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FIRE PREVENTION PLAN

Environmental and sustainability solutions provided to
BIRCH AIRFIELD COMPOSTING SERVICES LTD

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REVISION LOG

Revision	Details	Date
0.1	Initial Draft	25/03/2024
0.2	Internal Review	27/03/2024
0.3	Amendment following client review	09/04/2024
1.0	First Issue	17/04/2024

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1.0 SITE DETAILS

1.1 Premises Particulars

<table>
<tr><th colspan="2">Overview</th></tr>
<tr><td>Premises Name:

Birch Airfield Composting Services Ltd (BACS)

Address:

Birch Airfield Composting Services Ltd,
Blind Lane,
Birch,
Colchester,
Essex,
CO5 9XE

Grid Reference: 591122 (easting), 219697 (northing)

Tel & Mob no:

01621 815430
07798 683520

Site Opening Times:
Monday to Friday 07:00 – 18:30
Saturday 07:00 – 17:00
Sunday 09:00 – 16:00
Bank Holidays 09:00 – 16:00</td><td>Use of Premises:

Green waste composting facility

Owner/Employer/Person in control of the workplace:

Angela Strathern – Operation Manager

Jim Strathern – Managing Director</td></tr>
</table>

1.2 General Statement of Policy for Preventing Fires

BACS will do everything possible to prevent fire:

- Control sources of ignition such as heating pipes, naked flames, light bulbs, space heaters, furnaces and incinerators;

- Keep sources of ignition at least 6m away from piles of combustible and flammable materials;
- Reinforce fire prevention messages using signs;
- Ensure staff and contractors follow safe working practices when undertaking hot working, such as welding and cutting;
- Ensure all visitors follow the correct safety and fire prevention procedures;
- Apply a no smoking policy or ensure designated smoking areas are situated away from combustible materials;
- Introduce a regular maintenance and inspection programme for all site areas (including site machinery) and minimise fibre and paper in buildings and around the site;
- Put site security measures in place (e.g. security fencing) to prevent arson;
- Have all site vehicles fitted with fire extinguishers and dust filters;
- Implement a fire-watch at the end of each shift (when dust from processing operations can settle onto hot exhausts and engine parts);
- Make sure separation distances are observed between plant and material when the site is not staffed; and
- Provide a dedicated emergency or quarantine area big enough to cope with a major incident, with a clear area of at least 6m around the perimeter (this is available at all times and identified on the site plan).

1.3 General Description

The site is located on an old RAF airfield situated approximately 3km northeast of Tiptree and 10km southwest of Colchester. The site comprises three areas:

- The reception area where waste is tipped and inspected.
- The operational area where the waste is shredded, windrows formed and aerated.
- The storage area where the composted material is stored, awaiting final use off-site.

There is a weighbridge port-a-cabin site office in the permitted site area providing a mess room and hot and cold water. In addition, there is a separate port-a-cabin office located by the lagoon which contains a kitchen and a toilet and wash facilities.

BACS currently operate a green waste composting facility, where the treatment is via Open Windrow Composting (OWC), with a permitted throughput of 100,000 tonnes per year. They are also permitted to accept onto site and subsequently physically treat inert soils.

2.0 MANAGEMENT SYSTEM & WASTE PILES

For information on site layout, please see Section 5.

2.1 Waste Type

Table 1 - Composting Process Type and Throughput.

Process Type	Stage	Annual Receipt
Open Windrow Composting	OWC Sanitisation – Green Waste	~100,000tpa
	OWC Stabilisation – Green Waste	

For storage duration please see section 3.1.1 Preventing Self-combustion.

2.2 Waste Acceptance

All incoming loads are inspected for signs of excess heat, such as steam or previously burnt material. If a load is deemed to be an immediate risk, then it will be rejected. If the load requires cooling before being stored in the designated reception area, then it will be spread across the quarantine area until it reaches atmospheric temperature. All operatives who monitor load acceptance are trained to identify hot loads.

2.3 Regular Exercises

Exercises to test the effectiveness of the fire prevention plan will be undertaken annually to ensure staff are adequately prepared in case a real scenario ever occurs.

Fire drills are conducted on an annual basis to ensure that staff are adequately prepared in case a real scenario ever occurs. Fire drills are documented using a Fire Drill Record Template. The drill includes a range of site checks including; access and egress of escape routes, testing of the alarm system and inspection of firefighting equipment. Furthermore, site operatives will practice utilising the fire horn that they would use in the event of a real fire, to notify other operatives of a fire event and to initiate the response to a fire. The evacuation element of the drill is fully documented and lists the participants and the area where the evacuation drill took place. The evacuation response time is recorded.

In addition, an annual fire response test shall also be undertaken. The quarantine area is located on the concrete pad. To start, a portion of either the pre-composting material

(reception) or oversize material will be designated as 'burning'. Using a shovel loader, a site operative will remove the 'unburnt' material and transfer it across the pad into the signed quarantine area. Once the drill has been completed, the 'unburnt' material will be returned to its applicable storage area. Post drill, the response will be evaluated by the Site Manager. Where the response has been judged to be inadequate, further training will be provided to staff.

2.4 Open Windrow Composting

BACS utilise open windrow composting systems to process green waste, meeting the requirements of a PAS100 compost. All moisture levels, temperatures and turning frequencies are undertaken in accordance with the Compost Quality Protocol and industry best practise.

Once accepted and shredded, the waste is transferred to the composting pad, where the waste is formed into windrows to undergo sanitisation. The sanitisation phase usually lasts for approximately 2 weeks. Upon completion of the sanitisation phase, the windrows are turned (on the same concrete pad) to begin stabilisation. The stabilisation period occurs for a minimum of 7 weeks.

Windrows during sanitisation and stabilisation 50m x 5m x 3m (length x width x height). Gaps of suitable width are left between windrows to enable turning / monitoring / litter picking.

After stabilisation the waste will be processed through a screener. Once the waste has been processed and is PAS100 certified, the product is transferred to the product storage area towards the west side of the site.

Due to the nature of composting and its classification as an actively managed process, the elements of the EA's 'Fire prevention plan: environmental permits' guidance focusing on pile sizes and separation distances does not apply. The site will, however, still employ a responsible practise to prevent fires occurring on site. Accordingly, this FPP will focus on the stages of the composting process which present a greater risk of combustion and where fire EA's fire prevention plan guidance does apply, namely waste reception/storage pre-composting and compost oversize storage.

2.5 Waste Reception / Storage Pre-Composting Material

Accepted source-segregated biodegradable green waste is stored in a dedicated reception area. Storage time for green waste will not exceed 48 hours and shall not be stockpiled in a

quantity that exceeds a total of 375 tonnes (750m^3 - assumes a material density of 0.5) before shredding. Waste reception pile(s) will have a minimum 6m separation distance between each pile and all other process areas onsite. The waste material undergoes shredding prior to being formed into a windrow using a mobile high speed mechanical shredder.

Table 2 - Pre-Composting Material Overview.

Material	Max height (m)	Length / Width (m)	Max Volume (m^3)	Min Separation Distance (m)
Pre-composting material	4	20	750	6

2.6 Oversize Material

Oversize from the composting process is stockpiled on the composting pad and shall be deposited in pile(s) measuring 400m^3 (50m l x 2m w x 4m h). The piles will have a 6m separation distance between each pile and from the adjacent screened compost area and, all other process areas. Oversize material is continuously transported into the waste reception area by shovel loader.

Table 3 - Oversize Material Overview.

Material	Max height (m)	Length / Width (m)	Max Volume (m^3)	Min Separation Distance (m)
Oversize material	4	50	400	6

2.7 Non-PAS100 Material

Non-PAS100 material is continuously reincorporated back into the process at the reception area. Non-PAS100 material is therefore not stockpiled on site.

2.8 PAS100 Compost Material

As the compost material has gone through the entire process and has met PAS100 criteria, it is now classed as a product and not a waste so is therefore out of the scope of fire prevention plan guidance. The site produces three products certified to PAS100. Products that are 0-40mm or 10 – 60mm shall be stored on the compost storage area, in open storage. 0-10mm

compost is stored undercover, where possible. PAS100 compost is to be stored on site for a maximum of 12 months.

2.9 Contaminant Storage

Any load containing 1% or more non-targeted materials by weight shall be considered above the acceptable contamination threshold and would result in rejection, based on existing contractual arrangements at this percentage level. Percentage contamination will be obtained by visual inspection of the load by a trained operative in line with industry best practice techniques. Any rejected load will be placed in quarantine, clearly segregated from all other materials and removed from site as soon as possible and in any case within 24 hours of receipt. A waste rejection form will be completed for any such load and the waste produced unformed immediately.

2.10 Quarantine Area

The site will employ one quarantine areas, which will be a at least 6m from any waste pile or the site perimeter. The quarantine area will be maintained at a sufficient size to hold 375m^3 and will be clearly marked on the concrete with the aid of a mobile sign. The quarantine area will be kept free from material at all times, except in emergency situations.

Table 4 - Quarantine Area Overview.

Material	Max Volume (m^3)	Min Separation Distance (m)
Quarantine Area	375	6

2.11 Quarantine Area Management

Long term storage of material in quarantine area will not form part of the standard operating practice at the quarantine area. Temporary storage of material in the quarantine areas will purely be used under rejection procedures and in emergency situations, such as in the event of a hot load. The quarantine area will also be utilised for training. If a rejection or emergency situation does arise the material will be moved as soon as possible once the situation has been dealt with. If there is a fire the use of multiple quarantine areas will ensure there is always a cleared space to move the material to. As previously stated, a mobile sign will move with the active quarantine area to ensure it can be easily identified.

In the event of a fire, where safe to do so, heavy plant will move unburnt material in the vicinity of the fire to the quarantine area, reducing the risk of the fire spreading. The location of the quarantine areas have been selected to ensure the waste can be transported to the chosen area in a timely manner, meeting the timeline set out in EA's fire prevention plan guidance states as soon as possible but no later than one hour after the fire starting.

2.12 Comments

The site has records of all contracts to supply for PAS100 compost and all documentation is stored in the site office.

The site will minimise the risk of fire spreading by controlling the flammable material on an ongoing basis.

If a fire occurs on site the operatives will call 999 if deemed necessary, all staff will proceed to the emergency point. If the fire is containable, for instance on a windrow, the site will dowse the windrow with water.

The site will also consider:

- Recycling firewater if it's not hazardous and it's possible to reuse;
- Applying water to cool unburned material and other hazards, taking care to prevent this water causing or adding to water pollution and/or increasing air pollution;
- Separating unburned material from the fire using heavy plant;
- Separating burning material from the fire to quench it with hoses or in pools of water (this will reduce the amount of firewater produced).

3.0 SOURCES OF IGNITION

The main sources of ignition have been identified and mitigated in the following section. It is worth noting that not all sources can be practically identified.

Main Sources of Ignition on Site:

- Core temperature of windrows– self combustion.
- On-site machinery.
- Fuel tanks.
- Extreme weather – lightning.

- Smoking.
- Arson.
- Site Infrastructure electrical faults.
- Hot works.
- Build-up of loose combustible waste, dust and fluff.
- Reactions between incompatible or unstable waste.
- Naked lights.
- Industrial heaters.
- Open burning.
- Hot loads.
- Leaks and spillages of oils and fuels.

3.1 Self-Combustion

Waste materials that are at risk of self-combustion if stored and not aerated include:

- Green waste; and
- Compost.

3.1.1 Preventing Self-Combustion

- Windrows are monitored for temperature daily during sanitisation and weekly during stabilisation. If temperature increases above 85°C, then windrows will be turned on the concrete pad to cool down. Probes are inserted into the windrow, at a minimum of 0.5 metres below the windrow surface in several areas of the windrow dependant on size to achieve a representative temperature (industry practice).
- Moisture levels are monitored in windrows on a daily basis during sanitisation and weekly during stabilisation. If moisture levels measure a 5 on a squeeze test, then leachate or fresh water will be added to the compost depending on the process stage.
- Turning of open windrows is recorded through the site manager and takes place at least once during sanitisation and once during stabilisation.
- Daily checks are made to identify any hot spots within waste piles at risk of combustion as highlighted above in section 2.4. Each pile is closely inspected by a competent person (suitably trained staff member) to identify signs of excess heat such as excessive steam or smoke. If piles are identified to be at risk of combustion, then temperature and moisture checks will be made, and appropriate action will take place – for example spread to cool down or wet if dry.
- Pre-composting material is not actively monitored for temperature and moisture due to its short storage period.

- Storage time for PAS100 compost is up to 12-months, however, this is unlikely as there is high demand for the product. If material is stored on site after stabilisation is complete, then temperature and moisture is monitored on a monthly basis. All material leaving the site is logged and can be tracked throughout the system by batch codes.
- Heating during hot weather has been taken into account within this Fire Prevention Plan and it has been decided that shading of material is not seen to be required on site due to the use of a daily check and the quick turnaround time under normal operation.
- Material is stored in its largest form prior to processing.
- All waste piles are stored within the guidelines of the Fire Prevention Plan.

3.1.2 Combustion Emissions

- Compost is a slow burning material that produces smoke and releases particles into the air when ignited. There is no risk of explosion.
- Fresh green waste burns similar to dried wood however produces more smoke due to moisture. Fresh green waste burns quickly.

3.2 Plant/Machinery

Plant has the potential to become a fire risk if there is a malfunction or if it is not maintained correctly. All plant on site will be fitted with fire extinguishers. Mobile plant will be stored in a designated area next to the barn when not in use and overnight. BACS is committed to reducing these risks by performing visual checks and maintenance activities.

Table 5 - Plant on Site Used in OWC Process.

Plant	Fire Extinguisher
EP5500 Shark shredder SN 5500 1121 466Engine MAN 520hp	Powder
JCB 535-95 tele-loader	Powder
Edge TRT 620 Trommel Screen	Foam
Neuenhauser 2010 M21 Sternsiet Star Trommel Screen	Water
Hyundai 360 Excavator 2001	Powder
Case CX210E Excavator	Powder

Plant	Fire Extinguisher
Case 721GXR wheeled loader	Powder
Komptech Hurrikan windsifter (2019)	Powder
Hyundai wheeled loading shovel HL760 Hyundai wheeled loading shovel HL760 7A	Powder
CAT 924H wheeled loading shovel CAT 930H wheeled loading shovel CAT 930K wheeled loading shovel	Powder

3.2.1 Plant Maintenance

All plant is checked daily by a competent member of staff. Faults or anomalies are recorded in the site dairy and dependent upon the severity acted upon immediately. If faults or anomalies are identified, then operations for the plant in question will be ceased until rectified.

Daily checks are made on all machinery include the blowing out of dust and combustible residues using an airline and checks on pipes/fuel lines to prevent leakage of combustible/hazardous liquids. Machinery operators will be responsible for carrying out regular (at least every 4hrs) fire watch checks on machinery. These will be part of the daily machinery operator check list and the frequency of fire watch checks will increase during hot, dry and dusty conditions particularly after machinery has been in operation for extended periods of time.

A planned preventative maintenance regime is operated on site. As part of this regime a strict inspection is carried out on each vehicle in line with manufacturer's recommendations.

3.2.2 Preventing Sparks from Loading Shovels

Sparks caused by loading shovel buckets are rare due to the training of the operatives and the nature of the materials being transported. Sparks are highly unlikely to cause a fire with compost as it will have a moisture content >40% and, as such sparking does not present a fire ignition risk. All site vehicles are fitted with fire extinguishers and dust filters as a preventative measure. If sparks do ignite waste material, operatives are trained to use fire extinguishers to stop the fire from spreading. If this is unsuccessful then the member of staff must follow emergency procedures. Further prevention measures involve not moving windrows and waste materials when they and the concrete pad are dry or have low moisture content.

3.2.3 Mitigating Risks from Hot Exhausts

Exhausts have the potential to become hot and therefore present a risk to surrounding material on site.

- All exhausts on plant or vehicles are designed to reduce risk to the surrounding environment by being placed in isolated locations.
- There are designated traffic routes across the site to minimise unnecessary contact between plant and material.
- Vehicles or plant are not run continuously for more than 3 hours at a time and are cooled for a minimum of 15 minutes.
- Operators are instructed to carry out a visual check of the machine after stopping and before leaving site for hot spots/smouldering dust in the immediate area surrounding the exhaust.

3.3 Fuel Tanks

One low-capacity (3,000 litres) mobile bowser is stored on-site which can take 110% of the volume of fuel stored in the tank in line with the requirements of Section 2.2.5 of SGN S5.06. The tank is clearly marked and carries signs showing the material contained within and its maximum capacity. Material is not stored or transported within 6m of the fuel tank unless they are refuelling.

3.4 Extreme Weather

On the rare occasion that extreme weather such as lightning occurs, the following procedures are taken:

- Windrows and all other storage piles are lowered and flattened to reduce risk of being hit by lightning;
- All machinery is transported >6m from any waste material;
- Once machinery is moved, the operatives will seek shelter.

3.5 Smoking

The site has a strict no smoking policy on areas of operation and storage. There is a designated smoking area with a sand bucket for extinguishing cigarettes directly outside of the site entrance.

3.6 Arson

The BACS facility has installed and maintains strict security procedures both during and outside of normal working hours. Security measures include restricted vehicle access via locked gates and regular patrols of the site outside of working hours. Six CCTV cameras are also in place as an additional security measure at the following locations: ANPR on weighbridge, weighbridge & site office entrance, site entrance track, rear of weighbridge track, machinery storage area and the fuel tank. All visitors will be required to sign in at the Site Office on arrival and exiting the site.

3.7 Site Infrastructure and Electrical Faults

The electrical system will be maintained to a safe and correct standard. Certification and maintenance will be undertaken by a qualified electrician. Annual checks will be made on site electrical infrastructure and if a fault is found a qualified electrician will attend site and fix the fault.

3.8 Hot Works

In the event that hot works are necessary on site the following preventative actions will be implemented:

- Keep sources of ignition at least 6m away from piles of combustible and flammable materials.
- Ensure staff and contractors follow safe working practices when undertaking hot working, such as welding and cutting.
- A 2hr fire watch will be carried out immediately following any hot works being carried out on site.

3.9 Build-Up of Loose Combustible Waste, Dust and Fluff

To prevent the build-up of loose combustible waste, dust and fluff on site, an operative will carry out a daily patrol around the site looking for any loose waste or fluff. If any is observed, it shall be cleared. The daily patrol shall be recorded in the site diary.

3.10 Reactions Between Incompatible or Unstable Waste

Upon arrival at site all waste loads shall undergo visual inspections, once tipped, by a trained operative. If an operative notices any signs of incompatible or unstable waste the load shall be spread on the quarantine area for further inspection. If incompatible or unstable waste is found it shall be removed from the load, if safe to do so. If this is not possible the waste load

shall be rejected and stored in the quarantine area for removal from site in line with the site's waste rejection procedure.

3.11 Naked Lights

There will be no naked lights onsite.

3.12 Industrial Heaters

There will be no industrial heaters onsite.

3.13 Open Burning

There will be no open burning onsite.

3.14 Hot Loads

In the event of a hot load being discharged into the waste reception area it will be immediately isolated from all other waste. The hot load will be inspected to assess the temperature, moisture content and C:N ratio. In the unlikely event that this material represents an immediate fire risk it will be spread out thinly over the floor and water will be applied via a tractor mounted bowser sufficient to eliminate the fire risk. Once any fire risk has been eliminated the waste will be processed without undue delay.

3.15 Leaks and Spillages of Oils and Fuels

The potential source of any leak or spillage will be of fuel or oils from items of plant and machinery used in conjunction with the composting facility. In the event of any spillage or leak occurring, the following procedures will be implemented:

- The area will be cleared and isolated;
- Absorbent granules or sand will be laid over the spill to soak up any liquid;
- Staff will use appropriate PPE provided if required;
- Once the liquid has been absorbed wastes are to be disposed of at a licensed facility;
- Before disposal, absorbed wastes are to be stored within a quarantined area on impermeable hardstanding; and
- The incident will be recorded, including remedial action taken, in the site diary.

Any vehicle maintenance and repairs will be undertaken on the hard standing turning area near the site storage container. The site fuel (gas oil) tank is maintained in line with current (Oil Storage) regulations.

4.0 DETECTING AND MANAGING FIRES

4.1 Daily Checks

Daily checks are made across the site, they seek to identify and mitigate potential hazards. If a hazard is identified from the daily checks then it is recorded in the site diary and acted upon immediately with appropriate action. Daily checks take place on:

- Site Infrastructure – Senior staff check for damage or abnormalities in the site infrastructure.
- Plant – All plant is checked before use (see section Plant Maintenance).
- Waste Piles – Trained staff assess all waste piles manually through observation and touch for excessive heat and ensure that dimensions are correct (See section Preventing Self-combustion).

4.2 Training

All new employees will be subject to an induction programme which will include familiarisation with the Permit Management System and this FPP. This will also include training of how to identify 'hot loads' when accepting waste on site and 'hot spots' within waste material stored and processed on site. Staff will also be trained on how to use fire extinguishers and fire drills are undertaken annually and documented.

Regular toolbox talks will be held with employees and documented accordingly, in order to communicate any updates / changes made to the Fire Prevention Plan.

This FPP will be stored in the Site Office so that it can be referenced for induction, on-going training, testing and other management review purposes. All training undertaken will be logged in a training matrix.

4.3 Emergency Action Plan

All employee's and visitors sign in when they arrive on site and then out again once they leave. In the event of a fire, the employee and visitor book is collected by the Site Manager and taken to the assembly point adjacent to the site's main gates.

In the event of fire, the alarm will be raised verbally by shouting **FIRE, FIRE, FIRE** and all operatives will be informed by a fire horn. Immediately personnel will leave their work area and proceed to the fire assembly point (see site plan). Upon receiving confirmation via the fire horn, the fire brigade will be called by the site management or supervisor available.

The specific arrangements for fire are as follows:

a) Fire extinguishers are provided around the premises and will be marked by signage;
b) If an employee discovers a fire, the alarm should be raised. Competent individuals will be trained to use fire extinguishers; other employees should not tackle a fire but proceed safely to the assembly point.

The site manager, or a designated person if the site manager is not on site, will be responsible to see the premises are clear and account for everyone at the assembly point.

4.4 Fire Infrastructure Onsite

An overview for all the relevant firefighting infrastructure aspects for the site is presented within this section.

4.4.1 Fire Extinguishers

Table 6 provides Total extinguishers including the previously mentioned plant extinguisher:

Table 6 - Fire Extinguisher Inventory for the Site.

Ref	Location	Type	Quantity
1	Workshop	CO_2	5 kg
2		Powder	6 kg
3		Foam	9 litres
4	Weighbridge	Powder	2 kg
5	Meeting Office	Powder	6 kg
6	Rest Room	CO_2	2 kg
7		Foam	6 litres
8	Old Weighbridge Office	CO_2	2 kg
9		Powder	6 kg
10		Foam	6 litres
11	EP5500 Shark shredder SN 5500 1121 466Engine MAN 520hp	Powder	6 kg
12	JCB 535-95 tele-loader	Powder	1 kg

Ref	Location	Type	Quantity
13	Edge TRT 620 Trommel Screen	Foam	6 litres
14	Neuenhauser 2010 M21 Sternsiet Star Trommel Screen	Water	6 litres
15	Hyundai 360 Excavator 2001	Powder	1 kg
16	Case 360 CX210E	Powder	1 kg
17	Case 721GXR Wheel Loader	Powder	1 kg
18	Komptech Hurrikan windsifter (2019)	Powder	6 kg
19	Hyundai wheeled loading shovel HL760	Powder	1 kg
20	Hyundai wheeled loading shovel HL760 7A	Powder	1 kg
21	CAT 924H wheeled loading shovel	Powder	1 kg
22	CAT 930H wheeled loading shovel	Powder	1 kg
23	CAT 930K wheeled loading shovel	Powder	1 kg

All fire extinguishers undergo continual visual inspections and are serviced by an approved external contactor.

4.4.2 Other Infrastructure

- **Fire Warning System** – Alarm
- **Emergency Lighting** – None
- **Fire Safety Signs and Notices** – A copy of the Site Plan is located in the site office
- **Firefighting Equipment** – See Table 6 for fire extinguishers onsite
- **Fire Blanket** – None
- **Water Taps**: Located outside the workshop
- **Access to Mains Water** – Access to mains water available via a hydrant on B1022. It is assumed in the event of a fire occurring at the site the fire and rescue service will be able to contact the water utility company to request that pressure is increase to the hydrant within the area if the flow is not adequate.

4.5 Firefighting Strategy and Supressing Fires

The site has an active firefighting strategy in place and will seek to extinguish fires as quickly as possible, either through on-site fire equipment or through supporting emergency services.

For small fires, fire extinguishers are available. All operatives are trained to use this equipment.

For a large fire arising in the material piles, the fire shall be managed by the Fire and Rescue Service via recirculated water from the on-site leachate lagoons with support from the local fire hydrant located on the B1022. The operator shall support the Fire and Rescue Service via active firefighting measures, such as using plant to move unburnt material in the vicinity of the fire to the quarantine area under the instruction of the Fire and Rescue Service. Fire water shall be captured in site's two lagoons depending on the location of the fire. Once the fire has been extinguished, if any water which has been captured is deemed to contain contamination following sampling and analysis, it shall be tankered off site to a suitably licenced treatment facility. Otherwise, if it is suitable, the fire water shall be utilised in the process for moisture amendment.

If materials or plant becomes ignited, then every safe effort will be made to suppress the fire and move it to the quarantine zone.

4.6 Out of Hours Detection

The Site Manager shall perform a visual fire check at the end of each working day to detect any signs, such as smoke, of a potential fire. If found, the emergency response to fire contained within this document shall be enacted. The same check shall also be performed at the start of each working day. This reduces the risk of a fire occurring out of hours.

4.7 Fire Water Containment

The pad containing the waste material is served by a contained drainage system to prevent leachate produced during the composting process and any rainfall that lands on the concrete pad from running off the pad and onto the surrounding land. The composting pad including the new site extension is approximately 13,785m^2. The original pad is constructed with engineered falls to prevent water/leachate from flowing off the pad and directs leachate toward the site's original lagoon (1,500,000L capacity) via four silt traps/gullies on site running along the track in the middle of the site for the existing OWC area. Each silt trap/gully is attached to a drain which runs into the site's original leachate lagoon. The newly extended portion of the site will also feature engineered falls, that will direct leachate via five silt traps attached to a surface water drainage pipework, into the new lagoon (2,296,000L capacity). The lagoons will not be kept at capacity due to regular re-circulation in the composting process.

Considering the potential for the lagoons to reach capacity if all fire water is directed to a particular lagoon, the onsite 15,000L mobile vacuum tanker will be utilised to redistribute the captured firewater between the lagoons to prevent maximum capacity from being reached.

4.8 Lagoons

The site's original lagoon and new lagoon will be checked on a continual basis via maintenance checks for damage or failure.

Table 7 - Lagoon System Overview.

Lagoon	Capacity	Content	Bunding
Primary	1,500,000L	Leachate from existing OWC area, buildings and firewater.	Containment provided by pad.
Secondary	2,296,000L	Leachate from the proposed site extension	Containment provided by pad.

4.9 Fire Water Capacity

The fire prevention plan guidance states that 'A 300m^3 pile of combustible material will normally require a water supply of at least 2,000 litres a minute for a minimum of 3 hours'. It is worth noting that compost would absorb the vast majority of water added and that it does not burn like a regular flammable material. The figures quoted from the EA's fire prevention plan are therefore unlikely to be representative of the compost waste on site.

The calculation for the amount of fire water required to extinguish the largest waste pile on site is shown below.

- Volume of largest pile of Material –750m^3
- Water required per minute –5,000 litres (5m^3)
- Duration – 180 minutes

Water required per minute (5m^3) * Duration (180min) = 900m^3 of required capacity

The site possesses the required drainage/containment capacity to capture this amount of fire water via the use of the leachate lagoons and ability to capture fire water on the impermeable pad.

4.10 Contingency Plan

If a major incident occurs on site, that prevents the treatment of waste from occurring, the site will put the following procedures in place:

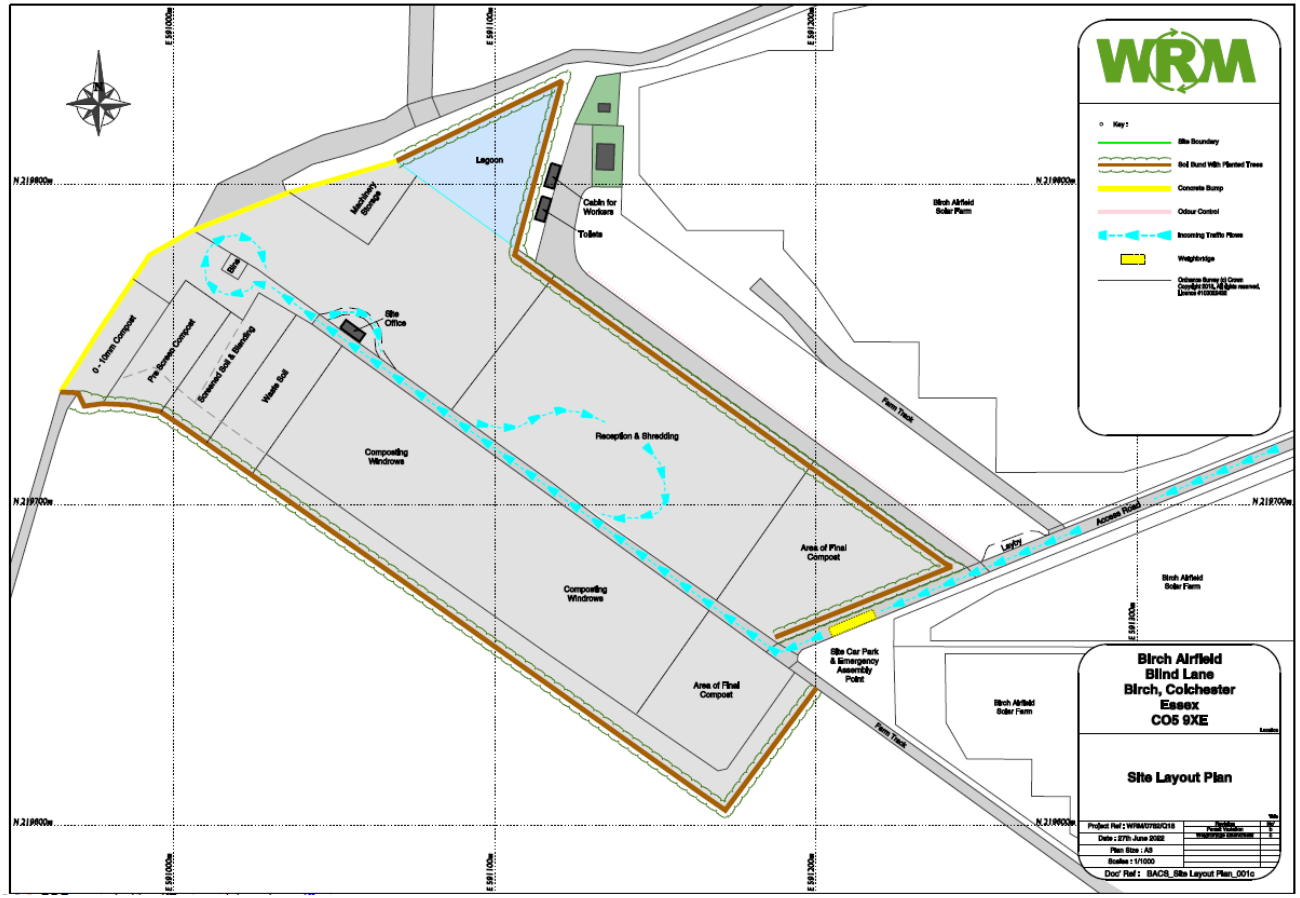
- The EA shall be notified of the incident.
- If required, all incoming loads will be diverted and the site will be closed until implications from the incident have been resolved.
- If required, a full clean down of the site will occur to decontaminate any areas affected.
- If material cannot be processed within 2 weeks, then it must be removed off site and be disposed of in the most appropriate manner.

In the event that a fire is discovered or suspected, on any part of the site, the following procedure will be followed:

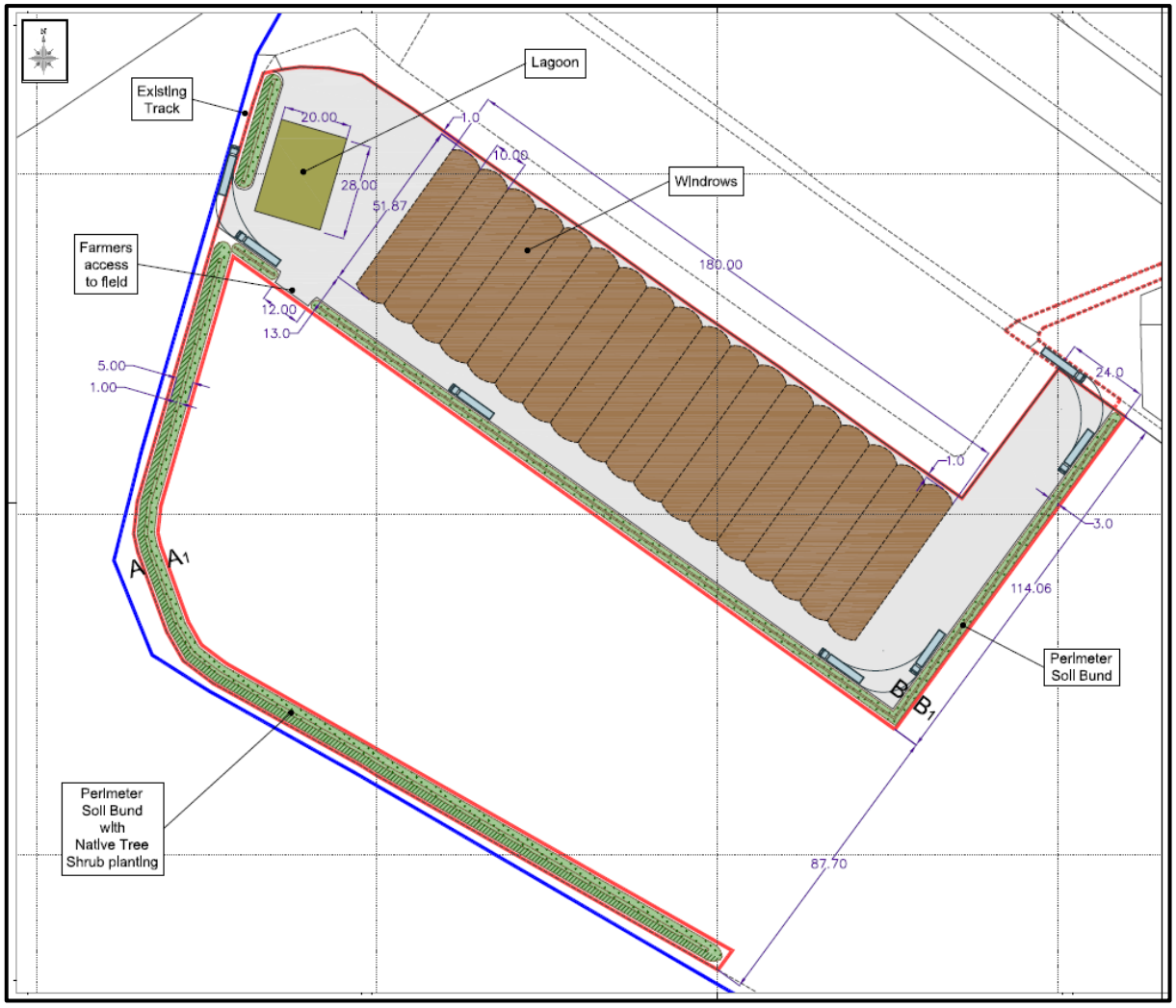
- Raise the alarm, alerting others on the site;
- Inform the site manager;
- Evacuate all buildings;
- Place a call to the Fire and Rescue Service. If the fire is of a minor nature attempt to extinguish it with the fire extinguisher provided, but only if this can be achieved without jeopardising the safety of those involved;
- Place a call to the to the EA;
- If the fire does not appear to be readily controllable or where initial control attempts are unsuccessful, staff will leave the site and inform users of nearby buildings. The fire will be left to the attention of the Fire and Rescue Service;
- Assemble adjacent to the gates to the site, or such other more distant point as may be required, until the fire has been extinguished and take roll-call of employees; and
- As soon as practical, site staff shall notify the site owner of the event. once the situation has been brought under control, details of occurrence will be recorded and kept with other records.

5.0 SITE LAYOUT

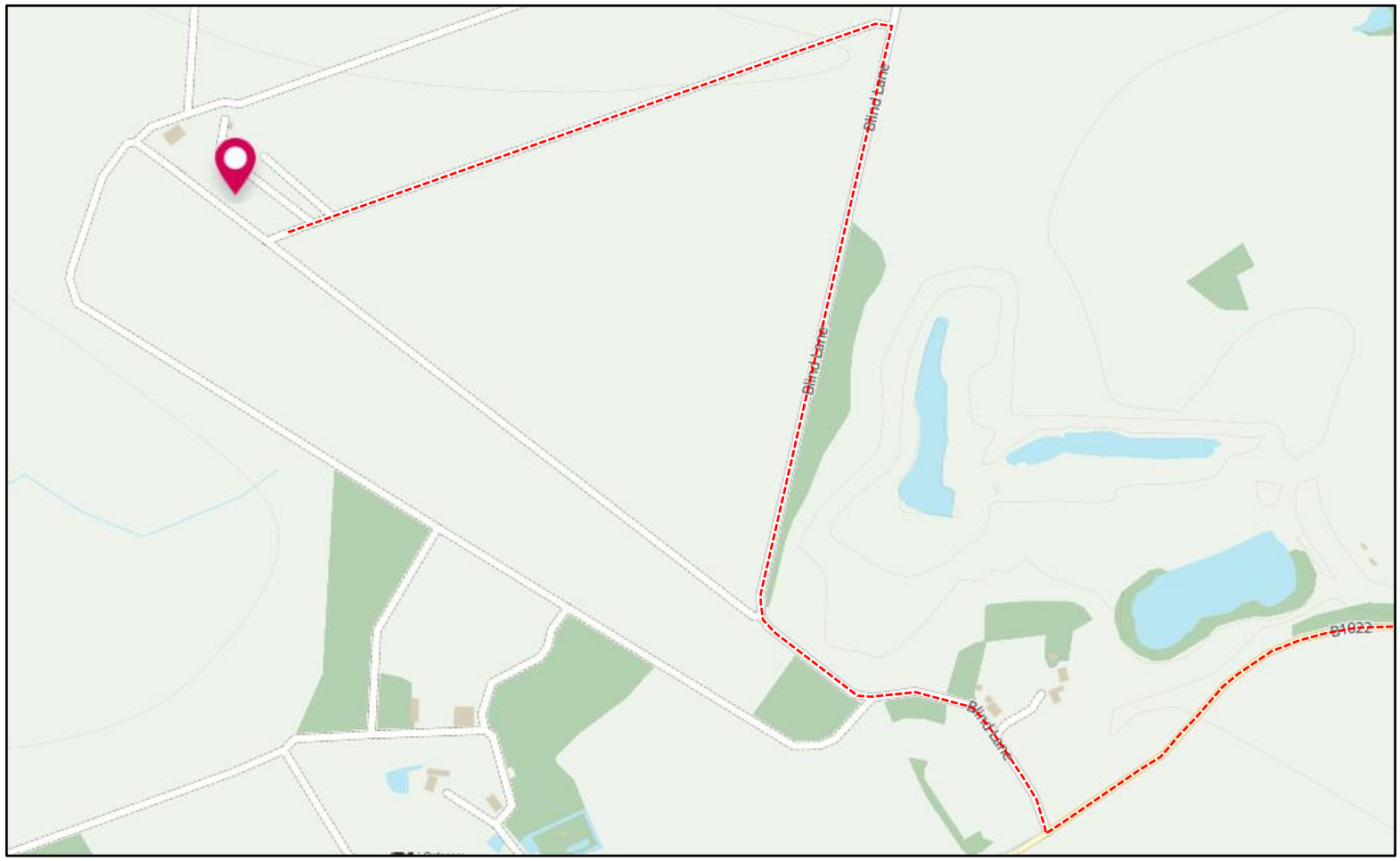
5.1 Existing Area



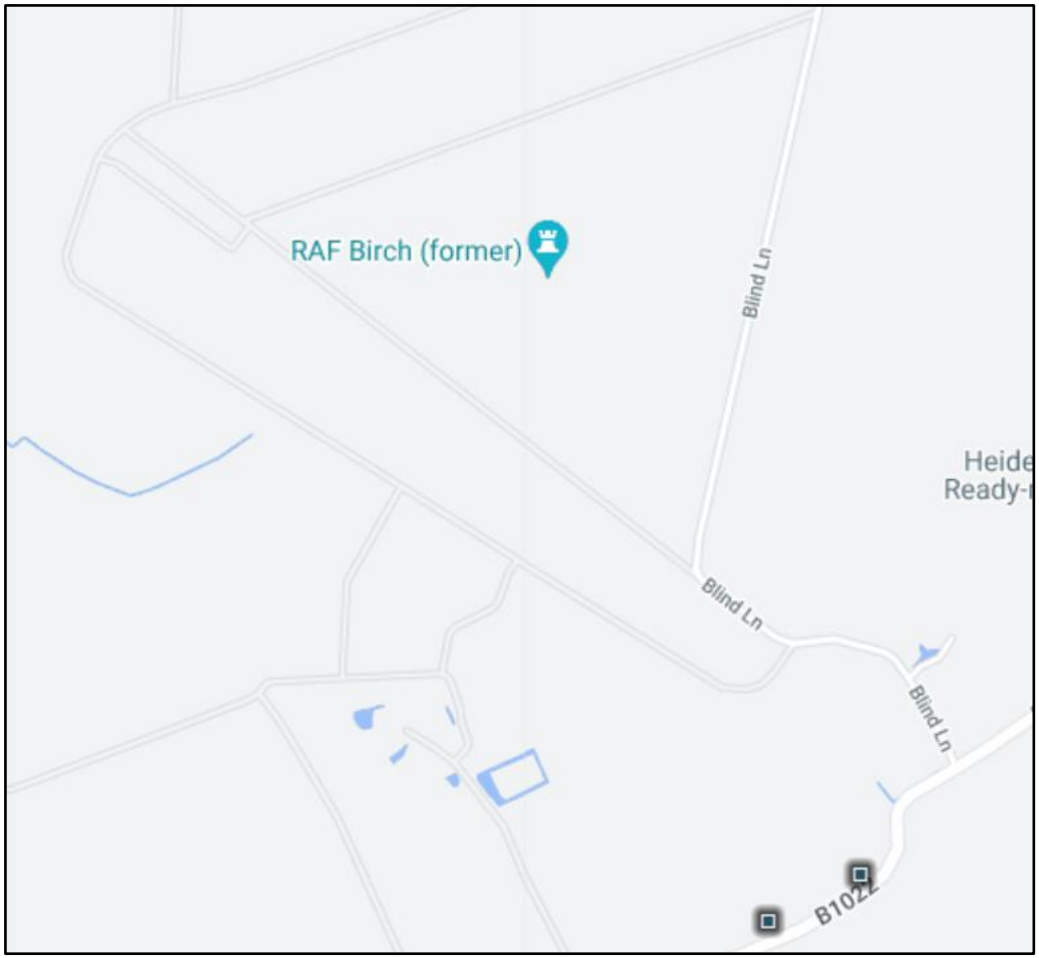
5.2 Site Extension Area



5.3 Fire Service Access Route



5.4 Fire Hydrant Location



6.0 SENSITIVE RECEPTORS

Receptor	Type	Distance to Site (m)	Coordinates (x,y)
HR 01 Residential Property on Easthorpe Road	Residential	1,800	591169, 221495
HR 02 Residential Property on Easthorpe Road	Residential	1,810	591241, 221498
HR 03 Residential Property on Easthorpe Road	Residential	1,770	591253, 221457
HR 04 Residential Property on Easthorpe Road	Residential	1,820	591281, 221505
HR 05 Residential Property on Easthorpe Road	Residential	1,780	591284, 221467
HR 06 Residential Property on Well Lane	Residential	1,750	591289, 221433
HR 07 Residential Property on Churchwell Avenue	Residential	1,730	591296, 221414
HR 08 Residential Property on Churchwell Avenue	Residential	1,700	591302, 221381
HR 09 Residential Property on Well Lane	Residential	1,660	591308, 221342
HR 10 Residential Property on Well Lane	Residential	1,640	591313, 221314

Receptor	Type	Distance to Site (m)	Coordinates (x,y)
HR 11 Residential Property off Well Lane	Residential	1,650	591373, 221324
HR 12 Residential Property on Easthorpe Road	Residential	1,970	591614, 221600
HR 13 Residential Property on Well Lane	Residential	966	591455, 220596
HR 14 Residential Property on Easthorpe Roaf	Residential	2,040	591921, 221560
HR 15 Residential Property on Well Lane	Residential	668	591398, 220294
HR 16 Residential Property on Port Green Road	Residential	1,380	591877, 220847
HR 17 Residential Property on Rectory Road	Residential	1,770	592095, 221166
HR 18 Residential Property on Rectory Road	Residential	1,820	592137, 221193
HR 19 Commercial Property on Blind Lane	Commercial	992	591933, 220254
HR 20 Residential property on Blind Lane	Residential	1,060	591963, 220324
HR 21 Commercial property on Hardy	Commercial	1,520	592422, 220464

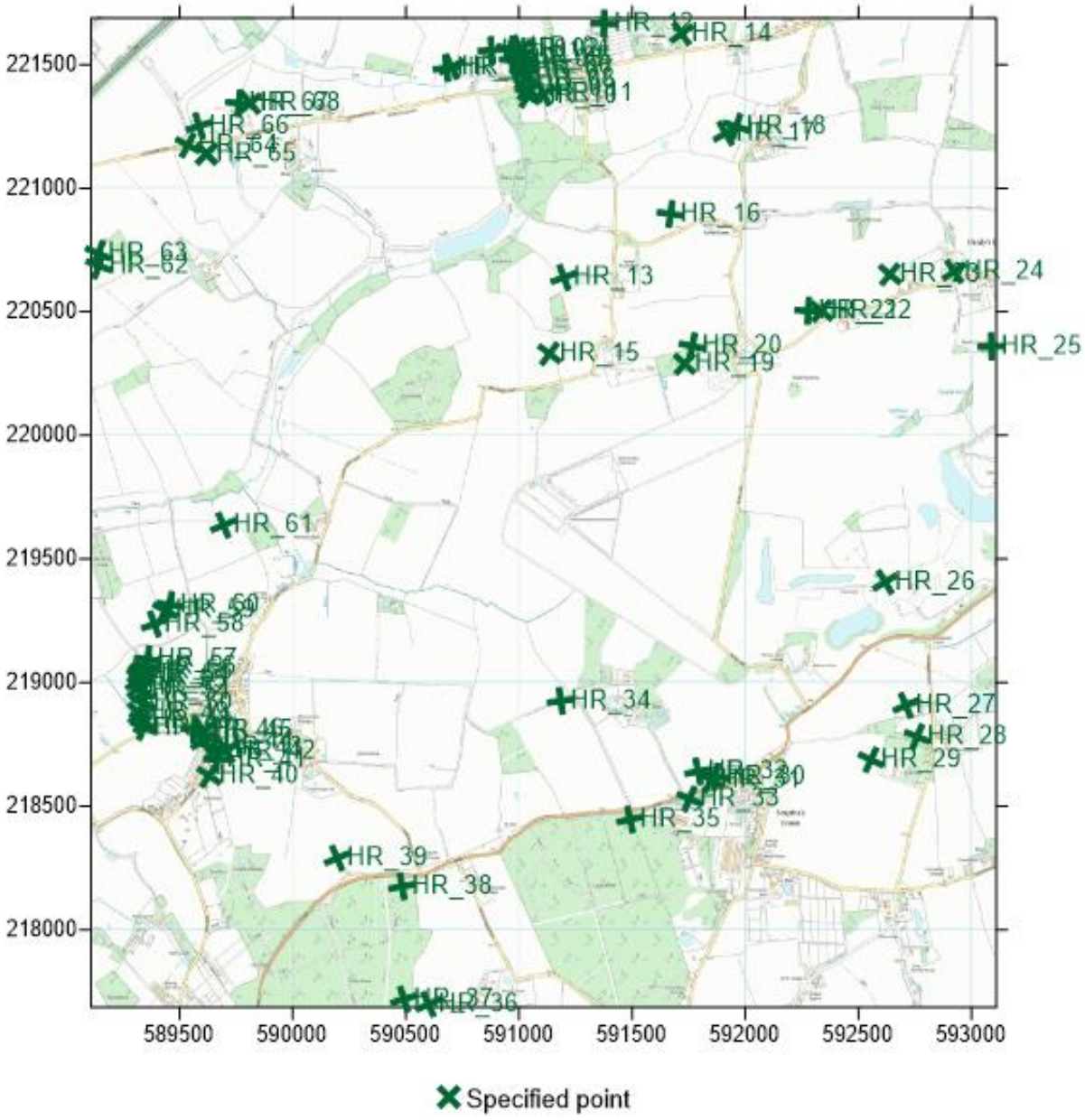
Receptor	Type	Distance to Site (m)	Coordinates (x,y)
HR 22 Residential Property on Hardy	Residential	1,560	592475, 220463
HR 23 Residential Property on Hardy	Residential	1,870	592745, 220608
HR 24 Residential Property on Hardy	Residential	2,100	592999, 220619
HR 25 Residential Property on Hardy	Residential	2,130	593147, 220323
HR 26 Industrial Receptor off Maldon Road	Industrial	1,640	592726, 219391
HR 27 Residential Receptor on Roundbush Road	Residential	1,870	592808, 218903
HR 28 Farm on Roundbush Road	Agricultural	1,960	592853, 218779
HR 29 Commercial Property on Roundbush Road	Commercial	1,850	592670, 218688
HR 30 Residential Property on Maldon Road	Residential	1,410	592057, 218621
HR 31 Residential Property on Maldon Road	Residential	1,430	592037, 218608
HR 32 Residential Property on Maldon Road	Residential	1,420	591986, 218642

Receptor	Type	Distance to Site (m)	Coordinates (x,y)
HR 33 Commercial Property off Maldon Road	Commercial	1,360	591952, 218533
HR 34 Residential Property off Maldon Road	Residential	1,430	591443, 218921
HR 35 Commercial Property off Maldon Road	Commercial	1,380	591717, 218452
HR 36 Residential Receptor off Haynes Green Road	Residential	1,370	590919, 217721
HR 37 Residential Receptor on Haynes Green Road	Residential	1,970	590822, 217741
HR 38 Residential Receptor on Haynes Green Road	Residential	1,970	590815, 218187
HR 39 Residential Road on Harborough Hall Road	Residential	1,530	590558, 218299
HR 40 Residential Property on Harborough Hall Road	Residential	1,490	590051, 218625
HR 41 Farm on Harlboroguh Road	Agricultural	1,500	590082, 218689
HR 42 Residential Property on Harlborough Road	Residential	1,430	590118, 218723
HR 43 Farm on Harlborough Hall Road	Agricultural	1,380	590066, 218738

Receptor	Type	Distance to Site (m)	Coordinates (x,y)
HR 44 Residential Property on Harlborough Hall Road	Residential	1,410	590027, 218763
HR 45 Residential Property on Harborough Hall Road	Residential	1,420	590025, 218804
HR 46 Residential Property on Harborough Hall Road	Residential	1,420	589992, 218808
HR 47 Residential Property on Harborough Hall Road	Residential	1,420	589793, 218816
HR 48 Residential Property on Harborough Hall Road	Residential	1,580	589785, 218843
HR 49 Residential Property on Harborough Hall Road	Residential	1,570	589772, 218874
HR 50 Residential Property on Harborough Road	Residential	1,560	589790, 218915
HR 51 Residential Property on Lodge Road	Residential	1,530	589784, 218959
HR 52 The Old Crown Inn Commercial Property on Lodge Road	Commercial	1,510	589769, 218975
HR 53 Residential Property on Lodge Road	Residential	1,520	589765, 219003
HR 54 Residential Property on Lodge Road	Residential	1,510	589776, 219023

Receptor	Type	Distance to Site (m)	Coordinates (x,y)
HR 55 Residential Property on Lodge Road	Residential	1,490	589790, 219038
HR 56 Residential Property on Lodge Road	Residential	1,470	589803, 219058
HR 57 Residential Property on Lodge Road	Residential	1,450	589808, 219085
HR 58 Residential Property on Lodge Road	Residential	1,430	589835, 219225
HR 59 Residential Property on Lodge Road	Residential	1,350	589878, 219279
HR 60 Residential Property on Lodge Road	Residential	1,300	589897, 219301
HR 61 Residential Property on Lodge Road	Residential	1,270	590108, 219616
HR 62 Residential Property on Scotties Farm Road	Residential	1,000	589615, 220642
HR 63 Residential Property on Scotties Farm Road	Residential	1,770	589612, 220691
HR 64 Farm buildings off Easthorpe Road	Agricultural	1,800	589967, 221119
HR 65 Farm building off Easthorpe Road	Agricultural	1,830	590040, 221084

Receptor	Type	Distance to Site (m)	Coordinates (x,y)
HR 66 Residential property off Easthorpe Road	Residential	1,760	590012, 221195
HR 67 Farm building off Easthorpe Road	Residential	1,860	590170, 221285
HR 68 Residential Property on Easthorpe Road	Residential	1,850	590215, 221286
HR 69 Residential Property on Easthorpe Road	Residential	1,830	590991, 221424
HR 70 Residential Property on Easthorpe Road	Residential	1,740	591011, 221429


HR_14
HR_66
HR_65
HR_16
HR_63
HR_62
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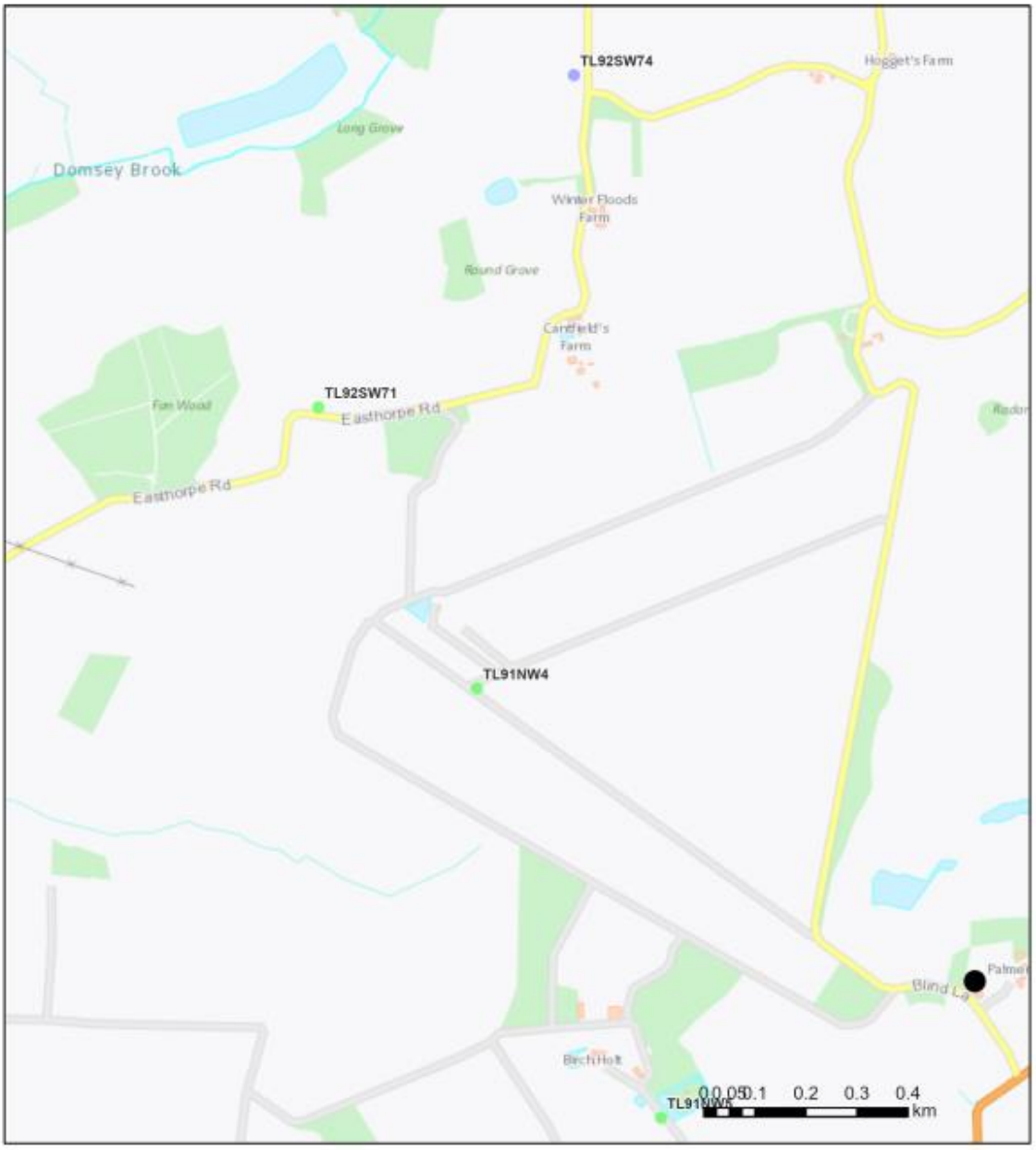
HR_27
HR_28
HR_29
HR_40
HR_35
HR_39
HR_38
221500
221000
220500
220000
219500
219000
218500
218000
589500
590000
590500
591000
591500
592000
592500
593000
Specified point

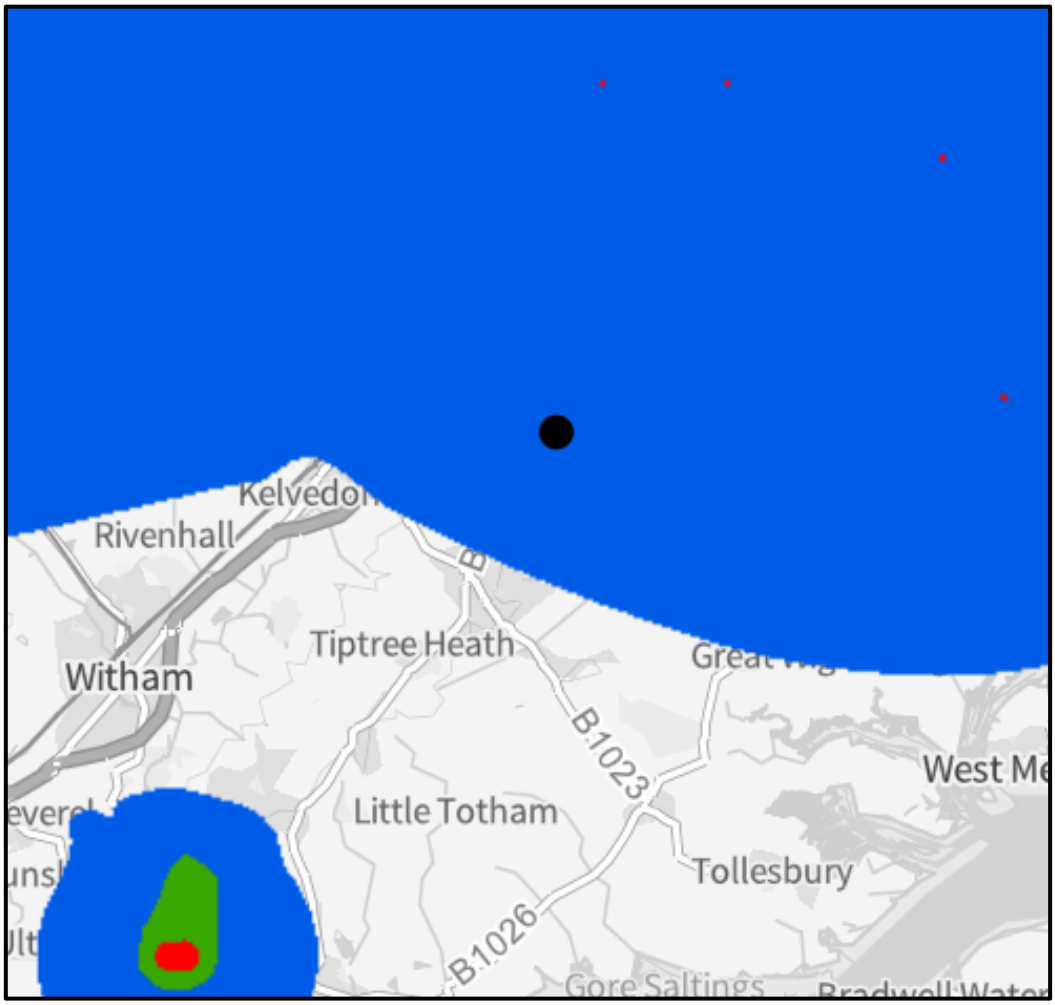
7.0 BOREHOLE RECORDS



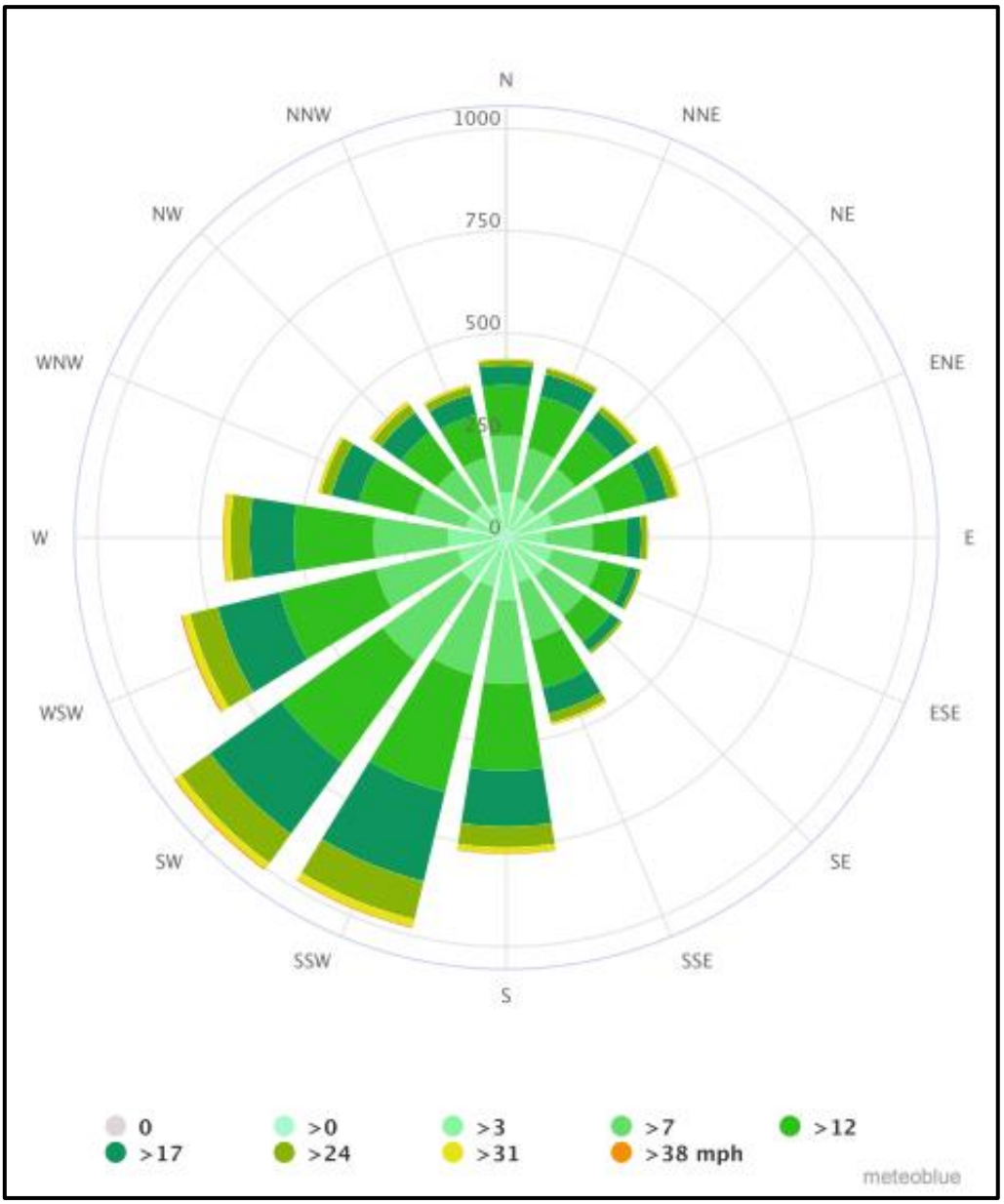
Borehole records

- Unknown Length
- Confidential
- 0 - 10m
- 10 - 30m
- 30m+

8.0 SOURCE PROTECTION ZONE



9.0 HISTORIC WIND DIRECTION



APPENDIX A - FIRE SAFETY MANAGEMENT PLAN

Procedure	Responsibility
Fire Safety Person with Overall Responsibility for Fire Safety	Angela Strathern
Fire Risk Assessment Person responsible for commissioning & review	Angela Strathern
Maintenance Programme Person Responsible for: • Maintenance of fire safety provisions • Fire alarm • Emergency lighting • Firefighting equipment • Escape routes • Fire safety signs/notices	Angela Strathern
Emergency Action Plan Person responsible for production & review	Angela Strathern

APPENDIX B - FIRE EMERGENCY PROCEDURE

Assembly Point – Adjacent to the site's main gates.

If you discover a fire:

1. Raise the alarm immediately. Shout FIRE, FIRE or use the fire horn.
2. Tackle the fire using the appropriate firefighting equipment. (Only if you feel safe and are trained to do so)
3. Leave the premises by the nearest safest available exit.
4. Report to the assembly point
5. Ensure that site management is aware of the fire.
6. Call 999 for the fire brigade by mobile phone, if not already done.
7. Do not leave site or re-enter any building until cleared to do so by the fire brigade or fire warden.

If you hear the alarm:

1. Leave the premises by the nearest safest route.
2. Do not stop to collect personal belongings.
3. Ensure any one you meet on the way out is aware of the fire.
4. Report to the assembly point.
5. Call 999 for the fire brigade by mobile phone, if not already done.
6. Do not leave site or re-enter any building until cleared to do so by the fire brigade or fire warden.

Machine / Mobile Plant Operators.

1. Clear area of vehicles if safe to do so.
2. Turn off equipment using emergency stops.
3. Ensure compressed gas containers are isolated.
4. If possible and safe to do so, commence active firefighting measures such as moving unburning waste material to the quarantine area.
5. Remove mobile plant from site to facilitate access for the Fire and Rescue Service, save for any equipment that is deemed safe and appropriate to be used in tackling any fire, e.g. shovels and excavators.
6. Report location of relevant vehicles remaining on site to the Fire Brigade at the assembly point.

Site Manager.

1. Call the Fire Brigade. Tel: 999

2. Announce “Fire, Fire, Fire. A fire has been reported at/in ****. All personnel are to report to the assembly point near the site entrance”. In addition, sound the fire horn.
3. Report to assembly point with the employees and visitor book.
4. Ensure that Visitors \ Contractors / employees are accounted for. (Use visitors and employees book).
5. Site Manager to report to the scene of the fire.
6. Liaise with Fire Brigade upon arrival.
7. Brief Fire Brigade of any danger areas on site.
8. Do not allow any other vehicles except emergency vehicles to enter site.