WILLIAMS PLANT HIRE LTD

ABERBECHAN WHARF

NEWTOWN

POWYS

SY16 3AW

FIRE PREVENTION AND MITIGATION PLAN

CEC/WPH/App/003/V4.0

CERI ENVIRONMENTAL CONSULTING LTD

Specialists in Waste & Environmental Management

SAWMILLS COTTAGE
SAWMILLS, KERRY
NR NEWTOWN,
POWYS SY16 4LL
Tel/Fax: 01686 670546
email: enquiries@cerienvironmental.co.uk

TABLE OF CONTENTS

1.) Introduction
2.) Quantity and Types of Waste Accepted
3.) Waste Inputs, Storage Dimensions and Storage Times
4.) Causes of Fires and Fire Prevention
5.) Managing Waste Stacks and Separation Distances
6.) Waste in Containers
7.) Seasonality and waste Stack Management
8.) Fire Detection
9.) Firefighting Strategy
10.) Combustion products and Risk to Life Safety
11.) Water Supply
12.) Managing Water Run-off
13.) Designated Quarantine Area
14.) During and After an Incident
15.) Reviewing and Assessing the FPMP
16.) Site Monitoring
17.) Improvement Program
18.) Contact Details

APPEDICES

A) Drawings
B) Regulatory Reform (Fire Safety) Order 2005 risk assessment

1.) INTRODUCTION

Williams Plant Hire Ltd has operated a small waste transfer facility at Aberbechan Wharf, Aberbechan, Newtown, Powys, SY16 3AW since March 2004 under Waste Management Licence EAWML47128.

The site is located in a rural setting bounded on two side by the River Severn and the Montgomery Canal. The site has two processing and storage buildings and the permit variation, being sought, is to bring the site in line with a modern style permit, which sets the standards for processing different types of waste. This application is to increase the area to allow specified wastes to be stored and treated outside of the sealed drainage areas. The operations within the buildings will remain essentially the same

The site is a low risk due to the low quantity of waste received each day and the short duration for waste storage for combustible wastes.

The FPMP has been produced in accordance with guidance issued by NRW – Fire Prevention Plan Guidance – Waste Management v2.0 August 2017.

Viability of Site Operations

The site has been operating since 2004 and there are a number of sites, which can accept wastes separated for further processing, which are generated onsite. New receiving sites are looked at when required. The nature of the operations and the storage available means that no large stockpiles of any particular material are made. The type of wastes accepted is predominantly from the skip hire business and the separation methods used is not specialised in nature. As such there is no reason to suggest that the site will not continue to operate successfully and that markets for materials sent from the site will not be able to accept the wastes.

2.) QUANTITIES AND TYPES OF WASTE ACCEPTED

The site serves the area around Newtown and Welshpool and to some extent further afield. As the area is predominantly rural the waste arisings are quite low. Much of the waste comes from the skip hire business operated by Williams Plant Hire Ltd.

There are two distinct waste processing and storage areas shown on CEC/WPH/02, which are:-

1.) Processing and Storage Building
2.) Area marked as Inert waste which will include specified wastes (see Table 2 – Operational Techniques)

Waste taken into the processing and storage building are sorted using a grab with the "light" fraction being processed through a trommel and along a picking line where paper/ cardboard, metals and wood are removed and placed in containers below the picking line. These are then bulked up into skips of up to 40 cu/yd prior to be sent off for reprocessing.

Non inerts which are not suitable for processing through the trommel system are loaded directly into a bay measuring 9m x 5m and up 3m to high or directly into a 40 cu/yd (or smaller) skip.

Materials such as bricks, concrete and rocks shall be stored in a stockpiled in the inerts area prior to processing into secondary aggregate.

Inert wastes from excavated materials are not processed in the building but taken directly to the inerts storage and processing area where they are stored in the appropriate stockpile prior to further processing into secondary aggregates and soils.

3.) WASTE INPUTS, STORAGE DIMENSIONS AND STORAGE TIMES

Table 1

Material	**Combustible**	**Volume m^3**	**Pile Dimensions m**	**Storage time (maximum)**
Mixed waste awaiting processing	Y	135	9 x 5 x3	7 days
Heavy fraction from Mixed waste sorting	Y	135	9 x 5 x3	7 days
Wood (picking line tipping skip)	Y	1.5 Skip		3 days

Metals (picking Line tipping skip)	Y	1.5 Skip		3 days
Paper/ Cardboard (picking Line tipping skip)	Y	1.5 Skip		3 days
Light Waste for disposal	Y	31	40 cu/yd skip	5 days
Mixed metals	Y	31	40 cu/yd skip	1 month
Wood – as delivered or chipped shredded	Y	31	40 cu/yd skip	1 month
Paper/ carboard	Y	31	40 cu/yd skip Loose or baled	1 month
Light Waste for disposal	Y	31	40 cu/yd skip	1 week
Glass	N	10	12 cu/yd skip	3 months
Plasterboard	N	15	20 cu/yd covered skip	3 months
Waste batteries	Y	<1	Plastic Lidded Box	1 month
Sorted steel	N	31	40 cu/yd skip	3 months
Sorted aluminium	N	31	40 cu/yd skip	3 months
Green waste as delivered or chipped/ shredded	Y	31	40 cu/yd skip	1 month
Inerts Soils, Materials for processing to WRAP Protocol Aggregates	N	1,000	Pile sizes will vary but maximum of 1,500 tonnes, max 3m high	6 months

Not all wastes will be present on the site at any one time and the maximum storage available in the sorting building will be 1 x 40 cu/yd skips and 2 full bays which equates to 301m^3. The storage in the eastern end of the building will be 2 x 40cu/yd

containers This gives a maximum storage of combustible waste of 363m^3 in the 2 building areas, which are separated by a 2m high concrete wall with steel sheet to the full height of the building.

4.) CAUSES OF FIRES AND FIRE PREVENTION

Likely causes of fires at a waste transfer site include:

- arson or vandalism
- self-combustion (e.g. due to chemical oxidation)
- plant or equipment failure
- electrical faults
- damaged or exposed electrical cables
- discarded smoking materials
- hot works (e.g. welding or cutting)
- industrial heaters
- hot exhausts
- open burning (on site or adjacent sites)
- reactions between incompatible materials
- neighbouring site activities
- hot loads deposited at the site
- build up of loose combustible waste, dust and fluff
- cylinders stored at the site
- Leaks and spillages of oils and fuels

These risks are considered within this plan in regard to the site volumes, materials, handled, site configuration and management as detailed. Prevention of fires is the priority and working methods are designed to ensure that the risk of fires is considered during operations or maintenance work.

Staff should be aware of these risks and consider them when conducting any fire safety checks.

Each of the above potential causes is considered below in relation to the Aberbechan Wharf Site.

Arson/ Vandalism

During the 15 years that the site has been operational arson and vandalism have not been an issue. The site is in a rural location and at the end of a lane, which serves a number of houses and the Williams Plant Hire Ltd plant hire compound and at the very end the waste transfer station.

The site is secured along the boundary with the canal by 2.4m high fencing and by a gate and fence 2.4m high at the entrance to the plant hire yard. As both facilities are owned by Williams Plant Hire there are no additional security measures between the plant hire yard and the waste transfer station. To the south the site is adjacent to the River Severn and this forms a natural barrier.

The site is secured out of operational hours.

A security system will be installed which when motion sensors or the fire alarm is activated, the site owner or person on duty will be contacted on their mobile phone to raise the alarm and provide out of operating hours cover. The system is being designed by EOM Electircal Contractors Ltd, who are a specialist electrical company who are UKAS accredited. The system will be installed by the end of February 2020 and will be maintained by EOM Electrical Contractors Ltd.

CCTV is present and images of the site can be seen on the owner and manager's mobile phones, which will allow the operator to call the fire service and or police before they get to the site.

In the event of a fire outside of operational hours the security and alarm system will allow the operator to mobilise staff and ensure that any fire which has started will be dealt with as quickly as possible.

Plant or Equipment Failure

All plant and equipment is maintained in accordance with the manufacturers recommendations. Plant used on site is fitted with fire extinguishers, dust filters, spark arrestors. As the bucket loader is used on a mixture of concreted surface and hardstanding a rubber strip is not practical.

When not in use plant is stored away from combustible waste and at the end of the day it is taken to the plant hire yard or stored on the quarantine area.

Electrical Faults

All electrical equipment is tested by a qualified electrical engineer in accordance with the testing schedule set out by the manufacturer or the testing regime set by the engineer.

Damaged or Exposed Electrical Cables

In the event of any damage to electrical cable the plant affected shall be isolated and repairs carried out by a qualified electrical engineer before the equipment is used again.

Discarded Smoking Materials

The site operates with a no smoking policy and smoking is not permitted on the permitted area.

Hot Works (welding or cutting)

This is not a common occurrence at the site as there is no metal cutting is the waste treatment process. There are occasions where welding and cutting are undertaken for maintenance purposes and a system of a permit to work with a fire watcher being present during these operations is in place as part of the EMS.

Industrial Heaters

No industrial heaters are used on the site.

Hot Exhausts

Dust settling on hot exhausts can be a source of ignition. During the working day plant is checked for any build up of dust on exhausts and cleaned when necessary. Plant is kept away from combustible materials when not being used. At the end of the working day plant is checked and cleaned and a record is made of the end of day inspection that plant is away from combustible materials and that the exhausts have been checked for cleanliness.

Open Burning (on site or on adjacent sites)

No open burning takes place on site or on the adjacent plant hire yard. The other site boundaries are the River Severn and the Montgomery Canal and no burning takes place along these boundaries.

Reactions Between Incompatible Wastes

The waste types accepted are non hazardous and wastes are separated in different fractions rather than mixed. The nature of the wastes received and the processes employed make reactions very unlikely. As part of the waste acceptance procedure any batteries found within the waste shall be removed and stored separately. Any suspect waste load will be taken to the quarantine area for further inspection.

Neighbouring Site Activities

The only neighbouring activities relate to the plant hire yard. The plant hire storage area and buildings are over 15m away from any combustible waste storage. Activities on the plant hire area are storage of plant and any maintenance of the

plant and hire equipment is within the plant hire building or at least 25m from the waste storage building.

Hot Loads Deposited at the Site

Hot loads are not permitted under the waste acceptance procedure and any loads deemed to be hot will be rejected. In the event of heat in a load being discovered upon tipping then the material shall be immediately loaded into a separate skip and placed onto the quarantine area. The skip shall be monitored visually and allowed to fully cool down.

Build up of Loose Combustible Waste, Dust and Fluff

The waste processing plant shall be kept clean and build up of loose material shall be removed when required. At the end of the working day the bays shall be cleared of loose material and significant dust accumulations. The site as a whole will be checked for loose materials and cleared at the end of each working day or sooner if needed.

Cylinders Stored on Site

Any gas cylinders shall be removed from the waste immediately and taken to the cylinder storage cage shown on CEC/WPH/02

Leaks and Spillages of Oils and Fuels

All plant is checked for oils and other leaks at the start of each working day and at the end of the working day. In the event of any leaks developing during the working day the plant shall be moved to the plant hire yard for maintenance and any leaks shall be absorbed to prevent leaving a trail.

Self Combustion

Self combustion can occur under certain conditions and the risk increases with larger storage stacks and when the waste is stored for periods over 3 months. The types of waste stored at the site which have the potential to self combust are :-

- General mixed waste including residual waste and fines
- Green material
- Wood
- Tyres
- Smaller sized graded materials either stored or mixed
- Rusty metals

Due to the small nature of the site there is a rapid turnaround of combustible wastes and no combustible waste is stored for longer than 3 months. Generally storage time are 2-7days for general waste, but green waste, paper/carboard, metals and wood may be stored for up to 1 month. No fines/ dust and very small particle waste shall be stored for longer than 2 weeks.

The low storage capacity at the site also ensures that stock is rotated rapidly with most containers filled with waste for disposal being sent out when full or during the next day to create room for additional processed wastes. Containers which take longer to fill are sent off for reprocessing when full. There are no stockpiles of combustible waste as such as the only bays in use are designated for the processing of incoming waste.

As combustible wastes stored for less than 3 months and waste are removed on a first in first out arrangement no monitoring other than visual monitoring during the day for any signs of fire are considered necessary. Maximum storage times are detailed in section 2 table 1.

5.) MANAGING WASTE STACKS AND SEPARATION DISTANCES

The layout of waste storage is shown on drawing CEC/WPH/02. For combustible wastes the storage areas are the 2 buildings and the uses and dimensions are listed below

Waste Processing and Storage 24m x 13.5m
Waste Storage 9.5m x 11.5m

The buildings are joined together with a 2m high concrete wall.

Processing and Storage Building

The processing area measures 7m x 9m and consists of a screen and picking line. Waste storage is through 3 tipping skips, which are emptied as needed into a 40 cu/yd skip (or smaller). There is no stack of loose waste in this area.

There are another 3 bays measuring 5m wide x 9m deep and only one of these is used for the storage of loose waste awaiting processing. The adjacent bay is used to store the heavy fraction after material suitable for processing through the trommel and picking line has been taken out. On some occasions this material may be loaded directly into a 40 cu/yd skip prior to being taken off site. The final bay is used for the storage of a full 40 cu/yd skips (or smaller).

The volumes of wastes stored in a loose form are low and no baled wastes are stored in bays. Any bales will be placed in a container and stored in either the final bay of the processing building or within the waste storage building to the East.

The worst case scenario is that the 2 bays would be full together which would give a stack length of 9m x 5m and 3m high and one 40cu/yd skips within the processing area plus 2 x 40cu/yd containers with the storage area adjoining the processing area (separated by concrete wall and steel cladding). Any loose waste found in the light fraction bay will be cleared at the end of each working day and placed in the skip. If

there is any significant spillage from loading the light fraction from the incoming waste for disposal then this will be cleared and the material placed in the skip. The bay will be cleared of any loose waste at the end of the working day.

The building is open fronted and enclosed on 3 sides with a mixture of concrete walls to a height of 2m, with the upper sections of the walls clad with steel. The roof and

frame are constructed from steel. The open nature of the building will allow for effective firefighting and for smoke to escape. There are no office facilities within the building and escape from all points is straight out through the open front to the yard.

6.) WASTE IN CONTAINERS

Processed waste is placed into a mix of skip sizes ranging from 8cu/yd to 40 cu/yd depending on the material for onward transport to waste reprocessing plants. Within the buildings there could be a maximum of 3 x 40 cu/yd skips and in the event of a fire these will be taken out of the building to a quarantine area, only if they are not on fire, using on site plant if it is safe to do so and to prevent any fire from spreading. All containers within the building are accessible from one side for fire fighting purposes.

Before the fire service arrives, the manager shall assess the health and safety issues of moving skips out of the building that are not on fire but could potentially become on fire if spreading takes place.

Wherever possible the nearest skips to the fire shall be removed first to create a larger separation distance between the fire and the next skips or bay of loose material.

If this is not possible then any accessible skips, which are not on fire, will be removed to the quarantine area.

The fire fighting approach would initially be for staff to use fire extinguishers, if it is safe to do so. Larger fires would be dealt with with water and the approach would be to fill a skip with water to extinguish a fire in the skip. For skips on fire within the building then any water escaping would drain via the sealed drainage system where all water within the building drains to. Once that sump is full then water would overflow to the 50m^3 underground tank, which is also used to collect water for firewater recirculation. The location of the existing sump and flow to the underground tank is shown on CECWPH/02

7.) SEASONALITY AND WASTE STACK MANAGEMENT

There are no seasonal issues at the site and for operations to carry on waste has to be removed and sent off site either to re-processors or for disposal. As such there are no stacks to manage or monitor, with no combustible waste being stored for over 3 months. Waste being sent out for disposal or further processing will be on a first in first out principle and given the limited storage available this is the only way the site can operate.

8.) FIRE DETECTION

A fire detection system and alarm will be installed within the waste processing building. With the scale of the operations a fire suppression system is not considered necessary and is not required by the insurers. The fire detection system will notify the management out of hours through a mobile phone via the same system as used for security breaches. This system will be installed by the end of February 2020.

The fire detection system will be designed, installed and maintained by EOM Electrical Contractors Ltd who are a UKAS accredited company.

9.) FIREFIGHTING STRATEGY

Small Fire Dealt With By Site Staff

In the event of a fire being discovered staff will attempt to put the fire out with an appropriate extinguisher if safe to do so and any skips which contain non burning waste may be moved to the quarantine area in accordance with section 6 above.

Larger Fire

If the fire is cannot be dealt with by using fire extinguishers then the fire service shall be called immediately and the fire alarm triggered to ensure that all staff are aware of the situation and can come to assist. The electrical supply to the building shall be switched off.

Before the fire service arrive, the manager shall take charge and move any non burning waste that could be affected by a spreading fire to the quarantine area and in doing so create distances between burning waste and other stored combustible materials.

Movements of waste will involve using the hooklift vehicle for large skips and the loading shovel for loose waste, which will be loaded into an empty container (many available on site). This will only be done away from the area or container on fire as the plant does not have fire rated hydraulic systems.

When the fire service arrive, they will take over control and staff will use site plant under the direction of the fire service.

It is also essential for the site manager to explain the drainage system and the potential for recirculation firewater to prevent pollution as soon as possible to the FRS. Firefighting water shall be pumped from the River Severn if required or alternatively the FRS may decide that a controlled burn would be the best course of action.

To prevent any overspill of water, from the building, onto the hardstanding inert materials will be pushed up to the lip of the concrete to contain water or a polyboom will be deployed. This will depend on the severity of any fire.

If necessary, a water pump (4" and 6" pumps and hose are available from the hire yard) can be deployed using the River Severn as a source and hoses can be used to extinguish a fire. This plant would be situated away from the fire, so no fire ratings are needed. It is unlikely that this would happen as the FRS are likely to be on scene quickly and deploy their own equipment.

Staff safety will be the main concern and if the fire is beyond the control of the site staff then firefighting actions will stop until the FRS arrive and take over.

A water bowser is also available on site for use if required.

Resources

Staff and all plant and equipment is readily available on site and from the Williams Plant Hire Yard (under the control of the operator), which is adjacent to the site.

Finances would be available to fund any additional plant and equipment hire if required and for clean up costs.

10.) COMBUSTION PRODUCTS AND RISK TO LIFE SAFETY

A fire on site will lead to the generation of fire gases and the gases generated will depend on the type of waste on fire and the intensity of the fire. An assessment will be made of the wind direction and direction of smoke and potentially affected properties will be notified by knocking on the doors or phone calls.

Generation of Fire Gases

Smoke is commonly defined as "the airborne solid and liquid particulates and gases evolved when a material undergoes pyrolysis or combustion."

The particulates and aerosols produced affect occupants' visibility as they attempt to escape from a fire.

Gases are most hazardous within confined spaces, either as asphyxiating or poisoning, or flash / explosion risk.

Carbon Dioxide

In well-ventilated flaming fires, nearly all the carbon lost from combustibles is converted to carbon dioxide (CO2). Carbon dioxide is also generated in smouldering fires, but the generated carbon monoxide is far more hazardous.

The completeness of the combustion process is largely dependent on the local supply of oxygen.

Materials: All

Risk: Asphyxiation

Carbon Monoxide

Carbon monoxide (CO) is produced from both smouldering and flaming combustion. The production of CO from smouldering fires is quite slow, but these fires are not accompanied by vigorous mixing and diluting of the combustion products with room air. Thus, lethal concentrations of CO can be generated in the immediate vicinity of the ignition within 10 minutes. Lethal concentrations of CO elsewhere in a room may take 1 to 3 hours. By then, smouldering may have ceased or may have undergone transition to flaming combustion.

Subsequent further reaction oxidizes the CO to CO2, ie the CO in a room may itself subsequently burn. For compartments of moderate size and ventilation, this rise in the yield of CO occurs near the point of flashover. Flashover occurs when the thermal environment is sufficiently intense that many or all the combustibles in the compartment burst into flame. The result is a high density of combustible vapours, and a decrease in the oxygen within the compartment or room.

Materials: All, slow burning fires

Risk: poisoning, explosion

Hydrogen Cyanide

The generation of hydrogen cyanide (HCN) is both material dependent and temperature dependent. In smouldering fires, and pyrolysis within flaming fires, HCN can be produced by decomposition of some nitrogen-containing polymers. HCN can be generated from nitrogen-containing polymers during flaming combustion as well. In neither case is there evidence of toxicologically significant HCN formation by fixation of the nitrogen in the air. In contrast to CO, there have been insufficient studies on HCN to enable quantitative prediction of its formation in fires. If sufficient oxygen is present, oxides of nitrogen (NOx) may also be formed from nitrogen-containing materials.

HCN has also been seen to be oxidized to NOx when flames extended from a flashed-over room and continued to burn outside the doorway.

Materials: General wastes, Nitrogen containing plastics

Risk: Poisoning

Halogen Acids

Polymer systems containing halogen atoms (fluorine, chlorine, or bromine) result in the formation of the halogen acids; hydrogen fluoride (HF), hydrogen chloride (HCl), and hydrogen bromide (HBr), the production of which is largely material-dependent as long as thermal decomposition temperatures are reached. Halogen acids are formed in the pyrolysis component of the combustion process and are not oxidized further. Thus, the halogen acids are produced even if flaming combustion does not occur.

HCl is readily evolved from polyvinyl chloride (PVC) at temperatures of about 437 to 527°F (225 to 275°C).

Since HCl can be released before significant carbon from the material is combusted, the mass yield of HCl can be present early in the fire cycle. However, far lower yields have been found from PVC that contains a high fraction of calcium carbonate filler. It is presumed this reflects a calcium reaction with the chlorine atoms to form (solid) calcium chloride, which is thermally stable in ordinary fire conditions.

Halogen acid concentrations decay quickly in the presence of adsorptive surfaces and water droplets present in most fire effluents at temperatures below 212°F (100°C).

Materials: General wastes, WEEE plastics, Fire retardant plastics, PVC

Risk: Poisoning, irritant

Organic Irritants

Pyrolysis and/or incomplete combustion of organic materials can lead to a wide variety of organic irritant species. Those considered to be the most important toxicologically are formaldehyde, unsaturated aldehydes (especially acrolein), and isocyanates (from nitrogen-containing polymers). The first two result from partial oxidation of the carbon in the material. Further oxidation leads to the formation of CO and then CO2.

Acrolein, in particular, has been demonstrated to be present in many fire atmospheres.

It is also formed from the smouldering of all cellulosic materials and oxidative pyrolysis of polyethylenes.

Materials: Polythene films, bottles

Risk: Irritant, asphyxiation

Other Gases and Aerosols

Depending on the composition of the combusting products, additional toxic components of smoke can be produced in a fire. For example, phosphorus containing fire retardants can result in phosphoric acid aerosol, and sulphur containing polymers can generate sulphur oxides.

Materials: General wastes, WEEE, batteries, Fire retardant plastics, tyres,

Risk: Poisoning, irritant, asphyxiation.

11.) WATER SUPPLY

The site is adjacent to the River Severn , which at this point is 35-65m wide. This is the most convenient water supply with enough capacity to fight a fire. The impact of using the river as a water supply will be minimal, even in low water conditions as the flow of the river is unlikely to be affected by the volume of water needed for firefighting.

The volumes of firewater required for different fire scenarios as listed in table 2 below and the volumes are based on the use of 2,000 litres of water per minute for a 3hr period to put out a 300m^3 stack of combustible waste.

Waste Stored	**Waste Volume**	**Water Required m^3**
Loose Mixed waste in bay	135m^3	164
Loose Light waste in bay	135m^3	164
Combined bays	270m^3	324
40 cu/yd skip	31m^3	37

The site has also been designed with firewater recirculation in mind and a 50m^3 tank is to be installed and connected to the sealed drainage areas. This will allow a pump hose to be lowered into the tank to provide firewater without the issues of gravel getting into the pumps as any solids will be at the base of the tank. The tank is also located away from the building and combustible waste storage area and is located so that a fire tender can park close to the tank but away from any fire.

This could reduce the actual volume of water required to around 50m^3 to cope with a fire at the site. An additional chamber is constructed prior to the drainage entering the tank to allow for a filter screen to be installed. The operator is going to incorporate the filtration into the design of the firewater recirculation system.

It is understood that Fire and Rescue Service's pumps would be suitable for suspending into the tank and no specialist equipment would be needed. In the event

of any pumps owned by the operator being used then these are all standard fittings, which again would work with FRS equipment.

The plant hire yard normally has a selection of 4” and 6” pumps and hose that could be used to extract water from the River Severn. In the event of no serviceable pumps being present on site then the Fire and Rescue Service pumps will need be used.

12.) MANAGING FIRE WATER RUN-OFF

Fire water will be contained within the building or within the sealed drainage system, which includes an underground tank. The intention is to recirculate fire water to reduce the volume used and to contain all the used firewater in the underground storage tank for disposal by tanker. Access to the underground tank is via a chamber where the pump can be suspended. The chamber during normal site operations will be surrounded by temporary fencing to prevent the area becoming covered and to ensure access is available at all times.

There are no public sewers in the area due to the rural location and all local properties have private sewage treatment facilities. It is therefore not possible to send firewater to the sewer system.

With the volume of water needed being $2m^3$ (from NRW firewater requirement guidance) per minute the pipework from the sump in the building to the external tank will be 200mm to allow for adequate drainage and to prevent the drainage system from being overwhelmed.

Whilst the drainage system falls to the sump, with the volume of water required to prevent spillage out of the front of the building, earth from the inerts stockpile will be used to temporarily bund the building and ensure that all water is directed to the underground tank. Alternatively a polyboom will be installed in front of the building.

13.) DESIGNATED QUARANTINE AREA

Two quarantine areas are shown on drawing CEC/WPH/02 and these are on hardstanding areas opposite the weighbridge and processing building. The quarantine areas can be used for the storage of skips, containing non burning waste, removed from the building in the event of a fire to prevent any fire from spreading. One quarantine area is 100m^2 and will be able to hold 4 x 40 cu/yd skips or more smaller skips and the other is 50m^2 and able to hold 2 x 40 cu/yd skips or more smaller skips. The largest bay contains 135m^3 of waste so 4 x 40 cu/ds is 124m^3 so over 50% of the largest stack could be accommodated.

Both quarantine areas are 6m from the permit boundary as shown on CEC/WPH/02

If loose waste needs to be removed from a bay then it will be loaded into large skips and taken to the quarantine area. Skips placed in the quarantine area will be sheeted to prevent water ingress. Waste will be moved back into the sealed drainage area as soon as it is safe to do so, or in the event that that is not possible they will be sent for disposal or for further processing.

As the quarantine areas are on hardstanding the intention is only to use them for combustible materials which are not on fire and are removed from the building to prevent a fire from spreading. All firefighting with water will take place within the building and firewater collected in the sealed drainage system. This will protect groundwater resources as no water will be applied to the waste in the quarantine areas and so no water will enter the waste, thus removing the pathway to groundwater. The nature of the quarantine area is a temporary situation of short duration and as such poses a very low risk.

14.) DURING AND AFTER AN INCIDENT

In the event of any fire or suspicion of combustion taking place then waste acceptance will cease and all Williams Plant Hire Ltd vehicles shall be called and directed elsewhere until it is deemed safe to bring waste to the site. Any non

Williams Plant Hire Ltd vehicles shall be tuned away and regular customers shall be contacted to tell them the site is temporarily closed.

There are no contracts with the local authority to take waste from their collection rounds so there will be no impact on the waste collection authority. If necessary, skips from collections made by Williams Plant Hire Ltd will be diverted to Lovatt Brothers Ltd or to Potters Waste Management, which are local waste transfer stations.

If properties near to the site could be affected then a member of staff will go door to door advising the occupants to keep their windows closed.

Powys County Council shall be informed as the fire could impact the use of the footpath on the side of the Montgomery Canal and in the event of a large fire the nearby highways. There are no sensitive buildings such as schools, hospitals or nursing homes within 1 km to notify.

Normally there will be a selection of suitable plant for use during firefighting from the plant hire yard. This will include 4” and 6” pumps and hose, excavators, bowsers but the availability will depend on whether or not the plant has been hired out. Having a large selection of useful plant adjacent to the site and in the control of Williams Plant Hire Ltd will be useful if the Fire Service require any additional equipment.

After any firefighting the water from the sealed underground tank will be sampled and sent off for disposal at a suitable site.

In the unlikely event that firewater escaped from the front of the building soil sampling may be required to assess the hardstanding area. If contamination is found then the upper layer will be stripped and sent for disposal at a suitable landfill site.

Providing that the building is sound, processing plant working and there has been no damage to the site drainage and concrete surfaces then the site will open for acceptance of wastes.

15.) REVIEWING AND ASSESSING THE FPMP

The FPMP shall be reviewed at least once per year as part of the EMS. If issues arise through training or gaining an understanding that allows a more effective response to be made then the FPMP or associated procedures within the EMS shall be revised to reflect improvement that can be made.

The FPMP shall also be reviewed after an incident with a de brief involving all staff to assess if improvements could be made which would have reduced any impacts.

All staff will have access to the FPMP, which is kept in the site office and training will be provided on all aspects of the plan via toolbox talks and practice simulated events. This will aid staff in understanding the roles they may be asked to do if a real incident occurs.

Records will be kept of all training and fire drill sessions.

16.) SITE MONITORING

The EMS contains a daily checksheet for operations at the beginning of the day and at the end of the day. This is included in Appendix 1 and covers an end of day fire watch, plant exhaust cleaning and clearing loose materials. At the start of each working day plant and equipment is checked for leaks and any other issues identified.

During the day staff are trained to be vigilant and to look out for any issues arising, including evidence of fires starting.

Plant Maintenance is covered in the EMS and records kept.

17.) IMPOROVEMENT PROGRAM

Improvement	Timescale
Install Fire Detection and Alarm system to UKAS specification	3 months
Install underground water storage tank connected to sealed drainage system	3 months
Staff training via toolbox talks	1 month then ongoing

18.) CONTACT DETAILS

Receptor	Tel No
NRW	0300 0653000
Keith Williams	01686 630244/ 07968 310548
Andy Williams	01686 630244/ 07956 329512
Powys County Council	01597 826000
Severn Trent	0800 7834444

All nearby householders will be contacted by knocking on doors.

When the fire service arrive they will take over control and direct staff to use plant as required. Staff will show the fire service the location of the water recirculation point.

A vacuum tanker will be called from one of the companies listed below to deal with firewater.

Metro Rod 01938 554056
Mayglothling Waste 01686 626393

Staff will assist wherever possible but must maintain a safe distance from the fire and only work under the instruction of the fire service.

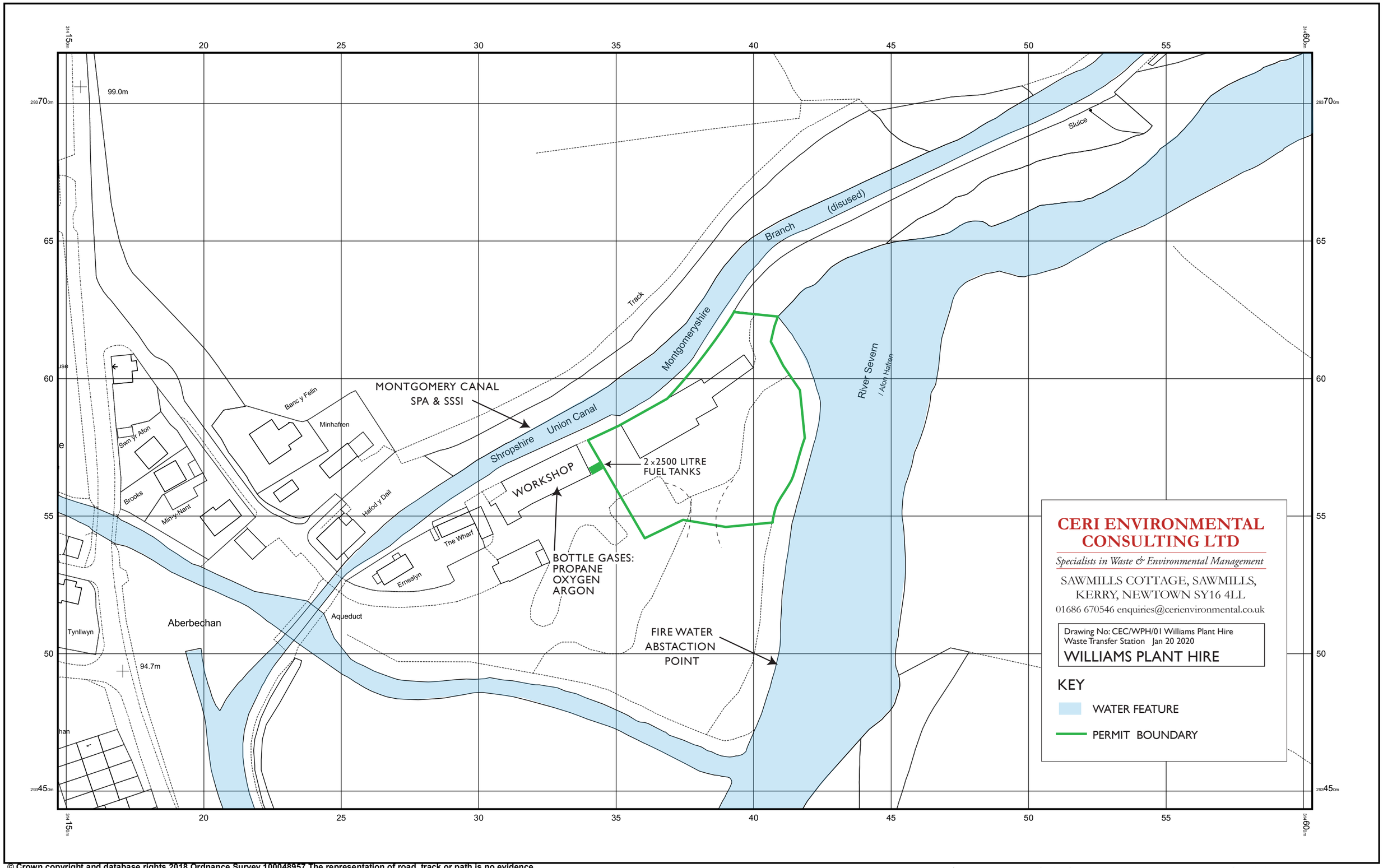
For a fire when the site is closed the Fire Box inside the gates will contain contact details for the site owner and management. The owner/ manager shall attend the scene and assist the fire service where possible and contact the list above.

WILLIAMS PLANT HIRE

75m

Scale 1:1250

Map data



© Crown copyright and database rights 2018 Ordnance Survey 100048957.The representation of road, track or path is no evidence of a boundary or right of way. The representation of features as lines is no evidence of a property boundary.

North

Centre Coordinates:314375,293581
Production Date: 13/12/2018 09:55:40

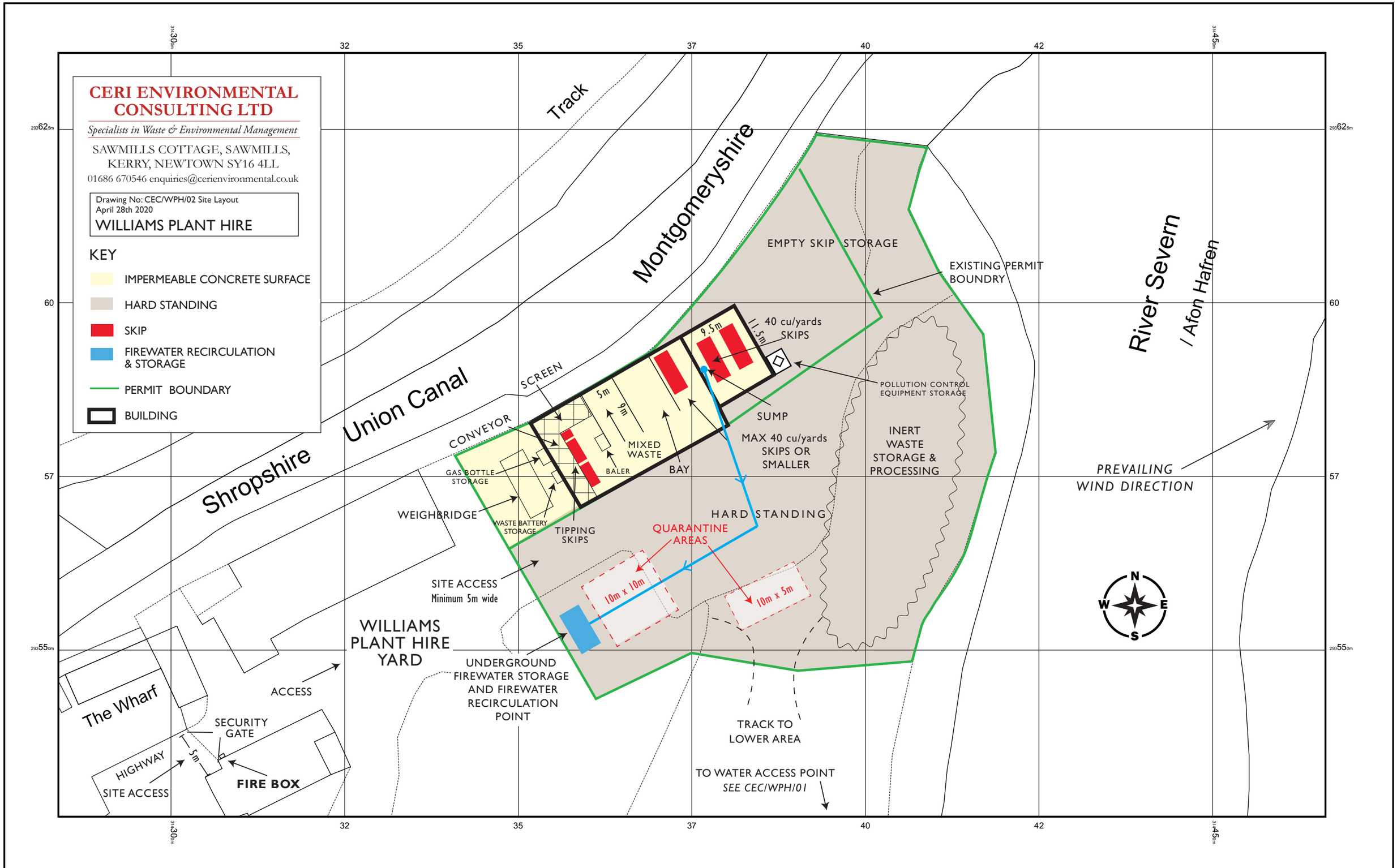
Supplied by: www.ukmapcentre.com
Serial No:152558

WILLIAMS PLANT HIRE

25m

Scale 1:500

Map data



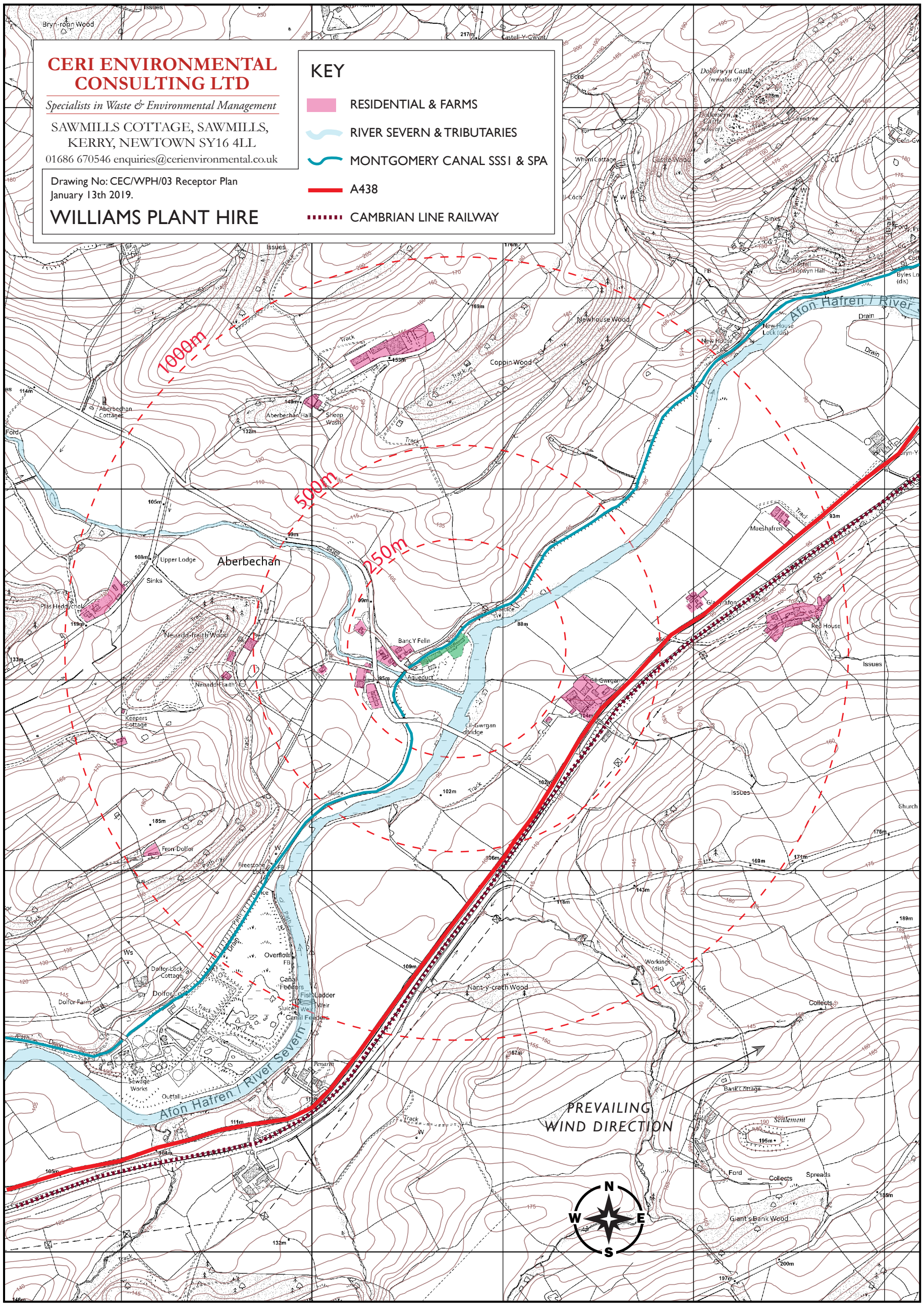
© Crown copyright and database rights 2018 Ordnance Survey 100048957.The representation of road, track or path is no evidence of a boundary or right of way. The representation of features as lines is no evidence of a property boundary.

North

Centre Coordinates:314375,293581
Production Date: 13/12/2018 09:55:23

Supplied by: www.ukmapcentre.com
Serial No:152557

WILLIAMS PLANT HIRE



© Crown copyright and database rights 2019 Ordnance Survey 100048957.The representation of road, track or path is no evidence of a boundary or right of way. The representation of features as lines is no evidence of a property boundary.

500m

Scale 1:10000

North

Supplied by: www.ukmapcentre.com
Serial No:153717
Centre Coordinates:314393,293570
Production Date: 11/01/2019 10:01:33

PSS

POWYS
SAFETY
SOLUTIONS

www.powyssafety.co.uk

FIRE SAFETY RISK ASSESSMENT

FOR SIMPLE PREMISES V2

ntroduction

Fire Safety Risk Assessment

This form is intended to assist small businesses in carrying out the fire safety risk safety assessment. It is suitable for use in simple premises, with a simple internal layout and small numbers of people present, e.g. small offices, shops or industrial units and where people can escape unaided. In buildings with complicated escape arrangements, large numbers of people or high fire safety risk processes a more comprehensive fire safety risk assessment may be necessary.

The enclosed information follows a simple 5 step guide to completing a suitable assessment. The fire safety risk assessment does not need to be complicated, it should be a common sense review to identify the hazards (what could start a fire and what could burn), followed by consideration of the possible effects of a fire on people using the building. The important thing is that the fire safety risk assessment is systematic to ensure that every part of the premises is assessed. Every room, space or area, especially those not often used, should be included.

If you identify any significant risks you should consider if they can be reduced: first by removing the hazards and secondly by providing fire protection measures (e.g. automatic fire detection). These points should be addressed within the *'What needs to be done to make each situation safe?'* section. If your premises are located within a larger building and if a fire in your business could affect your neighbours, you should share the findings of your fire safety risk assessment with your neighbours.

Your fire safety risk assessment must be kept up to date. It is important to update the assessment if anything is changed that might affect the risk (e.g. new ignition sources or use of flammable liquids etc.). If you identify that either the likelihood of a fire occurring or there is a risk to people you may want to consider seeking further assistance.

Emergency Plan

The findings of the fire safety risk assessment should be used to prepare an emergency plan. The plan should set out, what to do in case of fire, identify the escape routes, where to assemble and how to contact the Fire and Rescue Service. The fire safety equipment and any equipment that provides a possible ignition source (e.g. cooking, electrical appliances, etc.) should be regularly maintained to reduce the chance of fire and the risk to people. Frequent checks should also be made to make sure that the storage of materials, especially flammable materials, does not increase the risk of fire or prevent the use of escape routes. It is important that all members of staff know how to prevent fires and what to do if a fire does occur. To make sure that the emergency plan works regular fire drills should be carried out. For further guidance on the Regulatory Reform (Fire Safety) Order 2005 and for information and guidance on carrying out your fire safety risk assessment visit www.ddfire.gov.uk and following the links in fire safety then legislative fire safety.

The 5 Step Guide to Fire Safety Risk Assessment

1. Identify the fire hazards
2. Identify people at risk
3. Evaluate, remove, reduce and protect from risk
4. Record, plan, inform, instruct and train
5. Review

DETAILS

Company Name:	WILLIAMS PLANT HIRE LTD.
Premises Name:	ABERBECHAN WHARF
Address:	ABERBECHAN, NEWTOWN, POWYS. SY16 3AW
Responsible Person:	ANDREW WILLIAMS
Position:	DIRECTOR
Date of Assessment:	28/5/19
Carried out by:	AS ABOVE
Position:	" "
Use of the Premises:	TRANSFER STATION / HIRE DEPOT.

OCCUPANCY

Times in Use:	Weekdays:	5	Weekends:	1 (SAT)
Total Numbers of Staff:	Weekdays:	8	Weekends:	VARIES
Total of all Persons Present:	Weekdays:	8	Weekends:	VARIES

SIZE

Total Size of Premises (M^2):	
Number of Storeys:	1
Number of Basements:	0

INDEMNITY

This document has been produced as a tool to assist you in completing a fire safety risk assessment of your premises. It is used entirely at your own risk to identify what you consider are your significant findings, and also whether you consider the information therein to be suitable and sufficient. It is in no way exhaustive and County Durham and Darlington Fire and Rescue Service accepts no liability whatsoever for any circumstances which may arise as a result of using this tool.

Step 1 - Identify Fire Hazards (Sources of Ignition)

Type	Location	Are existing control measures suitable?	
Naked Flames	WORKSHOP (BIOMASS BOILER GAS CUTTING EQUIPMENT)	YES	NO
Portable Heaters and Heating Equipment	WORKSHOP	YES	NO
Electrical Equipment	WORKSHOP / OFFICE	YES	NO
Cooking Equipment	WORKSHOP STAFF ROOM (MICROWAVE ONLY)	YES	NO
Work Process Risk(s)	NONE	YES	NO
Arson	SLIGHT	YES	NO
Smoking Materials	OUTSIDE AREAS ONLY	YES	NO
Other Sources (including Contractors)	N/A	YES	NO

If you have answered NO to any question above complete the details below: -

What needs to be done to make each situation safe?	*Action required by whom*	*Date due*	*Date complete*
✓			
✓			
✓			
✓			
✓			

Step 1 – Identify Fire Hazards (Sources of Fuel and Oxygen)

Type	Location	Are existing control measures suitable?

Wood / Paper /Cardboard	OFFICE / YARD AREA	YES	NO
Plastics / Rubber / Foam	OFFICE / YARD AREA	YES	NO
Retail Stock	N/A	YES	NO
Furniture and Fixings (curtains, blinds etc)	OFFICE	YES	NO
Flammable Material (gases / liquids / paints / thinners / glues)	WORKSHOP - STORAGE OK	YES	NO
Display Materials or Decorations	N/A	YES	NO
Waste Materials (refuse, packaging)	YARD AREA	YES	NO
Building Structure	BRICK / STEEL	YES	NO
Oxygen Supplies (air conditioning units / bottles / piped supply)	N/A	YES	NO

If you have answered NO to any question above complete the details below: -

What needs to be done to make each situation safe?	*Action required by whom*	*Date due*	*Date complete*
✓ KEEP GAS STORAGE TO MINIMUM	ONGOING		
✓			
✓			
✓			
✓			

Step 2 – Identifying People at Risk

Type	***Findings***

a) Sensory Risk: People with visual and / or hearing impairment(s)	N/A
b) Mobility Risk: People with physical impairments	N/A
c) Familiarity Risk: People who may be new to the premises and not familiar to its layout, seasonal workers, contractors, visitors or customers	INDUCTION + TRAINING IN PLACE
d) Numbers Risk: Large numbers of people, small numbers of disabled people	N/A
e) Lone Workers / People Working in Isolation / Others	N/A

Additional Information:

Step 3 ~ Evaluate, Remove, Reduce and Protect From Risk

Are ignition sources controlled to reduce the chances of fire?	YES	NO

Are combustible materials kept away from ignition sources?	YES	NO
Are all windows and openings closed last thing at night?	YES	NO
Is your fire alarm system adequate for your premises?	YES	NO
Will everybody be warned if the fire alarm operates?	YES	NO
Can everyone escape without assistance?	YES	NO
Is escape from fire available in more than one direction?	YES	NO
Are all fire exits easily identified by the correct signs?	YES	NO
Are escape routes free from obstruction and storage?	YES	NO
Are all doors on escape routes easily opened without a key?	YES	NO
Do all doors on escape routes open in the direction of escape?	YES	NO
Can everyone escape in a reasonable time?	YES	NO
Do you have emergency lighting?	YES	~~NO~~
Is the lighting adequate to illuminate circulation routes?	YES	NO
Do you have fire fighting equipment?	YES	NO
Is the fire fighting equipment adequate for the risks present?	YES	NO
Are housekeeping and general waste management adequate?	YES	NO
Are security arrangements sufficient to prevent access?	YES	NO
Are measures adequate to prevent the incidents of arson?	YES	NO
Are there any large open roof spaces or concealed ceiling voids?	YES	NO
Could a fire in your premise spread to another?	YES	NO
Can the fire service easily get to your premises?	YES	NO

If you have answered NO to any question above complete the details below: -

What needs to be done to make each situation safe?	*Action required by whom*	*Date due*	*Date complete*
✓ FIT SMOKE ALARMS	Responsible person.	ASAP	
✓			
✓			
✓			
✓			

Step 4 ~ Record, Plan, Inform, Instruct and Train

You must record your fire safety arrangements – this includes:

Have you made an emergency plan?	YES	NO
Have you provided fire instruction and staff training?	YES	NO
Are there records of fire drills to test your training and emergency plan?	YES	NO
Are there records of maintenance on all fire safety measures?	YES	NO
Have you recorded the significant findings of this assessment on Page 9?	YES	NO

If you have answered NO to any question above complete the details below: -

What needs to be done to make each situation safe?	*Action required by whom*	*Date due*	*Date complete*
✓			
✓			
✓			
✓			
✓			

Step 5 ~ Review

Your fire safety risk assessment must be kept up to date

Date of next review

It is recommended that you review your fire safety risk assessment regularly (recommended every 12 months) **OR** if you make changes to the layout of your premises, any changes to work processes, significantly increase the amount of combustible materials stored or displayed or sources of ignition, change your opening hours (e.g. to include night time opening etc) or any failures in your fire safety precautions then you should review your fire safety risk assessment.

16 / 6 / **20**

For further information visit the website – www.firesafetyguides.communities.gov.uk or contact the Fire Safety Section of County Durham & Darlington Fire & Rescue Service on 0191 384 3381.

A copy of this form can be downloaded from www.ddfire.gov.uk and follow the links from fire safety then legislative fires safety.

SIMPLE PREMISES FIRE SAFETY RISK ASSESSMENT

LEVEL OF FIRE RISK

In premises where there is a likelihood of a fire starting and spreading quickly, or a fire could start and grow undetected, and affecting the escape routes before people can use them, then the level of risk should normally be regarded at 'higher'. Such premises might include those where significant quantities of flammable materials are used or stored; ready sources of ignition are present, e.g. heat producing machinery and processes; premises where significant numbers of the people are present and might move slowly or be unable to move without assistance; and premises where the construction provides hidden voids or flues through which a fire could quickly spread.

In premises where there is a low occupancy level and all the occupants are able bodied and capable of using the means of escape without assistance; very little chance of a fire starting; few if any highly combustible or flammable materials or other fuels for a fire; fire is unlikely to spread quickly; and will be quickly detected so that all people will quickly know that a fire has occurred and can make their escape, then the risk can usually be regarded as 'lower'.

In most cases however, the risk will usually be 'normal'.

Taking into account both the active and passive fire prevention measures and general fire precautions observed at the time of this fire safety risk assessment, it is considered that the hazard from fire (likelihood of fire) at these premises is:

Low ☐ **Normal** ☑ **High** ☐

In this context, a definition of the above terms is as follows: -

Low: Unusually low likelihood of fire as a result of negligible potential sources of ignition.

Normal: Normal fire hazards (e.g. potential ignition sources) for this type of occupancy, with fire hazards generally subject to appropriate controls.

High: Lack of adequate controls applied to one or more significant fire hazards, such as to result in significant increase in the likelihood of fire.

Note that, although the purpose of the above is to place the risk fire in context, the approach to fire safety risk assessment is subjective and for guidance only. All hazards and deficiencies identified in this fire safety risk assessment should be addressed by implementing all the recommendations contained in the following action plan.

The fire risk assessment should be reviewed regularly (recommended to be annually).

SIMPLE PREMISES

FIRE SAFETY ACTION PLAN

Each item should be allocated a priority as follows: -

Priority 1:	Needs attention immediately
Priority 2:	Needs attention within 1 month
Priority 3:	Needs attention within the next 6 months
Priority 4:	Needs attention within the next 12 months

Ref:	Action Required	Priority	Action by Whom	Completion Date

Page _____ of _____

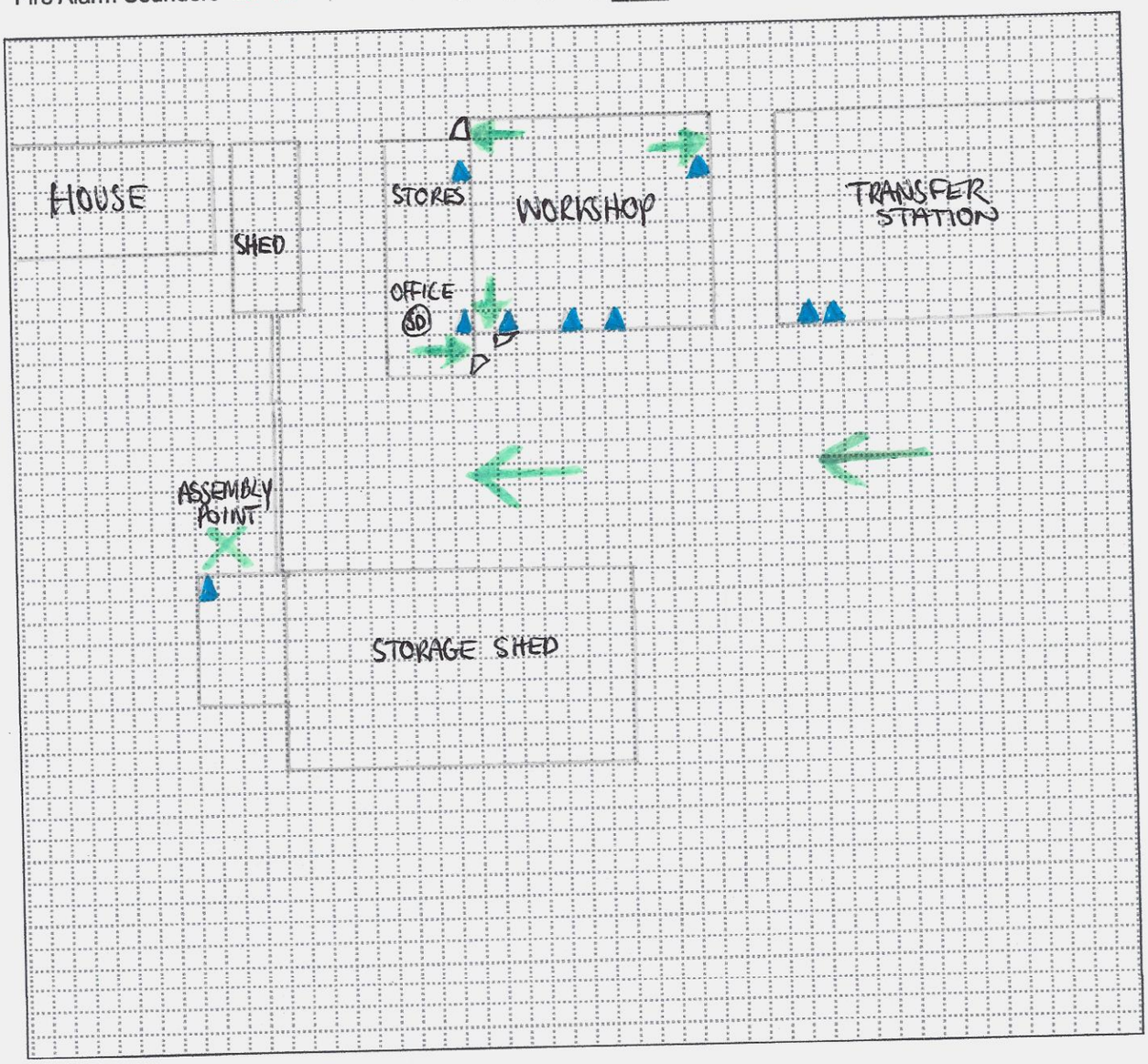
PLAN DRAWING

Complete a simple line drawing of the premises and identify your fire safety provisions including escape routes, portable fire extinguishers, smoke and / or heat detectors, emergency lighting and fire alarm call points.

KEY

Escape Routes | Fire Extinguishers | Smoke Detectors (SD) | Heat Detectors (HD)

Fire Alarm Sounders | Emergency Lighting [EL] | Manual Break Glass Point [MBGP]



Identifying Ignition and Fuel Sources

As an aid to identifying the hazards within your premises it's possible to use a system of noughts and crosses, using an **X** to mark **ignition sources** and an **O** for **fuel sources**.

DAILY INSPECTION FORM QA12 v4

Week Commencing ……..

DAILY CHECKS – complete with comment X or ✓ and initial

	Mon	Tues	Wed	Thurs	Fri	Sat
Wind strength using Beaufort Scale see overleaf						
Wind Direction						
Processing Building						
All conveyors secure and in situ						
All conveyor skirtings fitted correctly without gaps or discharge points						
All floor surfaces clear of debris and dust						
No build of dust on the Plant and Equipment						
Water Spray/ Mist Dispensers operating effectively if needed						
Bunds secure and free of leaks and spillages						
Physical safety barriers secure and in situ						
Surrounding areas/ perimeter free from evidence of dust accumulation						
Outside Areas	**Mon**	**Tues**	**Wed**	**Thurs**	**Fri**	**Sat**
Check for dust deposits/ emissions						
Perimeter check for excessive noise						
Perimeter check for litter						
Perimeter check for odour						
Check for pests						
Check for build up of dust on buildings and plant						
Check Site Roads for mud or dusts						
Check Drainage system for blocked gullies and also the interceptors/ sealed sumps						
Check storage areas for compliance with stockpile sizes and potential to create windblown dust						
Check the bunding and integrity of fuel tanks						
Check plant for hydraulic and fuel leaks						
Site surfaces for dust build up/mud/ debris						
Site security fencing for breaches						
Spillages						
End of Working Day Checks (Fire watch)	**Mon**	**Tues**	**Wed**	**Thurs**	**Fri**	**Sat**
All plant is parked in the plant storage area away from combustible materials and checked for dust build up						
Check stockpiles and containers for fires or smouldering						
All processing plant and lighting turned off						
Any non-programmed cleaning required?						
Are there any dust emissions on the site ?						

Comments (include date)

Continue on a separate sheet if required

THE BEAUFORT SCALE

Force	Mph	Description	Effects on Land
0	0	Calm	Smoke rises vertically
1	1-3	Light Air	Smoke drifts in wind
2	4-7	Light breeze	Leaves rustle, wind felt on face
3	8-12	Gentle breeze	Small twigs in constant motion, light flags extended
4	13-18	Moderate wind	Dust leaves and loose paper raised, small branches move
5	19-24	Fresh wind	Small trees sway
6	25-31	Strong wind	Large branches move, difficult to use umbrellas
7	32-38	V Strong wind	Whole trees in motion
8	39-46	Gale	Twigs break off trees, difficult to walk
9	47-54	Severe gale	Chimney pots and slates removed
10	55-63	Storm	Trees uprooted, structural damage
11	64-72	Severe storm	Widespread damage
12	>73	Hurricane	Widespread damage, (rare)

Force 2 Approximately 4mph

Force 3 Approximately 8mph

Force 3 upper limit Approximately 12mph

Force 4 Approximately 16mph

Force 5 Approximately 20mph