site Elevation showing the Twinned Stacks of Boiler Installation.



APPENDIX 6: SINKFALL SITE ACTIVITIES PLAN

	KEY ACTIVITIES
1	Wood / Bedding Drying Area, vented bins/shed
2	Wood Processing prep for Boiler
3	MRF Domestic Waste
4.	Composting
5.	Inert Stone Reclamation
6.	Clean Aggregates and Soils storage
7.	Transfer Facilities Glass, metals etc.
8.	New Transfer and Treatment Facility
9.	Chilled container food waste
10.	Secure Container Plasterboard
11.	Secure Container Clinical Waste in Lidded bins
12	Secure Container Haz. Waste in Lidded dolavs
13.	WEEES Container - secure
14.	Oil – self bunded tank
	KEY TO DRAINAGE ASSETS
A	Primary Yard Water Drainage
B	Drainage interceptor and silt trap
C	NEW Drainage storage compound
D	Drainage Ditches – surface water pond & lagoon
	KEY TO FIRE MANAGEMENT ASSETS
E	Extinguishers
F	Fuel Storage
G	Granules and Absorbents Kit
H	Hydrant
QR	Quarantine
QRS	Quarantine Fire-water storage
W	Contingency Water storage
7a.	Glass Cullet
7b	Metals
7c	Green Waste
8a	Wood
8b	Metal and wire
8c	WEEES
8d	Paper and Card
8e	Plastics



APPENDIX 7: SINKFALL SITE ACTIVITIES

Ref.	Activity Name	Processes undertaken	Wastes
1	Materials Drying Facility Open Facility or containers	Drying of Virgin Wood (chip and logs) Drying of Grade 'A' Wood for Animal Bedding Drying of Paper Waste for Animal Bedding	n.a. List 1A List 1B
2	Grade 'A' Wood processing	Receives Grade 'A' Wood for checking and chipping/shredding and screening; and for contrary material extraction (e.g. pallet nails)	List 2. Various EWC codes (wood)
3	Transfer and Treatment 'Materials Reclamation' Various Materials	Original List of Materials received in skips or loose. Sorted and segregated, contrary material extracted. May be loaded to containers or out-loaded whole; or undergo treatment including compaction etc. prior to out-loading. Some material temporarily stored as waste in containers.	List 3. Typical Building Construction / demolition materials
4	Composting Processes	According to Typical PAS100 quality composting regime: entails reception of Green Waste, shredding, Stage 1 Composting; intermediate screening, Stage 2 composting, completion.	List 4 according to Compost QP.
5	Soils, Hardcore and Aggregates Reclamation	According to original List of Materials received in skips or bulk. Materials are Sorted and segregated, contrary material extracted. May be loaded to containers or out-loaded whole. Aggregates may be crushed and screened.	List 5.
6	Grit Reclamation from Road Sweepings	Use of specialised Grit-Buster type, grit extraction machine, producing clean grit to aggregates Protocol and waste soils for use only in land reclamation (non-agricultural)	List 6

7	Drilling Mud	Dewatering of drilling muds; water to water treatment plant and soils to land-reclamation	List 7
8	Boilers	2 Boilers as Described	
9	Kerbside Collected Recyclate Materials	Materials include Paper, Cardboard, Steel & Aluminium Cans and Rigid Packaging Plastics	

APPENDIX 8A: SINKFALL SITE – MATERIAL STORAGE PILE VOLUMES

With reference to the **EA Guidance shown here**, the Operating Procedures at the site have been checked and adjusted to meet these requirements.
This is done by the methods outlined in the last column. Refer to Appendix 8B for illustration.
Interim Plan is that Maximum Pile Size shall be limited to 240m^3. Separation of 6m between piles.

Waste type	**EA Guide Loose & >150mm**	**EA Guide 30-150mm or baled**	**EA Guide < 30mm**	**B. ARMISTEAD SINKFALL Procedures to limit Pile size**
Tyres and rubber	450 m^3	300 m^3	300 m^3	Tyres are removed regularly on contract. No more than 1 skip of tyres 12m^3 stored at any one time.
Wood	750 m^3	450 m^3	300 m^3	Loose Grade 'A' wood in Building 2 is constrained to a heap of size 10 x 8 x 3.0m = 240m^3 Shredded to size and screened to remove fines, then stored in 2 separate piles = <240m^3 in each Wood in specialised drying skips; dimensions 6m x 2.4 x 3m = 43m^3
Wood in Drying Facility	750 m^3	450 m^3	300 m^3	Open drying batches 240 m^3 within drying area. Storage of dried material awaiting transport = 240 m^3. Wood in specialised drying skips; dimensions 6m x 2.4 x 3m = 43m^3
Compost and green waste (excluding during the active composting process)	750 m^3	450 m^3	450 m^3	Compost in PAS100 process not included, (but only one pile in one place at one time typically 500 m^3). Oversize removed at screening 10% equates to only 50m^3 used as feedstock in next batch. Feedstock for Batch of typical volume 240m^3 to 250m^3
RDF and SRF	450 m^3	450 m^3	450 m^3	None used
Plastics	750 m^3	450 m^3	300 m^3	Limited to Max pile size of 240m^3
Paper and cardboard	750 m^3	750 m^3	450 m^3	Paper pulp for drying may comprise one load, (45m^3) or else is dried within in specialised drying containers; dimensions 6m x 2.4 x 3m = 43m^3
Textiles	750 m^3	750 m^3	400 m^3	Minimal quantity used. 1 skip 43m^3
WEEE containing plastics, including fridges, computers and televisions	450 m^3	450 m^3	450 m^3	Limited to Max 1skip-full 45m^3
Metals other than WEEE (including crushed ELVs, which are classed as 'baled' waste for the purpose of this table. For whole ELVs see EA document)	750 m^3	450 m^3	450 m^3	Limited to Max 240m^3
Fragmentiser fluff	450 m^3	N/A	N/A	None used

For all waste piles, the maximum height allowed is 3 metres.
For all waste piles, the maximum length or width allowed (whichever is the longest) is 10 metres.

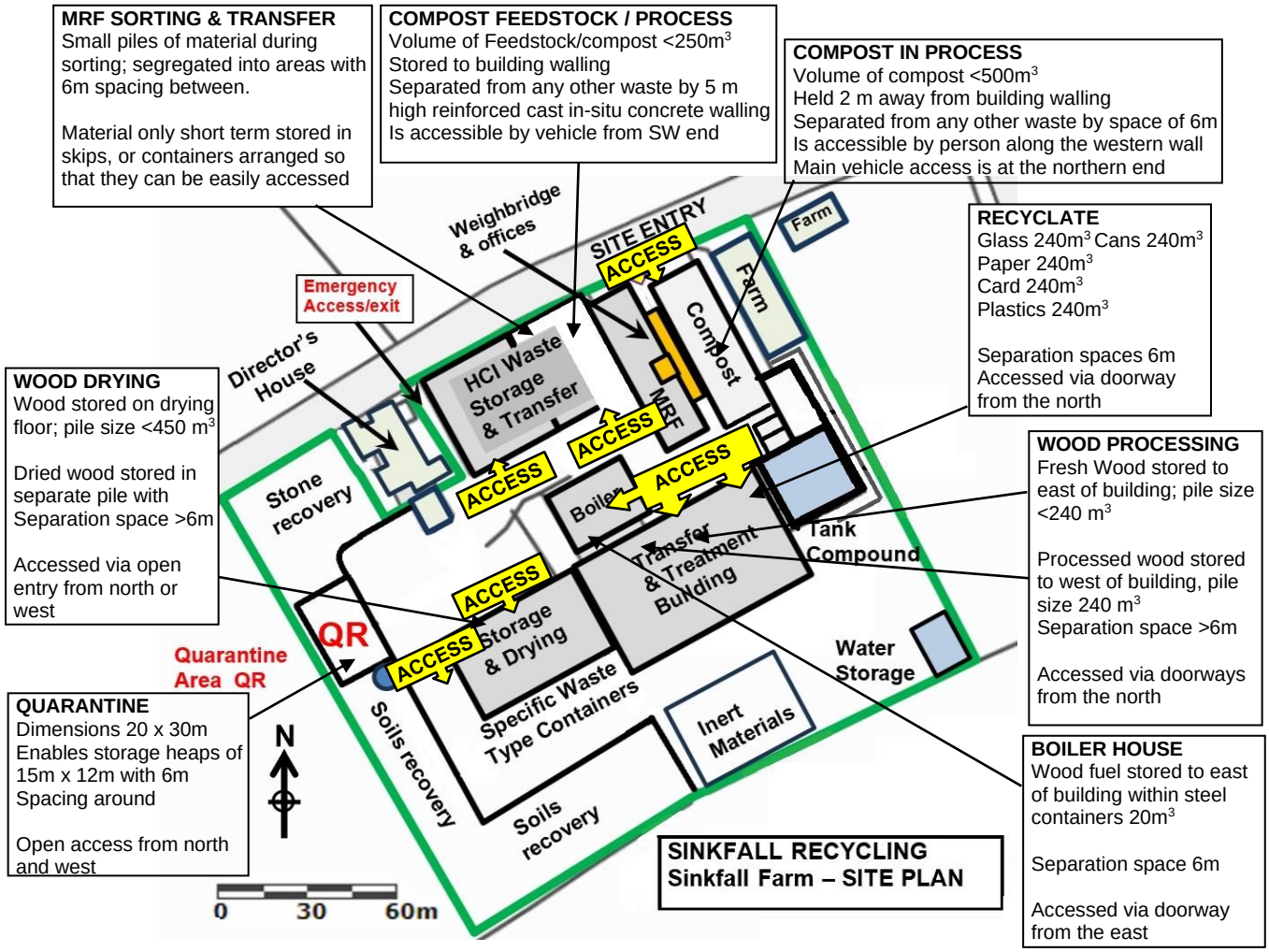
APPENDIX 8B: SINKFALL SITE – MATERIAL SEGREGATION

Materials in storage shall either be segregated by 6m spaces as fire breaks or else shall benefit from dividing walls that have a high fire resistance, or otherwise shall be contained in skips or containers of low volume and which can be moved.

The following provides an illustration and supporting text that indicates:

a) The typical maximum pile size within an area; the spacing from other material; any divisions or fire-barriers

b) Accessibility to those areas to enable fire-fighter access.



APPENDIX 8C: SINKFALL SITE – USE OF QUARANTINE AREA

Quarantine Arrangements.

On-Site Quarantine Facility

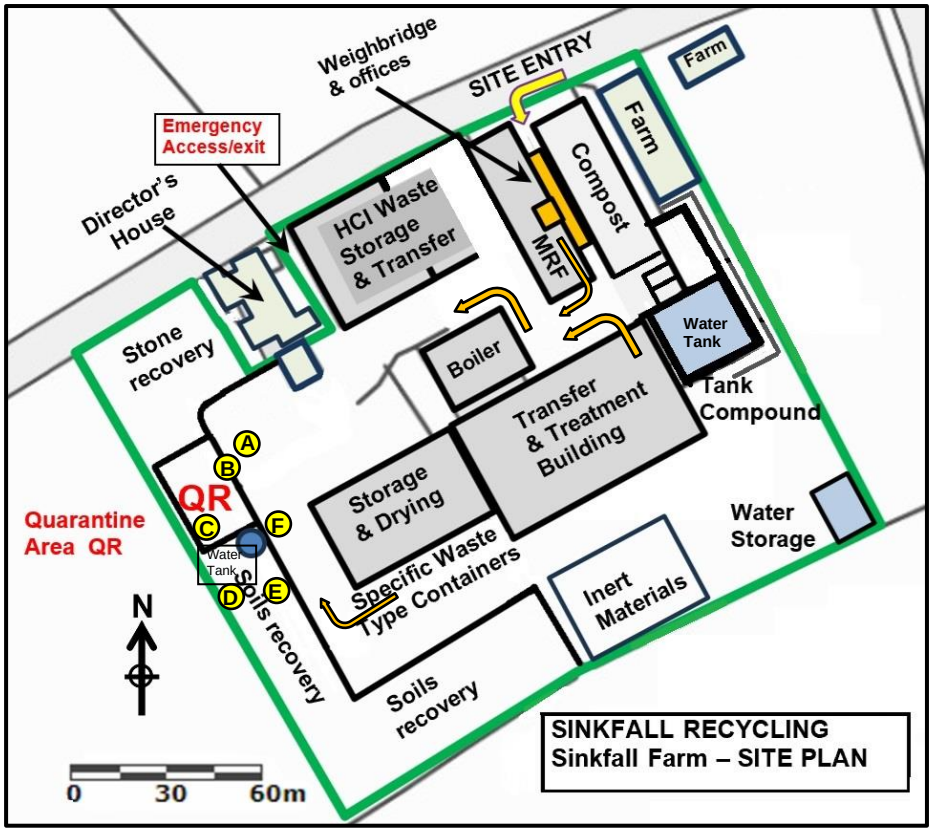
The site has a Quarantine Facility within the New Permit boundary. This is to the West of the facility on open ground. The area is greater than 25m from any areas containing wood and is within easy reach of the main water hydrant for the purpose of damping down any material. Any spent fire-water will be collected within the sealed drainage system and tank in the south east corner.

The overall area is >20m x 30m and this will accommodate smaller piles (15m x 12m) of material including 6m areas of 'fire-breaks' between these two piles.

Quarantine Operation.

Materials that present a high risk of ignition; or which have been subject to fire damage and which represent a high risk of re-ignition shall be taken to the Fire Quarantine area (West of Main site) and doused with water until the ignition/ re-ignition risk has been minimised.

Hot material that requires dousing with water shall be stored so there is least risk of flames, sparks or hot materials being blown onto other material. Refer to Procedure shown below.



Use of Quarantine Procedure

	Activity	Action taken	Checks made
1	Clear and check	Move any equipment or other materials off quarantine area. Clear traffic routes to the area. Ensure surfaces are solid.	Check area is cleared
2	Command	Check wind direction and issue instructions to drivers/staff Aim to use area so that hottest material is downwind, with least risk of igniting other material brought to the area. Determine favoured delivery route and access to the area. Instruct staff; drivers; pump-command; fire-fighting, damping	Check wind direction.
3	'A' Delivery	Material delivered by loading shovel, dump truck or trailer.	Check if liable to ignite
4	'B' Access to area	Known access/exit route onto and from quarantine area	Check safe movements

5	'C' Spread & douse	Dedicated area for spreading hot material and dowsing it with water using pump or vacuum tanker and jet. At least two operatives and one loading shovel, or 360 excavator	Check to see that hot material is cooled, flame risk extinguished
6	'D' Transfer	Move cooled/dowsed material to store up wind	Check no hot-spots
7	'E' Storage	Arrange piles of material, limit to 250m^3; e.g. 15m x 12m x 3m deep with 6m gaps between the piles	Check drainage flow
8	'F' Drainage	Check that drain is intercepting any debris or foul water. Re-use water for damping down. Check outfall at tank.	Check drainage flow Check level in tank

Accommodation of the spent Fire-Water

The basis of fire-water containment is for the 300 m^3 fire water identified in Box 7 of the FPP page 28.
The new quarantine area affords drainage storage of 100 m^3 within the underground tank.
The existing main yard clean water storage tank, reverts to drainage water (fire-water storage) 100,000 gals = 450 m^3
The drain sump attendant to the water tank provides 25 m^3 (35 m^3 if surcharged)
A mobile tanker at the site has capacity 10 m^3 (but not included here)
Tank storage capacity (100+450+25 = 575 m^3)

If required, then there is a second effluent storage tank at the site (relates to the road sweepings) that could be used in such circumstances to accept 50 – 100 m^3, it is 10m dia and 3m deep below ground (volume 230 m^3). Use of this second below ground tank is the preferred contingency option. It also has some above ground capacity (additional 1.2m)

You enquired about submerged drain storage of effluent within the drains:
The 200mm drain run to the drain sump is of nominal capacity approximately 1.5 m^3 per 50m of drain run and would not be relied upon to retain excessive drainage water.

You enquired about surface impounded effluent storage on the quarantine area – Yes, the excess of 50m^3 effluent could be impounded if the drain to the below ground tank was blocked off, calculation as follows:
The quarantine area is provided with a kerb at 200mm depth, and so if the outlet to the drain system and tank was blocked off, then the effluent retention on the quarantine area with some margin to avoid overflow would be say 175mm:
(fall of area 1 in 150, so width of 'wedge' of water stored at say 175mm would extend back ~25m. Width of area in question is a minimum 30m, so the volume impounded would be 30 x 25 x 0.175/2 = 65m^3

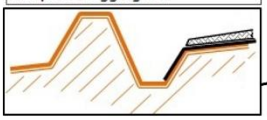
The drainage of the floors within the buildings which are kerbed above ground, would similarly provide some impounding of effluent.

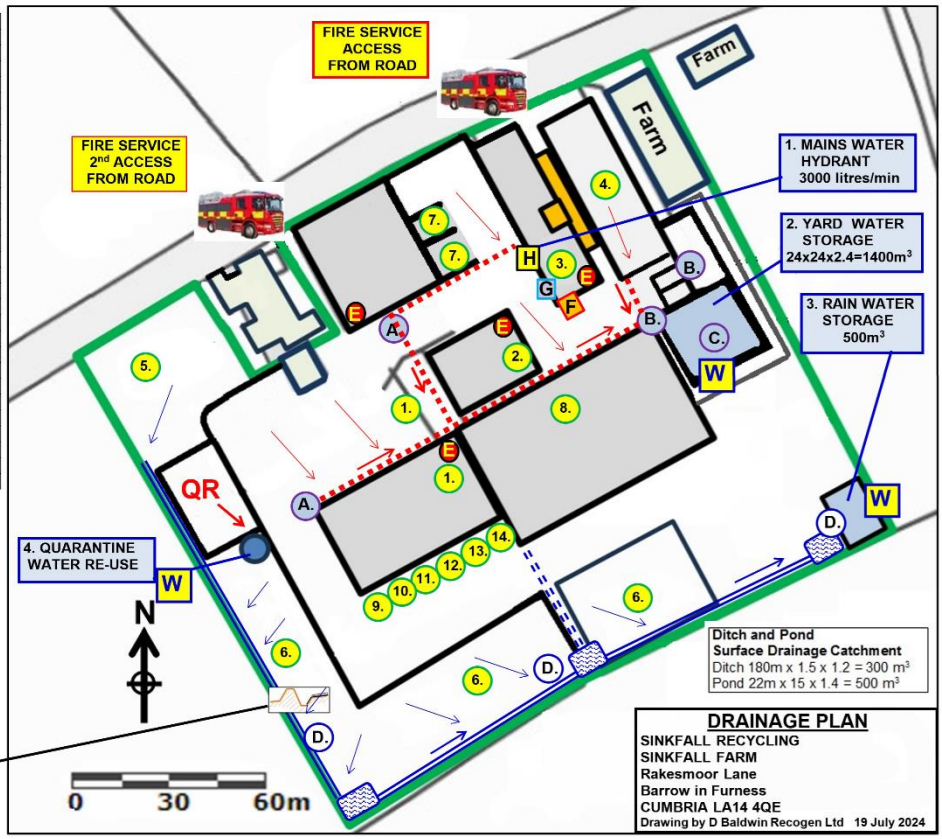
However, in the exceptional circumstances mentioned where there was no water evaporation or absorption, and the tanks were at risk of becoming filled, the preferred option would be to tanker-transfer (or pump) effluent to the second (below-ground) effluent storage tank in the centre of the yard. This will easily accommodate the 50 m^3 of excess effluent that may need retaining under that scenario.

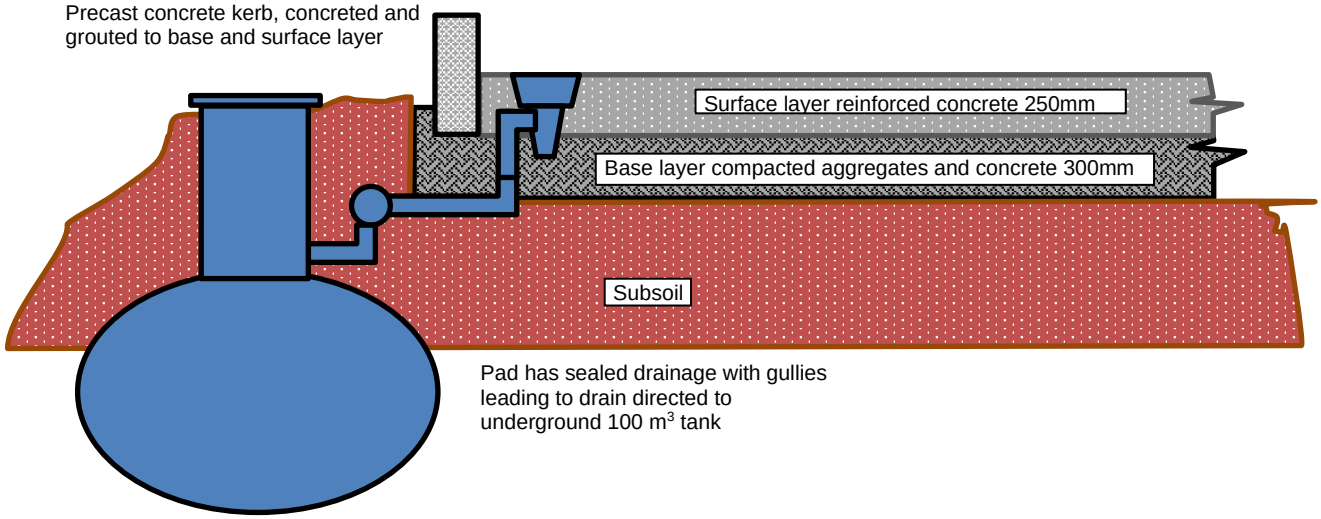
APPENDIX 9: SINKFALL SITE – DRAINAGE PLAN

	KEY ACTIVITIES
1	Wood / Bedding Drying Area, vented bins/shed
2	Wood Processing prep for Boiler
3	MRF Domestic Waste
4.	Composting
5.	Inert Stone Reclamation
6.	Clean Aggregates and Soils storage
7.	Transfer Facilities Glass, metals etc.
8.	New Transfer and Treatment Facility
9.	Chilled container food waste
10.	Secure Container Plasterboard
11.	Secure Container Clinical Waste in Lidded bins
12	Secure Container Haz. Waste in Lidded dolavs
13.	WEEES Container - secure
14.	Oil – self bunded tank
	KEY TO DRAINAGE ASSETS
A	Primary Yard Water Drainage
B	Drainage interceptor and silt trap
C	NEW Drainage storage compound
D	Drainage Ditches – surface water pond & lagoon
	KEY TO FIRE MANAGEMENT ASSETS
E	Extinguishers
F	Fuel Storage
G	Granules and Absorbents Kit
H	Hydrant
QR	Quarantine
QRS	Quarantine Fire-water storage
W	Contingency Water storage

Section through Bund Wall
Stripped Topsoil down to impermeable compacted clay base. 1.4m deep Ditch formed into clay. Bund formed of clay and dressed with soil to 1.8m above OGL. Terram geotextile, topped with compacted aggregate.

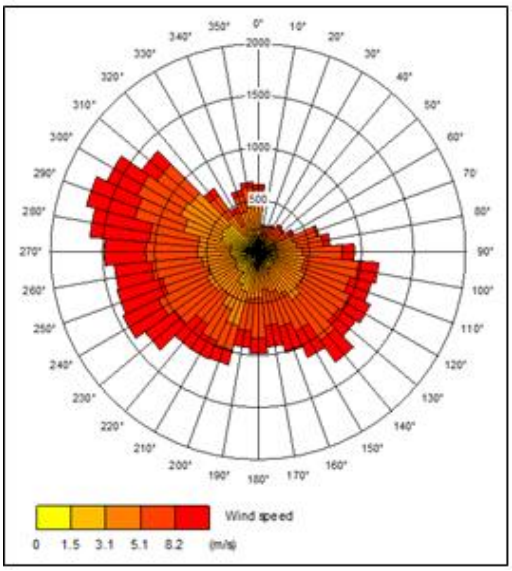


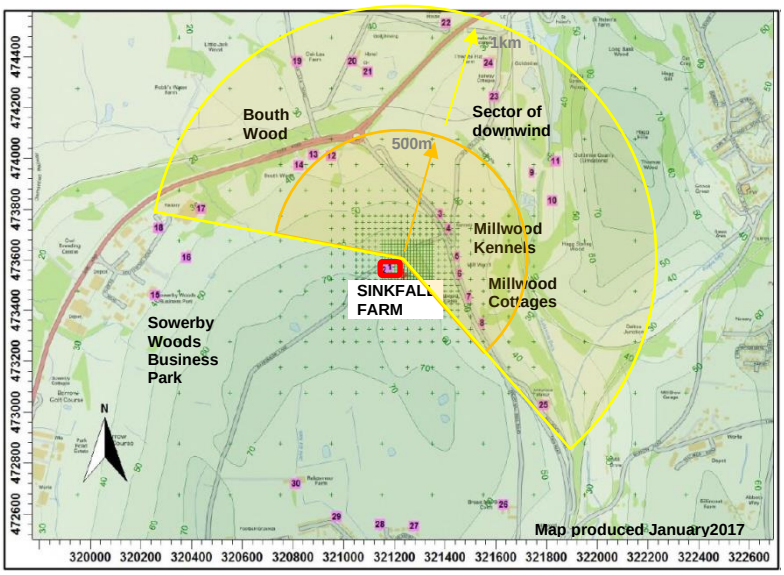




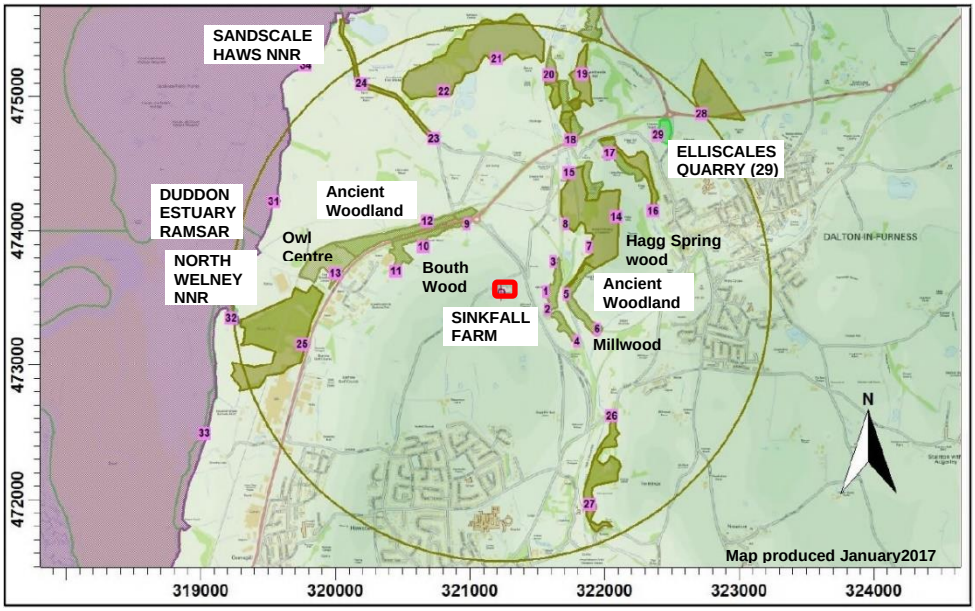
Pad has sealed drainage with gullies leading to drain directed to underground 100 m³ tank

APPENDIX 10: SINKFALL SITE – POTENTIAL RECEPTORS





APPENDIX 11: SINKFALL SITE – ECOLOGICAL RECEPTORS



There are two Sites of Special Scientific Interest (SSSIs) within 2 km; Elliscales Quarry SSSI to the north-east and the Duddon Estuary SSSI to the north-west. Elliscales Quarry SSSI is designated primarily for its geological features, but floral features are included in the citation. The Duddon Estuary SSSI is also designated as part of the Morecambe Bay Special Area of Conservation (SAC) and as a Special Protection Area (SPA) and Ramsar site.

There are several areas of Ancient Woodland (AWs) and Local Wildlife Sites (LWSs) within 2 km of Sinkfall Farm.

Maps of the surrounding area showing the positions of the wildlife sites are shown here in APPENDIX 10 and 11; in these figures, the AWs and the LWSs are shaded in olive, the SSSIs are shaded in green, the SAC/SPA/Ramsar site is shaded in purple.

These maps are based on the Air Quality Assessment for this site produced January 2017.

APPENDIX 12: FIRE EMERGENCY RESPONSE ACTION PLAN

Site Evacuation

Purpose: The emergency response plan is designed to facilitate the safe evacuation of all occupants from The Composting Facility in the event of fire or other emergency.

System Components: alarm switch points, alarms, water hose reels and fire extinguishers

Evacuation Procedures:

1. **Supervision during the Emergency:**

   a. The Site Manager will supervise the evacuation of the building.
   b. The Site Operatives will assist in ensuring evacuation and report to the Site Manager any persons missing or unaccounted for.
   c. Re-entry into the building after a fire shall only be upon authorization by the Fire Brigade.

2. **Person discovering a fire:**

   a. Recruit assistance from persons in vicinity if possible to:
      i. Pull Fire alarms at nearest box. These alarms to automatically sound alarms throughout the building.
      ii. Call 999 report name, location, description of emergency,
      iii. If trained, use fire extinguishers to aid in evacuation and to confine the area of the fire
      iv. Remove victims in the immediate area of the fire
      v. Confine fire by closing doors and shutters in vicinity of fire

3. **All Personnel:**

   a. All building occupants will exit the building upon announcement by the Site Manager or sounding of the fire alarm.
   b. **NEVER MOVE INTO A CLOSED AREAS OR SPACE DURING A FIRE OR OTHER EMERGENCY.**
   c. Close doors, corridor smoke barrier doors, and windows in the vicinity. Shut off potentially dangerous equipment, electricity in the work area.
   d. Assist all injured or disabled persons from the building.
   e. Report to the appropriate assembly area.

4. **Site Manager responsibilities**:

   a. Identify another person to aid in clearing rooms, including restrooms, of assigned area. Work as a pair. If possible, shut off air handling units in assigned area.
   b. Close smoke bearing doors in assigned area.
   c. Direct persons to assigned exits and assembly areas.
   d. Verify assigned area is evacuated.
   e. Check all persons in assembly area and identify missing persons.
   f. Report missing person(s) presumed to be in the building to the Fire Brigade.
   g. Remain in assembly area until receiving instructions from Fire Brigade that it is safe to re-enter building.
   h. If Assembly area becomes unsafe, relocate as a group to another assembly area.
   i. Select a staff member in same location to serve as back up should Site Manager be absent.
   j. Train personnel and staff within assigned area in this procedure.

Management of Fire-fighting

a). Site Operative is directed to the Main Road Access and signal the arrival of the Fire Emergency Service.

b). Operative explains that the reservoir is The PRIMARY Fire-Water supply and provides the Fire Marshall with the Plan of the site and identifies the key features, location and extent of the Fire and hazards.

c). Subject to the nature and extent of the fire and time of arrival of the Fire Engines:

i). 4 Teams of Operatives are organised:

Team 1 for removal of materials at risk, near the fire; (Biomass heaps, compost windrows)
This includes the clearance of machinery / equipment from near the Fire Quarantine Area and Clearance and preparation of the Fire Quarantine Area; drainage and tank checks.

Team 2 for collection and delivery of clean fire-water using the large suction tankers.
This includes preparation of all required suction hoses and delivery hoses.

Team 3 for the use of the pumps and pressurised water canon from the mobile tanker or pump sump;
This includes management of the Fire Water Sprinkler dousing systems (biomass drying);
The dousing of hot materials in situ
The dousing of hot materials within the Fire Quarantine Area

Team 4 for the management of spent fire-water control using second suction tanker, and drain tanks.
This includes management of the drainage of fire-water and re-use if appropriate.

ii). Administration Staff are organised:
Task 1 to contact the relevant Emergency Services, Environment Agency
Task 2 to contact local contractors, service providers or trained personnel for support to the teams
Task 3 to contact local contractors, service providers for additional equipment
Task 4 to contact local residents and businesses using the ‘contacts list’ located in the main office [See Below]

iii). Management Staff:
Remain on-site to liaise with the Emergency Services, Environment Agency
Plan and execute decisions; delegating responsibility and maintaining personnel safety
Maintain Environmental Awareness, checking on pollution risks and other associated risks

Contacting Local residents and businesses.
Management assists in determining the area of the plume drift based on wind and weather.
Reference is made to the maps at Appendix 10 and the operative telephones the properties/phone numbers for these people.

Primary contacts are for houses at:
- Millwood Cottages
- Millwood Kennels
- Bouth Wood

If these are unavailable or contact details are not available, then an information message is distributed.

Message To the householder.
There has been a minor/major incident of Fire at the premises known as Sinkfall Farm. This has entailed some combustion of wood/ compost/ paper/ waste materials. This has generated smoke and steam.
The nature of the materials is non-hazardous, however smoke and fumes can cause irritation or deposit a smoky odour and therefore you are advised to take washing indoors and to keep windows closed until the risk of smoke drifting in the direction of your house has diminished.
If you need further information then contact **Brian Armistead, Sinkfall Farm 01229 465000**

APPENDIX 13: ASSOCIATED MANAGEMENT PLANS

SINKFALL FARM
Electrical Inspection Checklist

Issued by Brian Armistead Manager Issue 2.0 January 2018

Inspection by	Time	Date

General Work Areas			
Switches and Isolators have proper covers		Covers fitted, closed /fastened & sealed tight	
No flexible cords taped or with signs of wear		No exposed wires on equipment	
Emergency stop devices work		All controls function properly	
Electrical cables do not hang on pipes, nails, hooks		No cables pass through walls, ceiling, doors or windows	
Unused openings are plugged		Indicator lamps operating	
Switches & circuit breakers labeled		Electrical panels accessible	
Electrical Motors and Control Equipment			
Boxes & Cabinets labeled		Motor control doors/covers closed and latched	
All equipment doors of original design		Disconnect arms operate breakers properly	
Floors dry		Rubber mats in place	
High Voltage Signs Posted		Restricted Access to Room	
No signs of deterioration of equipment		Emergency lighting works properly	
No junk in Electrical Cabinets or Rooms		Ventilation adequate for heat load	
Workshop			
Power cables grounded		No sign of equipment deterioration	
No power cables are taped		Plugs properly attached to cables/cords	
No broken/cracked handles		Tool Switches operate properly	
Extension cables not used for power bench tools		Equipment work lights operate properly	
Controls work properly		Auto shut off features work	
Office, Breakrooms			
Power cords arranged in neat and safe manner		Electric heaters unplugged at the end of day	
No cords strung along walkways		Power outlets and electrical devices covered	
Kettle / microwave turned off at end of the day		Outlets < 2m to pipes ground fault protected	
On/Off switches function properly on equipment		Power panels accessible	

6 month Inspection and Electrical Check by Site Engineer and Manager			
Site Mains / Generated Electrical Systems		**Vehicle & Equipment Electrical Systems**	
Power Supply. Rating, Isolation and breakers		Battery Tests	
Lighting and Power Outlets 240 volt		Earth Out Continuity Tests	
Power Outlets three phase		Starter and Charging Circuit Tests and checks	
Motors and motorized Equipment		Motors and motor relay/switchgear checks	
Portable Equipment		Solenoid Valve and switchgear checks	
Safety, Fire detect and Security CCTV Equipment		Safety overload and failsafe circuits & 'stops'	

3 Yearly Electrical Installation Inspection and Condition Report by Qualified Electrician

To Be undertaken by fully qualified Electrical Engineer
Periodic inspection and testing should be carried out only by electrically competent persons, i.e. registered electricians. Electrician to check the condition of the electrics against the UK standard for the safety of electrical installations, BS 7671 – Requirements for Electrical Installations (IET Wiring Regulations).

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SINKFALL FARM
Fuel Systems Inspection Checklist

Issued by Brian Armistead Manager Issue 2.0 January 2018

Inspection by	Time	Date

MAIN FUEL SUPPLY TANK			
Security Lock on tank filler,		Signs of Fuel Leaks or spills around tank	
Security Lock on hose nozzle,		Bund/Sump Checks	
Evidence of Fuel Leaks into bund		Oils and lubricant cabinet checks	
Evidence of Fuel Leaks at pump		Fire Safety and Fire Extinguishers	
Evidence of Fuel Leaks at filter		Spill Kit availability and condition	
Hoses, Swivels & Nozzles		Signs warnings and notices	
Water removal bowl condition		Fuel Tank Operative Training Requirements	
Tank level indicator condition		Fuel Usage Checks and Admin Records OK	

Vehicle Fuel System Inspection			
Fitment of vehicle fuel tank filler cap,		Evidence of Fuel Leaks at water separator	
Vehicle fuel tank filler correct for vehicle		Evidence of Fuel Leaks injector pump	
Condition of Vehicle Fuel Tank		Evidence of Fuel Leaks injector lines	
Evidence of Fuel Leaks from filler neck		Evidence of Fuel Leaks injectors	
Evidence of Fuel Leaks from vent		Evidence of Fuel Leaks injector returns	
Evidence of Fuel Leaks from tank		Fuel Tank level indicator condition	
Evidence of Fuel Leaks from fuel pipes		Excessive fuel /soot issues at exhaust	
Evidence of Fuel Leaks at pump		Excessive black smoke under load	
Evidence of Fuel Leaks at filter		Excessive black smoke when idling	

Engine Oil System Checks			
Engine Oil dipstick condition		Evidence of oil blow-out at engine breather	
Engine Oil filler cap/neck condition		Evidence of engine breathing at dipstick hole	
Evidence of Engine Oil Leaks		Evidence of engine breathing at Oil filler	

Hydraulic Oil System Checks			
Hydraulic Oil dipstick/level condition		Evidence of Hydraulic Hose Connector Leaks	
Hydraulic Oil filler cap/neck condition		Evidence of Hydraulic Oil Cylinder/ram Leaks	
Evidence of Hydraulic Oil Hose Leaks		Evidence of returned Hydraulic Oil overflow	

Axle and Gearbox Oil System Checks			
Gearbox/Axle Oil system condition		Evidence of Gearbox/Axle Oil Leaks at seals	
Gearbox/Axle Oil filler cap/neck condition		Evidence of Gearbox/Axle Oil Leaks at bearings	

Associated Vehicle Fuel and Oil System Checks			
Fire Extinguisher in place		Spill Kit availability and condition	
Fire Extinguisher condition/full		Signs warnings and notices	
Vehicle Test Certificate for vehicle operation		Vehicle Service Record up to date	
Driver Certificate for vehicle operation		Driver Training Record up to date	

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SINKFALL FARM
Spillages Key Points (Training)

Issued by Brian Armistead Manager Issue 2.0 January 2018

Training Frequency

All staff to attend training session for Spillages at least once per six months.
Senior members of Staff to undertake a Spillages Practice session at least once per 12 months.
Refresher Training sessions (each 3 months) to include and changes or updates to Spillages/Accident Management

Training for All Site Staff, Operators Drivers and Yardsmen

Senior Staff: - Brian Armistead, Tony Layfield, Luke Armistead
Site Vehicle Operatives: Loading Shovels, Shredder/screener Operatives, Boiler Manager
Site General Operatives: Yardsmen, waste sorting and hndling operatives
Lorry, hooklifts, skip-wagon and other vehicle drivers.

Refresher Training Sessions - Awareness and Refresher Training

1. Awareness of Spillage Accident Plan – Poster version
2. Spillage Risks, sources of spills, types of materials (Fuel, Oils, Effluent, Waste-water, paints, chemicals)
3. Judgement Call – Fast appreciation if spill is INCIDENTAL or EMERGENCY
4. First Reactions – What to do – Follow Spillage Plan. Raise Alarm, Contain, Control, Clean-up, Checks.
5. Fuel checking. Fuel Tank, filling, vehicle. Oil store, systems, hydraulics.
6. Effluent and Waste-water, drainage and storage
7. Spill-kits: Systems, Components, Use of kits, storage of waste, kit checking.
8. Fire-fighting – extinguisher and water use, spills and waste-water management.

Emergency Spillages Training Theory and Practice

1. The Spillage Accident Plan
2. INCIDENTAL or EMERGENCY Spillages

3. INCIDENTAL = Small spills, paints, oil filler, fuel, effluent
   Alarm and Assistance
   Health and Safety- protection (goggles, gloves, boots, overalls, apron, PPE)
   Containment systems, absorbents, sock- bunds, granules
   Clean up and Control, Checking and reporting

4. EMERGENCY SPILLAGE.= Where spillage type, or extent means that there is high risk of pollution
   Alarm and Assistance
   Health and Safety- protection (goggles, gloves, boots, overalls, apron, PPE)
   Containment systems, absorbents, sock- bunds, granules, below ground tank, permiter ditch
   Clean up and Control. Use of tankers, containers. Disposal point
   Monitoring, checking and reporting

5. SPILLAGE PREVENTION PROCEDURES
6. SPILLAGE CONTAINMENT PRACTICE: Use of Spill kit, Use of Bunds, Use of Suction Tanker

B Armistead Ltd (Sinkfall Recycling) January 2018

SINKFALL FARM
Dust Management

Issued by Brian Armistead Manager Issue 2.0 January 2018

Dust Management Policy

The site is operated in a manner that aims to minimise loose pilesof waste, materials and litter from accumulating.
Loose material including dust shall be monitoired regularly, shall be controlled by dry cleaning and extraction to appropriate containers for disposal.
Specific tasks that entail greater dust generation including, but not limited to wood shredding and compost screening; shall breceive a higher level of dust management.
Management policy and expectation is that each operative undertakescleaning after activities that cause or generate dust or litter to be generated; and expect that such cleaning shall be continued swiftly and immediatley o that secondary dust and litter escape is minimised

Requirements

All staff to attend training session for Site cleanliness and Dust control at least once per six months.
Senior members of Staff to enforce the Policy for cleanliness, especially following the key activities mentioned
Equipment for dust containment, clleaning and extraction/storage shall be made available.
Operatives have aduty to reportspillages, or releases of material that may cause dust or litter to escape.
Care shall be taken at all times when handling dust or litter materials for: Operator Health & Safety, Fire Risk.

Training for All Site Staff, Operators Drivers and Yardsmen

Senior Staff: - Brian Armistead, Tony Layfield, Luke Armistead
Site Vehicle Operatives: Loading Shovels, Shredder/screener Operatives, Boiler Manager
Site General Operatives: Yardsmen, waste sorting and handling operatives
Lorry, hooklifts, skip-wagon and other vehicle drivers.

Dust and Litter Monitoring

1. When wood-shredding or compost screening is undertaken then Monitoring shall take place after each session of work and during the evening (within the Fire Watch inspection).
2. Site monitoring for dust/litter and fluff shall be undertaken at least twice per week within high risk areas.
3. The boiler house shall be checked at least twice per week.
4. Monitoring shall include; floor areas, wall sills and surfaces, beams and cross-members, pipes and ducts, corners of buildingspaces, vehicles, equipment (binsandconveyors in the boiler feed system) and machines.

Dust and Litter Clearing and Cleaning

1. Dust, litter debris shall be cleared and cleaned up by a combination of manual work and powerd equipment
2. Operators shall wear PPE including goggles, face masks, boots overalls and gloves as appropriate.
3. Dry cleaning using simple manul tools together with vacuum suction removal of dust is preferred.
4. Litter and larger particulate material may be removd by hand.
5. Compost dust, associated closely with the composting activity may be wet cleaned and the collected material recycled into fresh feedstock to the composting process.
6. Wood based dusts may entail H&S limits for exposure and operatives may be required to be selective on the time duration exposed to such hard wood/soft wood dust, and shall be expected to various protction measures including the use PPE. Systems of dust collection thatavoid causing the dust to become airborne shall be used.

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Also refer to the WOOD FUEL & BEDDING QUALITY MANAGEMENT PLAN
ACCIDENT (SPILLAGES) MANAGEMENT PLAN
EMS

APPENDIX 14: SITE PLAN

	KEY ACTIVITIES
1	Wood / Bedding Drying Area, vented bins/shed
2	Wood Processing prep for Boiler
3	MRF Domestic Waste
4.	Composting
5.	Inert Stone Reclamation
6.	Clean Aggregates and Soils storage
7.	Transfer Facilities Glass, metals etc.
8.	New Transfer and Treatment Facility
9.	Chilled container food waste
10.	Secure Container Plasterboard
11.	Secure Container Clinical Waste in Lidded bins
12	Secure Container Haz. Waste in Lidded dolavs
13.	WEEES Container - secure
14.	Oil – self bunded tank
	KEY TO DRAINAGE ASSETS
A	Primary Yard Water Drainage
B	Drainage interceptor and silt trap
C	NEW Drainage storage compound
D	Drainage Ditches – surface water pond & lagoon
	KEY TO FIRE MANAGEMENT ASSETS
E	Extinguishers
F	Fuel Storage
G	Granules and Absorbents Kit
H	Hydrant
QR	Quarantine
QRS	Quarantine Fire-water storage
W	Contingency Water storage

Section through Bund Wall
Stripped Topsoil down to impermeable compacted clay base. 1.4m deep Ditch formed into clay. Bund formed of clay and dressed with soil to 1.8m above OGL. Terram geotextile, topped with compacted aggregate.