Fire Prevention & Mitigation Plan

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Requirement:	FPMP	Variation Application
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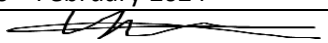
Signature:		Gareth Hill
Version number and date:	Version 1	Review date – 1 year from permit issue
	V3	March 2026

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Contents

INTRODUCTION

BACKGROUND

Environmental Focus Ltd has been commissioned by Enviroventure Waste Solutions Ltd to prepare a Fire Prevention and Mitigation Plan (FPMP) to support an application to vary an existing Environmental Permit, which authorises activities that allow the storage and treatment of waste material.

The application refers to operations that take place at Unit 9 Waterston Industrial Estate, Waterstone, Milford haven, Pembrokeshire, SA73 1DP**.**

This FPMP has been prepared in accordance with Natural Resources Wales Fire Prevention and Mitigation Plan Guidance-Waste Management New Guidance Note 16 version 2 August 2017.

THE SITE

The Site Located on the perimeter of the Industrial Estate and is located c.450m directly West of the town of Waterston, approximately 1.6km East of Milford Haven, 2.6km West of Neyland and 4km Northwest of Pembroke Dock. These are the closest bulk residential areas to the proposed site.

The H1 Risk Assessment includes full consideration of any impacts from the site on local environmental designations/receptors and as such they are identified here.

- Site of Special Area of Conservation (SAC) the Pembrokeshire marine Littlewick Point to Brunel, 1.4-1.6km to the South and West.
- Site of Special Area of Conservation (SAC) the Pembrokeshire Marine Westfield Pill Lagoon, 3.2km to the East.
- There are several scheduled monuments within proximity of the site including Fort Scoveston to the Northeast (1.1km), the Castle Pill to the West (1.3km) and the American War of Independence redan at Bath House to the Southeast (3.5km).
- There are approximately 10-15 listed buildings within proximity of the site, however none of which are within 1km of the site. The main bulk of the buildings are located to the West of the site and the closest is at 1.1km away (Castle Hall Lodge and Farm).
- There is also a small drainage ditch/stream that serves the agricultural field and woodland at the rear of the site, located to the North at approximately 70m.

FIRE PREVENTION OBJECTIVES – OUTLINE METHODOLOGY

The purpose of this FPMP is to ensure that all reasonable measures are undertaken to prevent a fire.

The FPMP has been prepared in accordance with Natural Resources Wales issued Fire Prevention and Mitigation Plan (FPMP) Guidance version 2, issued August 2017. It provides a plan to minimise the likelihood of fire breaking out, a means of extinguishing fire if it broke out, and a statement of methods designed to minimise the spread of fire.

MANAGEMENT RESPONSIBILITY

The Site Manager has the responsibility for ensuring that the potential for a fire outbreak arising from operations on the Site is minimised. Adequate staffing levels is always maintained to ensure the effective operation of the facilities.

In line with current industry best practice, the fire prevention controls set out in the sections below are used as the ‘appropriate measures’ to minimise the risk of and, wherever possible, prevent outbreak of fire associated with Site operations.

Regular reviews will be undertaken by the operational management of the site and are the content etc are detailed below.

METHODS AND PROCEDURES TO MAINTAIN COMPLIANCE

Site meetings are held regularly to discuss current and planned Site operations with respect to their potential for generating fire and accordingly the FPMP is updated as necessary. Identified actions arising from the meetings and responsibilities for their completion is recorded within the diary prior to communication within the company to the relevant personnel.

Additional and more frequent reviews of the FPMP will be carried out to reflect any changes to operations on-Site and in circumstances that warrant the review. Such instances include but are not limited to: an increase in waste quantities accepted on-Site, specifically combustible materials; after any fire incidents in order to make improvements if required; any development made on-Site such as modifications to existing buildings or the incorporation of new infrastructure and/or the installation of new equipment or plant.

The FPMP is a live, working document which is made readily available and clearly identified on Site and all staff are aware of the location of the plan. It is referenced in the Environmental Management System (EMS) and there is a requirement that all contractors working on Site and all visitors are briefed on the contents of the FPMP.

All staff receive training, which includes on-Site fire drills, with regards to the measures and procedures outlined in the FPMP with refresher training conducted annually. New employees will receive inductions which will involve the same training with records of all training maintained to ensure refresher courses are carried out as scheduled.

Regular Fire Prevention Plan Exercises are carried out bi-annually. The frequency of exercises will be reviewed and changed depending on the results of exercises, reviews of incidents and near misses and the turnover of staff.

SITE PROCESS DESCRIPTION

WASTE ACCEPTANCE AND PROCESSING

The current application does not propose that the facility changes the throughput of the site beyond which is already permitted. No changes to the EWC codes are required.

Materials brought to the site are to be initially processed by hand picking/mechanical grab within 24hours and further processed through the trommel screen within 4 weeks. The Site has the capability of processing up to a maximum of 350 tonnes per hour when the mechanical treatments are being undertaken. This operational routine mitigates against the development of hot spots and large waste storage piles. Essentially the material is accepted, manually picked before being bulked up before being fed through the trommel for final separation of materials before being shredded and removed from site to facilities most appropriate for the waste type. The manually separated materials (cardboard and plastics) will be baled once per week. Baled materials will then be removed from site every 6 weeks. The inert fraction of the material is screened every 4-5 weeks and removed from site when complete. The bales will be stacked in accordance with the guidance and aim to reduce the chimney effect within. They will be stacked in an interlaced pattern and not in rows.

The attached site plan shows the layout of the Site facilities, operational areas, stockpile locations (dimensions are in Table 3) and Environmental Permit boundary.

SITE ACTIVITIES

The waste reception area incorporates a vehicle entry point and an offloading area. The vehicles are parked in the designated area for the waste type and unloaded, all deliveries of waste are from construction and demolition sources. The storage areas are to be constructed with concrete blocks to the rear to a height of 5m with opening to the front and sides. Each stockpile is fully emptied when being processed through the plant before more wastes are added to ensure the `first in, first out` principle is adhered to. This is why processing through the mechanical plant occurs once per month, so that enough feedstock is available for a days' worth of processing and to ensure that the entire stockpile is processed.

The waste will be delivered and unloaded in designated holding areas pending the manual pick and feed into the plant. The holding area is fully concreted and benefits from a sealed drainage system that is served by the sealed and submerged tank. The site can hold a maximum of 1,700T at any one time when operating normally, this is enough feed supply to ensure that the plant operates at full capacity when hired in for use.

The walled area is aligned with the Site boundary leaving a 2m gap around the external, which is free of waste storage where other premises are linked. The purpose of the design is to ensure that rainwater and any inadvertent liquors or fire water (in the unlikely event of a fire) are fully contained and that the 2m gap will prevent any spread to the neighbouring site.

No substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) Regulations are used at the Site for the operation of the facility. There are no cylinders or gas cylinders in use or stored on the Site as an accepted waste.

ENVIRONMENTAL SETTING

SURFACE WATER / RIVERS

There is one main river, the Castle Pill Estuary, which generally flows parallel to the West of the perimeter at circa 1.4Km. Surface water run-off from the Site is collected in a sealed sub-surface tank. There is a small surface water ditch/stream 70m to the North with no hydrological connectivity to the site. All clean water from roof tops is either diverted away from waste storage areas or collected in the 10,000l tank.

There are no surface water abstractions likely to be affected by this Site.

GROUNDWATER

The British Geological Survey (BGS) maps state that the Site solid geology bedrock are sediments comprising sandstone conglomerates with low levels of groundwater near to the surface where the fractures are located.

In hydrogeological terms, the underlying strata is classed as a low productivity aquifer.

There are no groundwater abstractions known locally likely to be affected by the Site operations.

DESIGNATED SITES

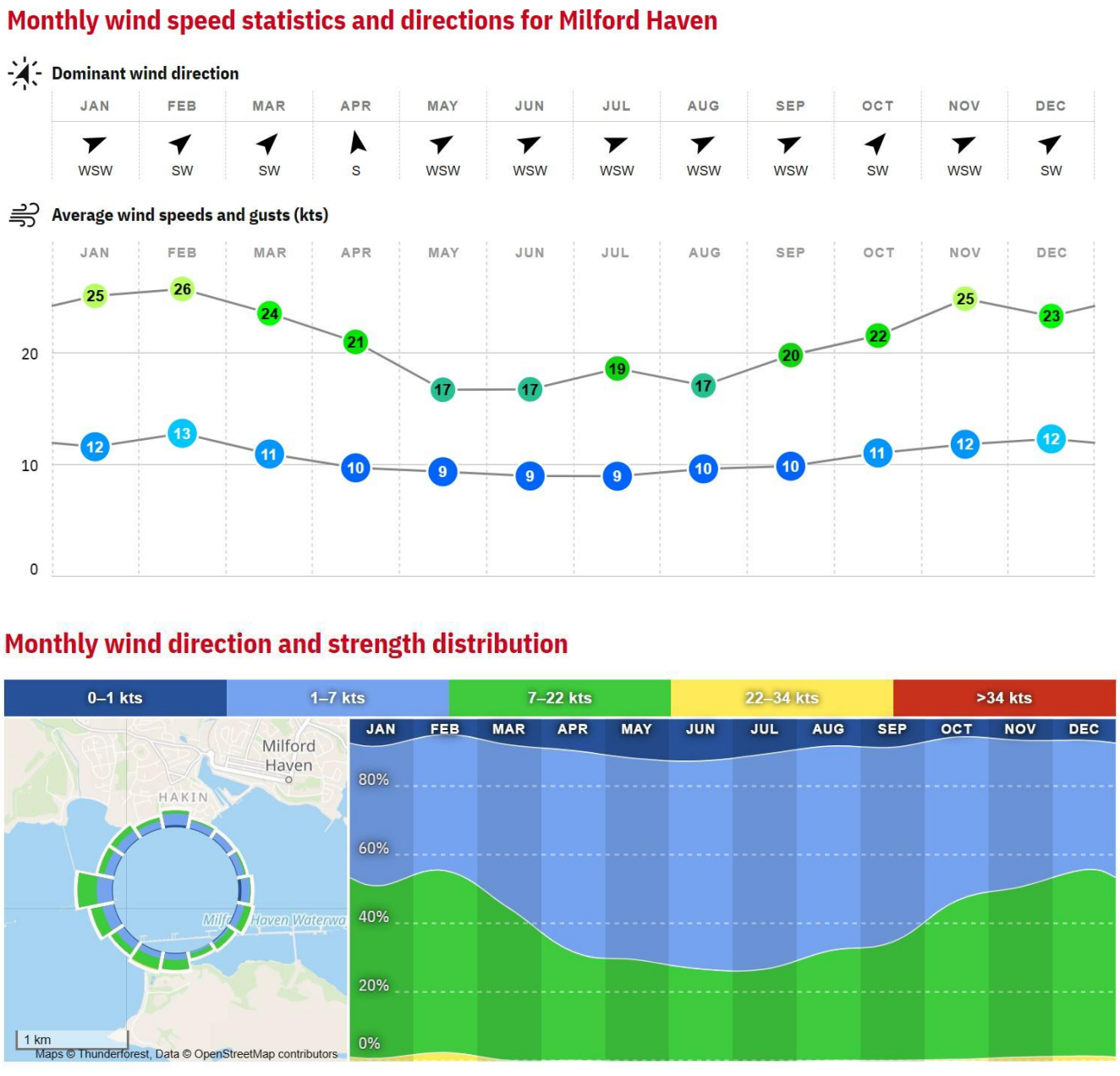
As detailed above, the closest designated site is over 1km away.

AIR QUALITY AND PREVAILING WINDS

The site does not lie in a designated Air Quality Management Zone.

Statistics based on observations taken from the nearest weather station with historical statistics at Milford Haven, (c. 4km south-west of the site) between June 2006 and February 2026 indicate that, although the prevailing winds are variable, they originate predominantly from the west-south-west with an average speed of 11 knots. The rose diagram is conducive of this showing the wind strength distribution and direction is also chiefly from the W-S-W. (see Diagram 1) however some local variation will be noted due to the extremely exposed location of the weather station.

Diagram 1- Average Prevailing Wind Direction and Speed



SENSITIVE RECEPTORS

A review of potentially sensitive receptors within a 1km radius of the Site has been undertaken using the hierarchy of hospitals, schools, childcare facilities, elderly housing and convalescent facilities i.e. areas where

inhabitants are more vulnerable to the adverse effects of exposure to smoke. Food manufacturers, major infrastructure and protected sites such as SSSIs, SPAs and SCAs are also considered, see Table 1 and Figure 1. Residential properties are considered separately, and their locations are detailed in Table 2 and Figure 2.

In terms of predicted exposure risk, levels have been determined via a qualitative assessment which evaluates the likelihood of exposure to smoke emissions based on the receptors' proximity to the Site and the location of the sensitive receptors regarding the prevailing wind direction as shown above.

A 1km radius has been applied as it reflects the maximum potential distance that smoke could reasonably be expected to cause affects in extreme meteorological conditions without any mitigation measures in place. A summary of the identified potentially sensitive receptors within this range along with the overall exposure levels and principal receptor features has been tabulated in Table 1. For each receptor within the categories the determination of the overall risk classification has been based on the dominant risk level. Contact details will not be shown in this plan for GDPR reasons, however, a list of contact details (able to be obtained through requests) for the most likely receptors to impacted severely, is held within the site offices and within the off-site emergency pack, to be used in an emergency if required.

Within a 1km radius of the Site, no protected sites such as SSSI`s, SAC, SPA or RAMSAR have been identified.

Table 1 Representative Sensitive Receptors (excluding residential properties). (Reference Point refers to locations on Figure 1)

Receptor Hierarchy	Facility and Reference Point	Distance and Direction from Site (m)	Overall exposure level	Comments
Medical Facilities	Not identified within 1km			n/a
Childcare	Not identified within 1km			n/a
Elderly Housing	Not identified within 1km			n/a
Recreational Areas	Waterstone Park (1)	800 SE	Low	Located away from the prevailing wind direction and a long way from the site allowing for high dispersal rates.
Places of Worship	Not identified within 1km			n/a
Food/drink Manufacture	Not identified within 1km			n/a
Other	Grass Roots Caravan and Glamping (2)	730 E	Low	Located downwind of some of the strongest winds but is a long way from the site allowing for high dispersal rates.
Environmental	Stream/ditch (5)	70 N		Not within any hydraulic link to the site.
Commercial or Industrial areas & monuments	Valero Oil Refinery (3)	300 - 1000 S and SE	Low	Range of distances from the site and away from the prevailing wind direction.
	Waterstone Industrial Estate (4)	10 - 300 All South	High - Medium	Not directly downwind of the Site as the site is located on the northern most edge of the industrial estate, however, most units are considered very close. Impacts on the estate would be greatest especially if wind was coming from the North.

Figure 1- Sensitive Receptors within a 1km radius of the Site (to be used as a visual guide only)

Site Plan-Sensitive Receptors/areas within 1km

Table 2- Distances to Representative Residential Properties/ Sensitive Locations (reference point refers to location numbered on figure 2).

Location in relation to the Site	Reference Point	Min/Max Distance(m) from Site Boundary	Overall Exposure Levels
SE	Waterstone Village (1)	350-780	Medium-Low
E	Farm (2)	300	Medium
E	Farm (3)	900	Low
NE	Farm (4)	950-1000	Low
SW	Farm (5)	450	Medium-Low
SW	Residential House (6)	320	Medium-High
SW	Residential House (7)	450	Medium-Low
W	Farm (8)	650	Low

Figure 2-Residential Receptors (areas) within 1km radius of the Site (visual guide only)

FIRE PREVENTION

FIRE PREVENTION PLAN

This FPMP is readily available and clearly identified on Site and all staff are aware of the location of the Plan. It is referenced to in the EMS and there is a requirement that all contractors working on Site are briefed on the contents of the Plan.

STORAGE PARAMETERS

As detailed above, the materials are all essentially bulked up for varying times prior to mechanical treatment. The wastes will either be processed through the trommel first and then shredded, or if after manual picking, could be shredded without the need for the trommel. This will depend on the composition of the waste.

No ELVs are to be accepted under the separated permit on site.

All carboards and selected plastics will be baled, pending recovery elsewhere.

Incoming wastes are typically processed on a first in first out basis to ensure that material is not held on site for longer than required.

Table 3 indicates the storage times for waste on site from acceptance:

Table 3-Storage parameters for combustible waste held on site

Incoming waste type	Max. t/day	How waste is treated	Form accepted	Max. storage tonnage	Length of storage	How waste is stored	Max. pile size (L x W x H) (m) Volume (m3)	Minimum Separation to closest facing pile
Mixed C&D wastes x1	50	Manually sorted prior to further treatment	Loose	1250	4 weeks	Always loose	9 x 8.5 x 4 306	8m
Mixed HCI wastes x2	25	Manually sorted prior to further treatment	Loose	200	5 weeks	Always loose	9 x 8 x 4 288	7.7m
Wood wastes x1	50	Separated and shredded	Loose	250	4 weeks	Always loose	9 x 8 x 4 288	7.7m
Separated out fractions	*Approx values*	How waste is to be treated	Form accepted	Max. storage tonnage	Length of storage post processing	How waste is stored	Max. pile size (L x W x H) (m) Vol (m3)	Minimum Separation to closest facing pile
Plastic x2 (1skip & 1 bale pile)	*2*	*Stored in skip loose to bale for 7 days*	*Loose*	*20*	*6 weeks*	*Bale form*	*2 rows of 1.25 x 8 x 3 60*	*In building away from other waste*
Cardboard x2 (1skip & 1 bale pile)	*2*	*Stored in skip loose to bale for 7 days*	*Loose*	*20*	*6 weeks*	*Bale form*	*2 rows of 1.25 x 8 x 3 60*	*In building away from other waste*
Metals x1 skip	*3*	*Bulk up only to remove*	*Loose*	*15*	*7 days*	*Loose*	*40yd sealed skip*	*12m*
WEEE x1 skip	*0.25*	*Bulk up only to remove*	*Loose*	*5*	*4 weeks*	*Loose*	*40yd sealed skip*	*12m*
Plasterboard skip	*2*	*Bulk up only to remove*	*Loose*	*10*	*6 weeks*	*Loose*	*40 yd sealed container*	*12m*
Shredded Pile x2	*Highly varied*	*Bulk up only to remove*	*Loose*	*500*	*4 weeks*	*Loose*	*8 x 8 x 4 256*	*7.5m*

Trommel Fines x1	*Highly varied*	*Bulk up only to remove*	*Loose*	*250*	*7 days*	*Loose*	*9 x 5 x 4* *180*	*13m*

Waste types separated out from the stockpiles accepted and listed above, not included in the Table as they are not considered to be a 'problematic' combustible waste type; inert materials (soils and stone), food, and plasterboard, all are shown for location purposes on the attached site plan.

In the event of closedown, waste will be diverted to alternative site in the area or held at the site of production.

All stockpile sizes and separation distances will be monitored daily by the site supervisor, if deviations from the table are noted then emergency measures including the removal of waste will be implemented within 5-7 days to ensure that the fire risk generated by the site is controlled as far as possible.

QUARANTINE AREA

A main quarantine area is designated on the yard at a size of 20m x 20m. The area can safely hold in excess of 50% of the largest stockpile on site (153m3) when stored at maximum capacity, there is also more space on site if required. It is clearly identified on the Site plan and marked to allow the segregation of identified unsuitable material and separation from incoming waste. 'Normal' (ie. Non-fire damaged) quarantined waste is removed within 24 hours of deposit via the appropriate plant machinery on-Site (grab or front-loading shovel). It will be transported to an authorised facility that accepts the waste type quarantined in a vehicle suitable for the transportation. Material subjected to a fire incident will be removed as soon as possible and with open discussion with NRW in the manner described above for all quarantined waste.

Suitable on-site plant will be used to transfer any material on site that needs to be transferred to the quarantine area such as burnt material or non-conforming waste types that have been inadvertently accepted or detected.

The quarantine area is in accordance with the Fire Prevention Plan Guidance in that it is clearly labelled, it has the capacity to hold at least 50% of the largest pile and it has a separation distance (from Site perimeter and other stored waste) of at least 6 metres around the quarantined waste.

MONITORING OF PILES

All deliveries of incoming material to the reception area are supervised by operational staff. All stockpiles are subjected to visual monitoring at the start and end of the shift in addition to after lunchtime. Operatives also visually inspect the waste piles for any signs of heat build-up or hot spots. Staff are trained in such methods, as detailed below. Additionally, due to the way in which the site operates, being one load tipped at a time, the feed to the site is relatively consistent throughout the day. This means that the operator of the reception areas will be consistently back and forth between the different storage areas during the daytime and is therefore, able to monitor the piles regularly.

Due to the relatively quick turnaround of waste on-site, the probability of self-combustion is extremely unlikely, and the most probable cause of fire within the waste is arson/lithium-ion batteries within the waste. The presence of the CCTV with after-hours monitoring, a very secure site and fire watch procedures will therefore act as a deterrent and minimise the likelihood of a fire occurring.

In view of the fire prevention measures outlined above, the possibility of the fire spreading within the Site itself or to neighbouring locations is minimised as far as possible. There are individual gaps between piles for the

storage of waste and to the rear of the piles, there is also a gap of 2m between the wall and the edge of the permit boundary adjacent to the neighbouring building (only applicable on one side-to the West).

Core temperatures (bales and stockpiles) will not be checked as they are only on site for a short time once baled and processed. It is not anticipated that temperatures would increase to the point of stating to self-combust within this time as per the guidance. However, if the stacks have been on site for longer than the storage times detailed within the fire guidance and therefore spontaneous combustion becomes an increased risk (in the case of breakdown or similar), turning will be initiated. The entire stack will be pulled out and re-stacked with the outside wastes now placed in the middle of the stack to ensure effective stock rotation. If required at this stage, the bales will be carefully split (with fire fighting equipment on hand), re-baled once the site manager is happy that heat is not an issue.

Staff are trained to look for indicators of hot spots such as steam, smoke, flames or odours associated with heat (i.e. burning and smoke) during the inspections. In addition, inspections include the observation for the presence of dust, fluff and/or loose combustible material. Should any be found during the daily inspections, housekeeping equipment in the form of brushes, shovels, mops and cleaning products will be used to remove the material prior to disposal in the appropriate bin. If signs are noted, senior management will be informed immediately to enforce the correct segregation plan. NRW will be informed if required.

The new proposed treatment increases the risk of fire on site when the plant is in operation. However, as this is relatively infrequent, when the plant is on site, all site staff will be involved with the processing. Therefore, if a fire was to occur due to heat created by the plant etc., then it would be quickly identified and the risk minimised/removed by on site firefighting measures and controls identified in this document. No plant is operational afterhours and is stored away from all combustible material. All stockpiles and plant are subject to a fire watch before the site closes each day.

Wastes are not burnt at the site and there is no waste incinerator plant on site therefore no direct source of ignition. Any hot works (welding etc) activities are undertaken off site.

The site will maintain and monitor the timeframe of waste storage on site by using the volume on site held. For example, the accepted (therefore unprocessed) piles will be treated approximately every 4-5 weeks, the pile will be treated fully ensuring all waste stored are processed and therefore tracked throughout. Once processed, the pile will be of sufficient quantity to be removed from site across several loads, this will be within 4 weeks due to the required booking of transport. Once again, the material will be removed fully, ensuring that the area is cleared of waste material. This allows for effective tracking as each batch of waste will be on site for a total of 9 weeks from initial acceptance to removal.

CONTINGENCY PLANS AND SEASONALITY

In the event of an un-planned incident on site, the waste delivery drivers will be contacted with instructions to divert their waste loads to the site of origin or another facility.

The waste types to be stored at the site are not impacted severely by seasonal changes from an outlet perspective. The main input material is from builders and builders' skips and so the industry is relatively consistent throughout the year. Enviroventure Waste Solutions Ltd have been operational for many years and as such have longstanding relationships with the companies they deal with.

Seasonal variations will impact waste storage slightly so far as input volumes are concerned as times such as the summer months would see slight increases in input level as this is the time of year when the bulk of building work is undertaken by larger contractors. However, this will not impact upon stockpile storage time as the processes on site are effectively managed and can easily cope with the increase in supply. The site throughput is based on the busier times of the year; therefore, production rate will drop through the quieter months as opposed to increasing through the busier months.

When researching market condition, the 'letsrecycle' website has been used for sector relevant data, it is apparent that prices across the markets are stable and if anything, are increasing. Additionally, with the increasing focus on a circular economy in Wales, the recycling of materials to bring them back into use is allowing the industry to develop a strong network and maintain outlet feasibility.

Additionally, extra sandbags will be held on site as a failsafe for if a section of the perimeter wall is damaged by machinery in an emergency event. If for example, a section of the lower wall is damaged and fire water could escape, this area will be reinforced immediately with sandbags (and inert soil material if available) to prevent the water from escaping the site boundary.

OTHER RISK ELEMENTS

There are numerous other causes that could start a fire at any site. They vary in severity and likelihood; however, all need to be taken int account.

These are listed and where relevant detailed below:

ARSON AND LITHIUM BATTERIES

The Site is surrounded by security fencing and lockable gates and controlled vehicular entry during working hours. The Site is also fitted with CCTV monitoring and has after-hours partial monitoring to detect any attempts at unauthorised entry. Each load is visually checked and manually picked by operatives on site before being added to the main pile. Any batteries are pulled out if noted and stored in sealed bins full of sand away from all other waste types.

LEAKS AND SPILLAGES

Oils/fuels stored on the site are not linked to any waste activity. There is no fuel store on site.

To prevent fuels and combustible liquids leaking or trailing from site vehicles, they are inspected twice daily for any leaks. Spill kits are kept in all the facilities trucks and plant. In addition, there are spill kits in the storeroom area on the Site. Reference should be made to the site plan for their locations.

The materials used for cleaning-up any spillages will be placed in the disposable bag provided in the spill kit and secured with the tie. The bag is then transferred to a relevant licenced facility which accepts such wastes.

PLANT AND EQUIPMENT

An Operating and Maintenance Programme is held by site management in line with company procedures for plant and equipment. As a part of these procedures all plant and equipment on site which requires maintenance are assessed for fire risk. Checks are programmed and records retained with a log of maintenance carried out. Many items of the main processing plant have the benefit of ongoing servicing schedules with the manufacturer to ensure that the plant remains efficient and working properly. The servicing is undertaken several times per year.

Vehicles and equipment are regularly inspected for electrical faults, tramp metal, dust, fluff and for any fuel or combustible liquid leakages. Spill kits are readily available on the site in the event of such leaks. When not in use mobile plant are stored away from any combustible waste materials. A log of inspection and maintenance of all plant and equipment will be maintained which will include a record of any spills or leakages and/or the presence of fluff and the action taken. The trommel and screen are hired in and so fully maintained by the owning company.

INFRASTRUCTURE AND SITE INSPECTIONS

A programme of site inspections are scheduled for all operational areas as a part of site operating procedures. Records of these inspections are a standard requirement of each working day. Records are kept of inspections with requirements for maintenance and actions taken. Most of the concrete and drainage on site has been constructed within the past 12 months in readiness for this application.

ELECTRICAL FAULTS

All electrical work on site is carried out by fully certified qualified electricians and it complies with the relevant British Standard for design and installation of electrical equipment. Detailed operational manuals for any equipment requires equipment to be checked and maintained as part of a planned maintenance regime.

Vehicles and equipment are regularly inspected daily by site operators for electrical faults and serviced as required for each specific type of equipment or plant.

SMOKING POLICY

The site operates a strict no smoking policy. Any employee that wishes to smoke during their shift, must do so outside of the permitted boundary.

HOT WORKS

No hot works such as burning, or welding are undertaken at the site. Any plant that needs repair work of this nature is taken off site to an approved contractor to undertake the work. However, if the need is required, then a 6m gap will be maintained as a minimum all around the area being worked in. Where possible, works will be undertaken facing away from waste piles.

INDUSTRIAL HEATERS

There are no industrial heaters installed at the facility.

VISITORS AND CONTRACTORS

All visitors and contractors who are new to the site will be given Fire Prevention and awareness inductions. This is particularly important for any contractors that have equipment on site to undertake their jobs or will be required to work near to the waste piles.

IGNITION SOURCES

There are no ignition sources on site. Any smoking is not permitted anywhere on site.

SELF COMBUSTION

Self-combustion on site is a risk due to the nature of the materials and the processes being undertaken. However, due to the relatively low storage time and infrequent mechanical treatments, self-combustion is extremely unlikely. The on-site staff are trained in hotspot identification and undertake fire-watches routinely to monitor the piles during operational hours. Comprehensive CCTV is also operational at the site.

REACTIONS BETWEEN WASTES

Despite being mixed in nature, the waste on site is typically consistent in so far as it is generally building wastes. These wastes tend to be the same type of materials but in different quantities from various sources. The wastes are not hazardous are the risk of any reactions between waste types is extremely low.

HOT LOADS

Strict acceptance procedures are adopted on site so if any hot loads were received, they would be quickly isolated, and immediate action can be taken to avoid escalation.

TRAMP METALS

Tramp metals are not accepted at the site. However, if they do come mixed in a load, they will be isolated and stored away from all other waste types. No tramp materials will be processed on site via the mechanical treatments. They will be removed from site as soon as possible and the producer of the waste notified of its unwanted acceptance to site.

BATTERIES IN ELVs

There is an active ELV permit on the same site. However, this permit is inactive and no ELVs have been accepted to the site in several years. However, there is a dedicated building for the depollution of ELVs on site, despite not being used.

VISITORS AND CONTRACTORS

Cylinders (waste or otherwise) are not stored on site. If one does come in via the mixed waste types, then it is isolate and stored in a lockable cage away from waste piles, treatment areas and working plant. They are removed by an approved contractor with 2 days.

FIRE WATCH

At the beginning and end of each working shift a Fire Watch is carried out by suitably trained staff. In addition to CCTV, visual inspections to detect any evidence of fire or hot spots is carried out. Fire watch reviews are also undertaken out of hours to check for post operational heating issues and procedures are reviewed after assessment.

All waste storage areas and the internal processing area on site are subject to the Fire Watch checks. Inspections, carried out at a minimum of 30 minutes after plant, machinery and vehicles have been switched off, also check for dust build up or fluff settled onto hot exhausts and engines on plant. Should there be any dust, fluff or debris deposited thereof or at any location across the site, it will be removed via the use of housekeeping equipment such as brushes, cloths, sponges and cleaning products where appropriate and transferred to a dedicated bin, container or the quarantine area as applicable. All plant is always parked away from waste materials.

BUILD UP OF LOOSE MATERIAL, DUST AND FLUFF

All materials that are to be treated through the new processes on site have the potential to increase the risk of small materials being created. The small fractions of the waste are more likely to be blown/fall off the conveyors and gather in and around the moving parts of the machine where there is potential for heat to be generated and therefore increase the risk of combustion. To counteract this, the site will ensure that these areas are monitored actively throughout the day and are routinely swept/cleared at least twice per day when fully operational. Any build up will be fully cleared at the end of the working day to ensure that site is not closed for the day with any finer material near to the area where heat could be held after the plant has been switched off.

MANAGEMENT AND STORAGE OF WASTE

WASTE ACCEPTANCE PROCEDURES

All vehicles delivering wastes to the Site stop at the weighbridge to be signed into the site. Site staff are suitably trained and follow documented procedures. The operator examines waste descriptions and ensures that the material is suitable for the site and complies with the list of wastes accepted.

A banksman instructs the drivers to reverse into the appropriate area within the facility, for off-loading according to the waste from the customer being delivered to ensure materials are stored and processed separately. This helps to ensure the cleanliness of recyclable materials is maintained and materials are correctly stored and handled.

A visual inspection of the contents of all waste loads, is made during deposit.

Any discrepancies found because of the checks detailed above results in the vehicle being detained whilst some, or all, of the following supplementary management decisions are taken:

*Referral to a Technically Competent Manager (TCM) on site;

*Referral to the waste producer to confirm the nature of the waste load;

*Refusal and return to the waste carrier's base;

*Referral to Natural Resources Wales;

*Redirection of delivery vehicle off Site, to a suitably authorised facility; and

*If the waste has been discharged on the floor, removal of the waste to the secure quarantine area, prior to off-Site removal either to the waste producer or suitably authorised facility.

Any wastes discovered to be a hot load or have the potential to be a hot load are identified and removed from the Site as a matter of urgency, or temporarily stored in the designated quarantine area. In the quarantine area, wastes are kept segregated from other wastes which are or are likely to be incompatible. Such wastes will be dampened down using a hose.

Wastes are not accepted if for any reason there is insufficient storage capacity available or if the site is inadequately manned

FIRE DETECTION AND SUPPRESSION

Waste materials stored throughout the site are routinely inspected during the operating times of the site. Waste is both delivered regularly to site and is taken from the piles routinely as part of the picking operation throughout the operating day; therefore, the piles can be always seen. The weighbridge office also faces the pile locations. If anything were to happen, it would be noticed quickly. Additionally, routine inspections for heat and hot spots are undertaken during each day (when staffing levels are higher), at the beginning (7am approx.,), middle (1pm approx.,) and end (5pm approx.) of the day. They are all visually inspected and checked for signs of heating. The inside of the building and the storage yard is covered by the CCTV system that is monitored 24-7 by both operational staff throughout the day and company directors when closed. If any issues are noticed, they alert site staff to the incident ensuring a rapid response. The CCTV system covers all working areas of the yard where waste materials are either stored or treated and is subject to annual maintenance and servicing by an approved contractor.

Any evidence of a hot spot, reference should be made to paragraphs above for details of how hot spots are identified and how inspections of all the bays on-Site are conducted, triggers an assessment of the most appropriate action which may be the pulling apart of the piles to dissipate heat by the on-Site equipment, the transferal of material to the quarantine area or the application of cooling water.

Portable fire extinguishers are available at the Site and staff are trained in their use. Records of training testing and maintenance of fire extinguishers are kept in the Site`s office. Fire extinguishers meet the requirements of BS 5036.

PROVISION AND MANAGEMENT OF FIREWATER

A maximum pile size of 306m^3 based on the largest pile on the site with the dimensions of 9m x 8.5m and a height of 4m and, applying the Guidance rate of 2m^3 /min for a minimum of 3hrs, a 306m^3 pile of waste would require 367m^3 (367,383l) of water (306 x 6.67 x 180).

The site has easy access to 3 fire hydrants (1 of which is directly outside the front gate, within 3-4m) with the other 2 being at 57m and 96m of the site. The hydrants are to be supplementary to water from the on-site sources. Enviroventure Waste Solutions Ltd has successfully gained agreements with 2 separate contractors (attached) to supply water to the site in an emergency (within 20mins). In summary between the 2 contractors the site can provide 119,109l/hour. This is spread across 6 x 4,000G bowsers and 2x 5,000l Jet-Vac tankers totalling 357,312l over a 3-hr span. This volume is clearly no feasible to be stored on site permanently.

Additionally, the site has a hose reel (mains fed at approximately 2m^3 over 3 hours), an above ground storage tank (10m^3) and numerous fire extinguishers of varying types. The hydrant and tank locations are shown on the FPMP site plan.

In total the site can provide the required water for a worst case fire on site 369m³.

It is important to note that the Fire Service are no longer permitted to test the flow rates of fire hydrants due to the discolouration it causes and the potential to taint water supplies. As such, the exact details regarding the flow rate of the hydrants are unavailable although typically, according to the Local Government Association the average flow rate of fire hydrants in the UK for industrial estates is required to be:

*Up to one hectare 20 litres per second.

*One to two hectares 35 litres per second.

*Two to three hectares 50 litres per second.

*Over three hectares 75 litres per second.

As such, Waterstone Industrial Estate, being a total area of 9 hectares, can expect an average flow rate of 75 litres/sec equating to 270m^3/hr or 810m^3 over the course of 3 hours. Only one hydrant has been factored in as they may be off the same supply feed. However, due to the water available, stockholding processes, separation using fire breaks, use of sandbags to re-use the water (potentially), it is not foreseen that the site will require more water than the 1 hydrant, if at all.

When including the use of the hydrant (if the FRS deem it as required), the total available water during an incident is more than what is required. Including the hydrant, the site has provision/access to a minimum of 1,179m³ (made up of 810m³ from the hydrant, 369m³ from the contractors, above ground tank and a minimal amount from hose reels etc). Since only 1 of the 3 local fire hydrants have been factored into the calculations, it is anticipated that no further water would be required.

All surface run-off from the external yard area currently drains to a submerged tank that has a capacity of 5m³. To assist in the containment of fire water and to prevent it discharging to the local drainage network, drainage mats will be installed the drains outside the front of the site, if required. The mats are held in the site stores located within the main building next to the weighbridge office (shown on the FPMP site plan).

The waste storage area has a concrete floor, with sealed concrete walls around the rear of all areas. The wider site perimeter, that is not holding waste material (site office etc) is enclosed by a kerb of 150mm minimum which directs retained firewater into the site and therefore into the drainage system. The only area that doesn't benefit from the kerb is the site gate; this will be blocked off by sandbags that are double layered for added assurance. These will be held next to the gateway (shown on FPMP site plan) for rapid response if required. The sandbag installation will still allow access to the site for the FRS.

If required, firewater that is holding within the site footprint, is then potentially available for reuse by the fire service or removed by tanker and transferred to an appropriately licensed wastewater treatment facility by an approved tankering contractor (West Wales Waste Ltd, see attached confirmation of standby/emergency requirement). Due to the size of the site (generally very flat in nature), the kerbs will allow for an approximate holding capacity of 565m³, therefore the site can safely hold the required firewater. However, a tanker contractor will be contacted immediately to initiate removal of water from site to ensure the protection of land/surface waters etc locally.

The above ground storage tank (shown on the FPMP site plan), is designed to be used for on-site reactive firefighting only as 10m³ would be insufficient for the FRS. However, it could prove crucial in extinguishing a fire its early stages. The water level is topped up throughout the year by rainwater, where this isn't possible (through drought etc), the hose connected to mains supply is used. The water level is checked weekly as part

of the site infrastructure checks, these are logged on the sheet within the EMS. The water in this tank will be used by on site staff with the hose attachment fitted at the base of the tank, this will allow for maximum pressure to be gained when operating and aiming at a fire. The tank is fully insulated to prevent both evaporation and freezing during the differing seasons. The tank is to be used for any dust suppression also, if required.

To prevent the water leaving site, sandbags will be placed across the site entrance. However, if in an emergency, the FRS deny access to the site by employees, tankers (as detailed above) will be employed and instructed to tanker away any water that shows potential to flood out of the gate.

FIRE INCIDENT PROCEDURES-emergency plan

Staff operatives who will be engaging in firefighting activities and those who operate the plant complete a basic training that ensures that they are competent in the use of on-site firefighting equipment.

Plant that would be utilised in the event of a fire are all fitted out with fire and heat protected hydraulic systems, and fire extinguishers. Those to be deployed are those available day to day for site operations, at present the site has access to a front-loading shovel and a grab operated 360 that move the waste around the site routinely.

The internal access road is designed as a simple system and provides straightforward and rapid access to all areas of the site for the plant that will be designated to assist in firefighting or fire prevention. The storage areas and internal roads, are also compliant with the guidance documents and allow the following space around the site:

Table 4-showing the parameters required for FRS vehicles

Type of FRS appliance	Min width of road (metres)	Min width of gangway (metres)	Min clearance height (metres)	Min weight restriction (tonnes)
Water Tender	3.7	3.2	3.7	12.5
High reach vehicle	3.7	3.2	4.0	24

Should there be any unburnt material in or in an adjacent stack to the fire, the on-site plant will be used to relocate it to a safe section of the site if safe to do so. Operators on-Site who have trained as Fire Marshalls will douse any unburned material or hazards in the vicinity of the fire with water supplied from either the onsite hose or water tank to prevent the fire from spreading. Firefighting actions on site will be undertaken with thought given to the reduction in firewater creation. If the hoses and extinguishers are to be used, then sprays and mists will be used as opposed to jets of water. This will reduce the volume of water being created while actively helping to put out the fire and prevent its spread.

Emergency procedures for the site have been developed and is the subject of training and exercising for all staff engaged at the site. The procedures are to follow the below key points:

The active firefighting techniques that are adopted on site will include (some will be done simultaneously):

- Raising the alarm on site by using a bell or verbal communication. A dedicated person will be tasked with calling the FRS and ensuring all staff are accounted for.
- Initiate the activation of on-site firefighting equipment if safe to do so. This would be aimed at firstly, the fire and secondly by another staff member, towards the closest waste to the fire to cool the unburned material to prevent initial spread if required. A nominated fire marshal will ensure that a safe distance is maintained from the fire and that clear escape routes are maintained.

- If required, water can be aimed at other buildings or non-waste materials if it looked likely that the fire could spread.
- By using the plant available, remove the closest unburned waste, preventing the spread. The material will be taken to either the quarantine area or an empty location on the concrete that is located a safe distance (over 15m away if available).
- Separating burning material from the stack on fire, this can only be done when all other waste is removed from the area to prevent the spread. The material will be taken to Quarantine where it will be placed thinly.
- Douse the burning/smouldering waste within the quarantine area to ensure that it is fully extinguished by using either the hose reel or fire extinguishers on site.
- Initiate close monitoring of waste material in quarantine to ensure no flare up occurs within the material.
- Initiate the construction of the sandbags at the gate to contain firewater within the site.
- Once the Site is cleared of burnt material and firewater, the yard area will be washed down before replacing or repairing damaged equipment and/or infrastructure as necessary.
- Electrical checks and the re-evaluation of contingency plans will also be carried out prior to the Site becoming operational again.
- A dedicated person (office staff due to operational staff being involved with the above steps) will be responsible for liaison with the FRS commanding officer and showing them this plan. This person will also stop all waste movements into site and turn them away to either go back to the waste producer or to another waste facility. Office staff will also be responsible for informing local receptors as well those involved in the running of local environmental receptors where relevant.

If a fire were to occur on site, then the impacts on the surrounding community would be significant even if the fire were to be controlled at an early stage. The materials being held on site for storage and treatment are mixed wastes that originate from local builders, this alone would cause noxious smoke and emissions to air locally. In addition to this, if the fire were to occur within the building, the building fabric (metal sheeting) would also create additional emissions to air locally. The smoke could also impact on the effective running of the local roads and industrial areas, however this would be dependent on wind direction and speed.

The control of emissions to air is far more difficult for staff at Enviroventure Waste Solutions to control personally. The most effective way to control air emissions during a fire is to put the fire out as quickly and as effectively as possible. Fire curtains can be used to try to limit smoke within the area and so may be an option if appropriate; this is done through discussion with both the FRS and NRW. A fire curtain is a technique used by the FRS when they open their hose ends to full spray and at maximum flow. The water creates a fan or curtain that spreads out sideways and vertically from the hose nozzle to create a barrier that can both reduce smoke leaving site and protect adjacent waste piles/buildings etc.

Once the fire has been supressed/extinguished the contaminated materials will need to be carefully excavated with water supplies ready in case of a flare up within the material. Once the site management, NRW and the FRS are happy that the waste poses no further threat of re-ignition the material will be assessed for its recoverability

potential and treated accordingly. If the waste is deemed as being too contaminated/damaged for recovery to be a valid option, the waste will be taken to an appropriate landfill for disposal.

In all cases and eventualities, the amount of water being used will be minimised where possible. Any unburned material will be excavated and removed from the fire to prevent any further spreading. If some material is too close for this to be practical, some small volumes of water will be sprayed onto the areas to cool them sufficiently. Water jets are to be used as little as possible.

In addition to the pollution to air, the fire water (and any other associated run-off) created could, if not adequately controlled, cause significant pollution to both local surface and groundwater areas.

The open fronted piles and general layout of the site allows the material to be approached easily and from more than one side enabling effective early firefighting.

REVIEWING AND MONITORING THE FPMP

This FPMP is a live working document which is reviewed quarterly or more frequently to reflect any changes to the facility such as the acceptance of additional waste streams (specifically those that are combustible), the modification of infrastructure, the inclusion of additional infrastructure or buildings, the installation of additional plant, machinery or equipment, following a fire incident and/or increasing or decreasing waste volumes.

All staff are made aware of the contents and the location of this FPMP during inductions and following a review. It is kept in the Site office and is accessible to all staff, visitors and contractors.

TRAINING, MONITORING SITE AND SITE INSPECTIONS

All Site supervisors, of which at least one will be on Site at any one time, are familiar with the requirements of the FPMP and are trained in the use of appropriate fire extinguishers.

Fire Marshalls will induct new starters and conduct annual refresher courses for all staff to include on-Site drills and exercises. This is to ensure all staff are competent to carry out the measures and procedures outlined within this FPMP.

Records of training, exercise drills and refresher course will be kept in a designated folder and maintained in the office on-Site.

Site inspections are carried out at the start and the end of the working day as well as after lunchtime. This will include the visual inspection of all of the stockpiles for hot spots and the recording on the appropriate logging sheet which is retained in the Site office. This allows for the identification of any signs or patterns of a constant temperature increase in a particular waste stack.

During the Site inspections, all equipment and plant are checked to ensure they are either operating or turned off correctly and that there are no identifiable ignition sources. All plant, equipment and fire prevention and mitigation equipment are maintained and serviced as per manufacturers recommendations and by qualified personnel as appropriate. Records of all inspections and servicing are maintained in a designated folder which is kept in the Site office.

Each month an external environmental consultancy will attend site and review compliance across the site. This

will not only form part of general permit compliance but will focus specifically on FPMP compliance, any non-compliance noted will be discussed with the company director outlining corrective actions.

The review of site FPMP procedures (particularly the end of day check), undertaken by the site supervisor or TCM, will maintain a compliance log in the office of the following information:

*Stockpile sizes and separation distances.

*Maintain residence times by checking when the bays were last emptied.

*At the required intervals (daily, weekly, monthly), the relevant checks and reviews are undertaken, and actions implemented where required.

*Periodic testing of relevant equipment will be done at this point when required (fire extinguishers are annual etc).

DURING AND AFTER AN INCIDENT

DEALING WITH ISSUES DURING A FIRE

During a fire, the material inputs to the site will be cancelled as detailed above.

Any lorries in transit, will be diverted to another local transfer station, or where possible, be returned to the producer to hold there until business can operate normally again.

To avoid congestion at the site during a major incident, any collections of waste that are booked in for that day will be cancelled. The company director or office manager will arrange for this to be done.

NOTIFYING RESIDENTS AND BUSINESSES

During a major incident the site will notify local businesses and residents via use of social media, local news networks, phone calls to those businesses closest and if required using load speaker. Unfortunately, the list of residential areas in the locality is high and so to contact each of them would not be possible outside of the techniques listed above. As mentioned, a detailed contact list for all local businesses, museums and local reserves etc is held in the site offices to be used as a notification tool during an incident.

Information regarding closing of windows and doors along with the likely timeframe of the incident will be communicated after consultation with the Chief Fire Officer for the incident.

CLEARING AND DECONTAMINATION AFTER A FIRE

There are several elements to clearing and decontaminating the site post fire incident. The first to is ensure that the fire water is tankered off site and taken to an appropriately permitted facility. The site will have to firstly identify whether, and to what extent, the water is contaminated. Part of this assessment will be to identify if POPs are present in the water. This will be done using an MCERTS and UKAS accredited laboratory for the testing of water chemistry. A full range of contaminants (heavy metals, TPHs, PAHs, POPs) will be tested for as ascertain the most appropriate treatment or disposal route.

The waste that has been impacted by the fire will need to be taken from site. The material will be assessed by the company director/TCM to determine whether any of the waste is recoverable. If not, the material will be sent to landfill as soon as possible.

If required, once the water and waste have been removed from the site, specialist steam cleaning or pressure washing company will be employed to ensure that the concrete surfaces are free from any chemical contamination resultant from the fire if required. This would ensure that any residue from the water have been cleaned and would pose no risk to the environment post-incident.

MAKING THE SITE OPERATIONAL POST FIRE

Once the points above have been undertaken in full, the site can focus on re-opening the business. For this to happen, full agreement would be sought from NRW and hopefully a site inspection can be carried out with the local regulatory officer.

Full inspection of the sites critical infrastructure will need to be undertaken prior to the reopening of the facility. The concrete areas will need to be checked for integrity before any waste storage or treatment will be permitted once more. Other key infrastructure such as the CCTV, fire extinguishers and the building (if impacted) will need to be checked, although it is not anticipated that these will have been negatively impacted by either the fire or the pooling firewater across the site.

Further equipment checks will also need to be undertaken. Items such as the spill kits (if used) will need to be recharged/signed off as being serviced and the drain mats will need to be replaced. The floodgates will need to be integrity checked and neatly stored away in the designated holding area.

An updated and fully reviewed FPMP would be completed and submitted to NRW for approval.