SGM WASTE MANAGEMENT FACILITY

SGM06 - FIRE PREVENTION AND MITIGATION PLAN

Document Information			
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1. SITE DETAILS:

Name of the applicant	SGM Waste Management
Site address	Sluice Farm, Wentloog Avenue, Newport, CF3 2TN
National Grid Reference	ST 25327 79395

This Fire Prevention and Mitigation Plan (FPMP) has been prepared for SGM Waste Ltd's waste management facility located at Sluice Farm, off Wentloog Avenue, Peterson Wentloog, Newport. The site is accessed directly from Wentloog Avenue, via a dedicated site access. There is a secondary access into the carpark and office area of the site also from Wentloog Avenue but on the eastern boundary of the site..

The site forms part of the family farm and is an agricultural diversification business. It is proposed to undertake the storage and processing of domestic, commercial and industrial waste and inert construction and demolition waste.

The site is divided into:

- Parking for staff vehicles and overnight HGV parking;
- Site Office;
- Workshop facilities;
- Materials Recovery Facility (MRF) building for the sorting of domestic, commercial and industrial waste;
- Processed (sorted) domestic, commercial and industrial waste area – sorted wastes stored in bins, awaiting removal from site for onward processing, recovery or disposal;
- Inert waste storage and processing area.

Please refer to Figure 1 – Site Layout (also available in Appendix 2)

This plan has been produced using guidance contained in the Fire Prevention & Mitigation Plan Guidance – Waste Management – Guidance Note 16, produced between Natural Resources Wales and South Wales Fire and Rescue Service.

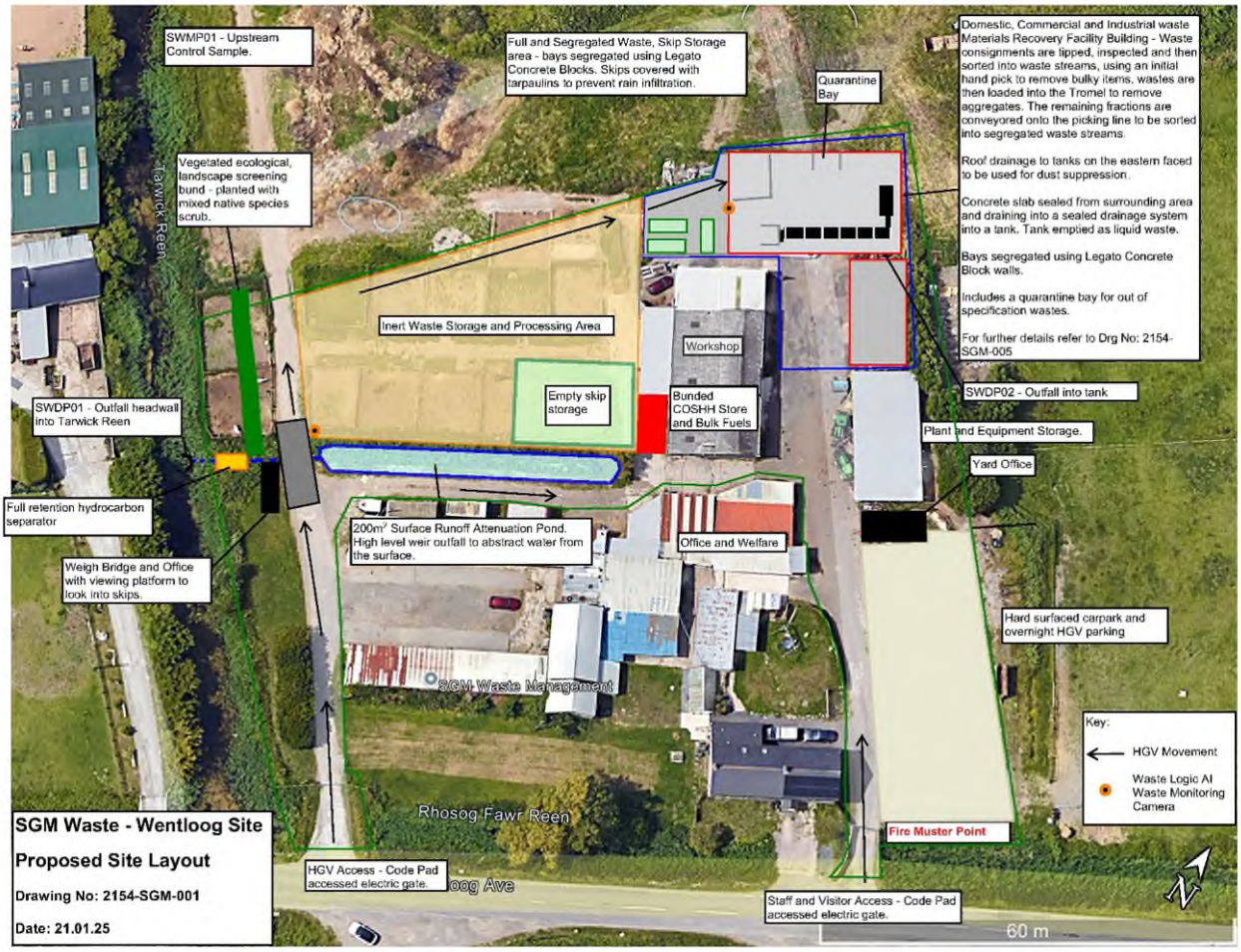


Figure 1 – Site Layout Plan

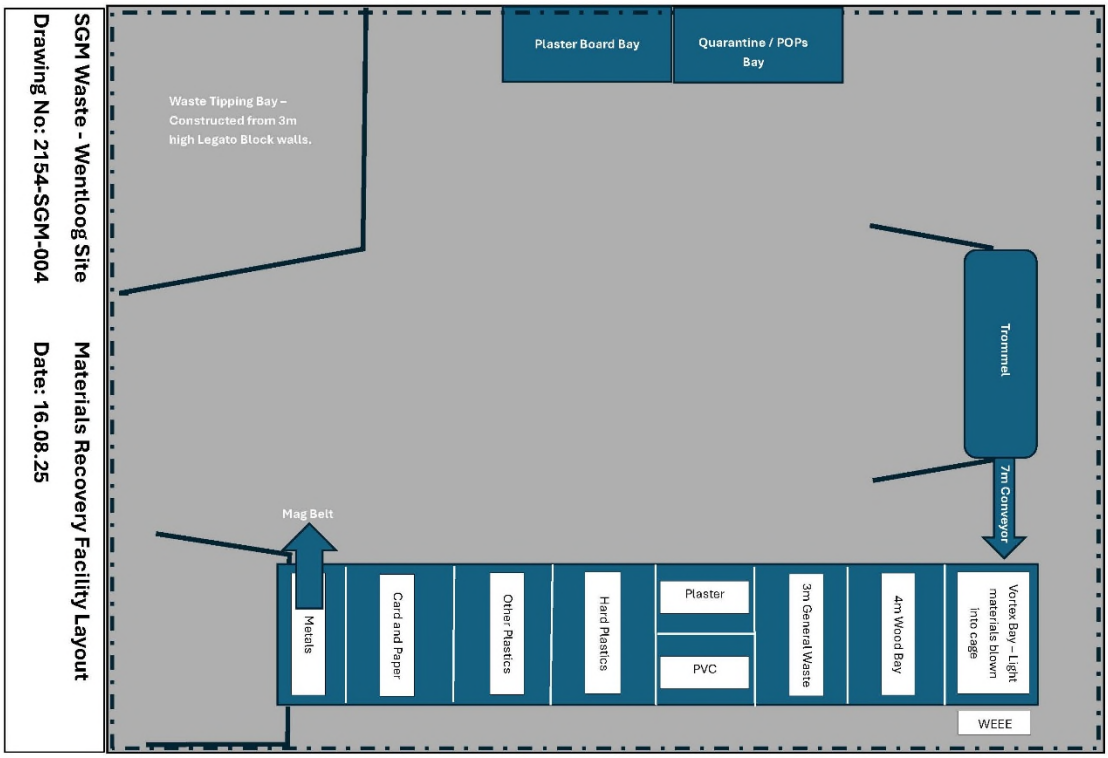


Figure 2 – MRF Layout Plan

There are two entrances onto the site, the eastern one is used for staff and visitors' vehicles and for other site users i.e. agricultural activities and the farm residents. The western access is used for HGV vehicles to enter and exit the waste management areas.

The eastern access opens into a parking area, which is used for the parking of staff and visitor vehicles and the overnight parking of HGV vehicles (this area is close to the farmhouse and is covered by CCTV and is hence secure). Adjacent to this parking area is the Yard Office, where the Yard Manager is based. All visitors / contractors are required to report of the yard office for induction, prior to being able to enter the main site.

The eastern access also provides access to the workshops and the COSHH store, where bulk fuels are stored, to allow re-fuelling of plant and site vehicles (HGVs are re-fuelled at filling stations, using fuel cards.

To the north of this is a storage building, which is used for the storage of plant and equipment, used within the site.

Opposite this is the workshop / fabrication building, which is used by SGM Waste for plant and vehicle repairs, servicing and the storage of tools and equipment.

To the rear of the workshop is the COSHH store, which is an adapted shipping container, with a sealed floor, with grating above it to act as a sump to contain spillage and a ventilation system to remove potentially flammable gasses. This is locked, with the Yard Manager allowing access.

The main offices, canteen and conference room are opposite the parking area and yard office. All company admin support is based from these offices.

To the north of this is the domestic, commercial, industrial (skip waste) waste Material Recovery Facility building, which can only be accessed via the western access.

The western access to the site is for all waste deliveries, this leads onto a weighbridge, waste consignments are received here, weighed and inspected for acceptance onto the site. There is a viewing platform on top of the weighbridge office, which can be used for undertaking detailed inspections of waste consignments, if required. There is also an AI powered camera at this location, which use Waste Logics software to scan loads and identify out of specification items. All consignments are logged and tracked via the Waste Logics software.

The access road is hard surfaced with stone to enable it to be maintained free from site materials, to prevent site materials being transferred onto the surrounding highway network.

Vehicles are then directed to their relevant tipping area, for DCI Wastes, this will be the Materials Recovery Facility building, where waste consignments are tipped into the tipping bay, constructed from interlocking legato concrete blocks and the waste streams are further assessed.

Bulky waste items and plasterboard are removed and wastes are then loaded into the Trommel where inert wastes are removed and fall into segregated bays beneath the tromell. Wastes are then conveyed onto a picking line, where they are segregated into their various waste fractions. Waste fractions are passed into bays below the picking line, where they fall either directly into bins or into bays. Bays are constructed from interlocking legato concrete blocks.

Empty bins are bought into the MRF and segregated wastes are loaded into the bins, which are sheeted and either immediately removed from site for onward processing, or short term stored within the storage areas outside the building awaiting booking for removal from site. If it is required to store bins of segregated waste overnight, the bins are sheeted and are stored on the concrete slab to the west of the MRF.

Runoff from the interior of the MRF is captured by channel drains around the perimeter of the building and channelled to a below ground sealed tank. Water in this is tested and disposed of as liquid waste. Rainwater from the roof of the MRF building is captured in gutters and directed to two above ground tanks on each eastern corner and is used for dust suppression within the MRF.

The interior of the MRF is segregated into bays using Legato Concrete block walls. These give the required level of flexibility for future changes to process operations.

To the west of the MRF is the inert waste storage and processing facility. This is a compacted graded stone surfaced yard, which drains via the attenuation pond and hydrocarbon separator into the Tarwick Reen. Here, inert wastes are assessed, graded, blended and

recovered. Recovered inert wastes re-loaded for further processing or are put to the market as recycled aggregates.

2. WASTES ACCEPTED AND THEIR STORAGE:

2.1 Wastes Accepted

The site is permitted to accept:

- Household, Commercial and Industrial wastes – predominantly segregated and mixed skip waste, comprising, hardcore, soils, timber, plastics, some metals, packaging materials (cardboard, pallets, plastic banding, plastic film, etc) and some garden waste.
- Inert waste i.e. wastes which do not contain organic materials or liquids. Most of the raw materials for the process are construction and demolition wastes, and excavated soils sourced through construction works.

For a full list of wastes accepted, please refer to Section 9 of SGM03 – Environmental Management System.

2.2 Volumes of Waste which can be accepted:

2.1.1 Domestic, Commercial and Industrial Waste Transfer Station with Treatment:

Up to 75,000 tonnes/year

Not more than 1,000 tonnes/day.

Not more than 2,000 tonnes at any one time.

The target is to process waste consignments and export segregated waste loads from site within 48hrs.

The exception for this will be waste streams which require further testing such as POPs and some inert wastes, in order to demonstrate compliance with the receiving sites Environmental Permit or low volume waste streams where bulking up is required.

SGM Waste's Environmental Permit allows for the storage of 2000t of DCI Waste at any one time, the reality is that due to the size of the site and the space available for the storage of wastes this is likely to be less than 200t at any time, with at least 30% of this being inert hardcore and soils and the majority of the remainer stored in segregated bins outside the MRF. Once bins are full, they are uplifted and removed from site.

2.2.1 Treatment of Waste to produce Soil, Soil Substitutes aggregate:

Not more than 2,000 tonnes/day

Not more than 5,000 tonnes at any one time.

2.3 Storage of Wastes:

Wastes are received onto site in skips / bins, the waste is accessed for compliance, initially at the weigh bridge and is then transported to the MRF, where it is tipped into the receiving bay. This bay is constructed from interlocking legato concrete blocks.

Figure 3 – Legato Block Wall Bay

Bulky wastes, POPs wastes and plasterboard are then removed and taken to their respective quarantine areas. Wastes are then loaded into the Tromell screen, where inert wastes are screened by the Tromell and fall, into bays beneath the Tromell in their various size factions. These bays are also constructed from Legato concrete blocks.

From the Tromell, the waste passes along a conveyor belt onto the picking line, where it is sorted into waste fractions which drop down into concrete block bays below the picking line.

Once the bay is full, the waste is loaded into bins for removal from site, for further treatment, recovery or disposal. Bins will be covered to prevent rainfall entering the skips. Rain will be prevented from entering skips as this will increase the weight of the wastes and ultimately increase disposal costs.

Full bins are stored on the concrete slab, outside the MRF. There is a cantilever pre-cast concrete wall between this storage area and the workshop / fabrication shop.

The target is to remove full bins of segregated wastes from site, within 48 hours of the bin being filled.

It is not proposed to store non-inert waste in stockpiles at the site, as there is insufficient storage space for this. The only time this would be required, is if there were to be a major mechanical breakdown on the Tromell or the picking line. The volume of waste which could be stored would be low, due to available space and collections would have to cease until the backlog had been cleared.

Due to size constraints and constraints associated with the presence of the adjacent SSSI, stack width within the MRF Building will be restricted to a maximum of 15m long by 5m wide and a maximum height of 4m. This would give a maximum volume of 260m^3. Access would be maintained along a minimum of 3 edges of the stack, hence the requirement to maintain stack height to 4m, to assist with practical fire fighting considerations, if access around the footprint of the stack is restricted.

Table 2: Maximum pile size and minimum separation distance

Material	Max height (m)	Length / width (m)	Max vol (m^3)	Max area (m^2)	Min separation (m)
Paper, cardboard and rags	4	15 / 5	300	75	6
Plastic, rubber and other materials	4	15 / 5	300	75	6

No wastes will be stored within 7m of the site boundary.

2.4 Maximum Waste Storage Times:

The site operates on a quick turn around of wastes, with wastes being accepted, sorted and removed from site within 72hrs. The only circumstance where wastes may be retained on site for more than this is for waste streams received in low quantities, which are bulked up to form complete loads.

Table 1: maximum storage times

Combustible Waste Type	Maximum Storage Time on Site
Non-shredded or similarly treated wastes (wastes whose particle size has not been reduced)	3 Months

Pile Monitoring

It is not proposed to store wastes in piles, beyond the wastes in the initial sorting bays, beneath the Tromell and the Picking Line. These wastes will be processed on a daily basis Monday to Friday and hence will not be left in stockpiles for any significant amount of time.

On this basis, daily monitoring of all stock piles on site will be carried out. For the unprocessed material, this will be done simply by means of visual inspections conducted at the start and end of the working day (as the potential for self-heating of the unprocessed waste is very unlikely due to the size of the waste and the gaps in the piles).

Processed wastes in skips / bins will also be visually assessed

3.3.5 Seasonality

It is not anticipated that there will be any seasonality within the mixed CDI waste stream. It is likely that over the winter, the volume of garden waste will reduce and that during the autumn and winter, the waste streams will have a higher water content as wastes are more likely to be exposed to rainfall prior to being uplifted.

During the summer, combustible wastes will be drier and therefore at a greater risk of combustion.

A first in, first out (FIFO) system is operated for the unprocessed wastes, which creates a rolling turnover of the storage piles ensuring no material is stored for longer than the specified duration. .

It is recognised that, given higher ambient temperatures, there is a greater risk of self-heating of some combustible waste piles (although, it is noted that the unprocessed waste is not considered to be at as high a risk from self-heating as processed waste due to its uncompacted arrangement).

Site management take account of higher ambient temperatures and carry out additional visual monitoring of the waste piles to ensure any obvious signs of self-heating are detected. Any piles where evidence of self-heating is detected will be spread using an excavator, if a pile, or tipped and then spread, if a bin.

3. FIRE RISK ASSESSMENT

SGM Waste have identified the following risks, in terms of fire at the site:

- **Arson or vandalism** – unauthorised access to the site by third parties setting fires or causing damage to infrastructure which results in fires.
- **Visitors & Contractors** – not following site rules, i.e. Hot Works Permits.
- **Ignition sources** – hot works activities i.e. cutting, grinding, welding, burning.
- **Self-combustion** – of stockpiled wastes due to chemical oxidation within the waste pile.
- **Plant or equipment failure** -
- **Discarded smoking materials** -
- **Hot works (e.g. welding or cutting)** –
- **Industrial heaters** – overheating of waste stockpiles with industrial heaters**.**
- **Plant & Hot exhausts** -

- **Damaged or exposed electrical cables or electrical aperatus** -
- **Reactions between wastes** -
- **Build-up of loose combustible waste, dust and fluff** -
- **'Tramp' metal** that finds its way into moving machinery and causes localised 'hot spots'.
- **Batteries within waste deposits** -
- **Compressed gas Cylinders stored at the site –**
- **Leaks and spillages of oils and fuels** -

The area of the site with the highest risk of fire is the workshop and the MRF Building. All other materials stored within the site are inert. If fire were to occur within any other area of the site it would most likely be due to vehicle / plant fire.

SGM Waste uses an external waste management company to remove small volumes of waste produced during the operation of the facility, which are stored on site for short durations pending collection by the waste management contractor. These include canteen waste, spent batteries, plant and vehicle servicing wastes. Maximum volumes of these materials to be stored at any time are 1 x 1100 litre Euro Bin for mixed wastes and 1 x 240 litre wheelie bin for dry recyclables, which are located adjacent to the yard office.

4. FIRE PREVENTION:

4.2 Managing Volumes and Storage of Wastes at the site

This is discussed in Section 2. The key control to reduce fire risk within the site, will be the management of volumes and the type of wastes accepted onto site and the way in which this is stored.

The site operates as a short term tip, sort and remove from site for onward processing, recovery, disposal, facility. Due to the small footprint of the site, there is no intention to retain wastes on site.

Combustible wastes in bins / skips will be stored on site for a maximum of 120 hours, prior to onward transportation to a waste management facility permitted to recover / dispose of them.

4.3 Management of Fire Risks

Specific fire risks and mitigation requirements have been considered in Table 1 below.

Table 1 – Fire Risks and Mitigation

Cause of Fire	Risk	Mitigation
Arson or vandalism	Persons unknown gaining access to the	The site forms part of the operating families agricultural holding, with members of the family

Cause of Fire	Risk	Mitigation
	facility and deliberately or maliciously starting fires or causing damage to infrastructure which increases fire risk.	living on site. The site is bordered on two sides by reens. Access to the site is across two culverts constructed across the reens. Code / Intercom activated gates secure each entrance. Passive Infra-Red (PIR) CCTV cameras have been placed at strategic locations around the site, feeding into a mobile phone, which is kept in the Yard Office, where the security guard is stationed. PIR activated LED security lighting has been erected on buildings around the site. There is a security guard on duty between 22:00 and 06:00 based within the yard office and undertaking roaming patrols of the site. Two dogs roam free within the site during the night.
Visitors and Contractors	Visitors and contractors not adhering to the site rules	All visitors to the site are required to sign in at the yard office, at which point they are given a site induction, which includes details of the fire safety procedures to adhere to when visiting the site. Contractors are briefed on the requirements of the site and are informed about the Hot Works Permitting requirements.
Self-Combustion (e.g. due to chemical oxidation)	Stockpiled materials reaching a temperature where they self-combust due to chemical oxidation or microbial action.	Non-inert materials are not stockpiled for more than 120hrs, in open stockpiles or skips. Mixed waste skips are bought to site, sorted into separate waste streams and removed from site for onward recovery. Oxidising materials are not accepted onto site. Potentially oxidizing materials will be removed from waste streams and quarantined. WEEE materials are permitted to be received on site but are embargoed by SGM Wastes guidance to clients on waste they will accept. If WEEE materials are identified during sorting, they are removed from the waste stream and quarantined. Liquid wastes and fine powders are not accepted onto site.

Cause of Fire	Risk	Mitigation
Plant or equipment failure.	Faults with plant and equipment resulting in overheating due to inadequate cooling of combustion engines, heat due to friction or electrical failure resulting in sparks being emitted.	Plant and equipment will be serviced in line with manufacturers recommendations. Daily inspections will be undertaken of all plant and equipment to be used within that shift. Faults will be reported, and the machinery will not be used until these have been rectified. All faults will be reported to the Site Manager and will be recorded on the fault log. Faults will be assessed and if require the machinery will be removed from service until the fault is repair. Fit vehicles with fire extinguishers, dust filters, spark arrestors and where practicable all bucket loaders are to be fitted with rubber strips to prevent sparks when the bucket comes into contact with hard-standing etc. Keep mobile plant that is not being used away from combustible waste.
Electrical faults	Electrical faults causing overheating of components or flames.	Plant and equipment will be serviced in line with manufacturers recommendations. All electrical apparatus will be PAT tested annually. New electrical installation will be certified by the installing electrician. All electrical faults will be reported immediately, and the piece of equipment will be isolated from the supply until repairs have been made and the equipment tested.
Hot exhausts	The settling of dust on hot exhausts and engine parts is a common cause of fire initiation.	A fire watch is carried out at regular intervals during the working day to detect signs of a fire caused by hot exhausts. Plant and machinery is inspected at the start of each shift, with one of the inspection items being dust build up on hot parts.
Leaks and Spillages of Oils and Fuels	Ignition of leaking fuel on a hot surface.	All fuels and oils stored within the COSHH store, which is locked, with the key held by the Yard Manager. Daily plant checks, for leaks. Environmental inspections to identify leaked fuels.

Cause of Fire	Risk	Mitigation
		Refuelling procedure within the EMS. Spill response procedure within the EMS for the control of fuel leaks and the clean up of contaminated materials.
Naked lights / Open burning / Discarded smoking materials.	Ignition from naked lights. Ignition from discarded cigarettes and cigars.	No fires will be allowed on site. ▪ Smoking will only be permitted in the designated smoking area, adjacent to the yard office. ▪ Signage will be erected around the site enforcing the no smoking / no naked flames rule.
Hot works (e.g. welding or cutting)	Uncontrolled release of sparks from welders, disc cutter and grinders.	Hot Works Permit procedure to be implemented. Hot works permits will be required for all cutting, grinding, welding, brazing and burning operations. This includes site staff and sub-contractors visiting the site. Sub-contractors will be informed of this requirement during site induction. All works which could produce sparks will require a permit. In order for a permit to be put in place, the following conditions will need to be met: - Works which produce sparks will not be allowed in areas where flammable materials are stored. - Guarding is put in place where required. - A Watch Person will be appointed to inspect for sparks and ensure all sparks are extinguished. - That suitable firefighting equipment is available prior to works commencing. - A fire watch for a suitable period should be implemented once hot works have ceased and in particular at the end of a working day. For further information please refer to relevant Health and Safety Executive (HSE) Guidance
Reactions between incompatible wastes	Incompatible / unstable waste streams reacting to form combustion i.e.	WEEE although covered by our permit is excluded from the lists of wastes which can be placed in skips. However there is potential that some WEEE could be hidden within waste streams. If detected

Cause of Fire	Risk	Mitigation
	lithium batteries in WEEE	prior to tipping this would result in the load being rejected and returned to the customer. If tipped, it will be removed from the waste stream and quarantined. A key risk to combustion is litium ion batteries. These will be assessed then removed from the waste stream for damage, which could render them unstable. They will then be promptly removed from the facility. There is a detailed procedure within the management system for waste acceptance checks to prevent reactions between incompatible or unstable wastes, including lithium batteries.
Batteries within waste streams		WEEE although covered by our permit is excluded from the lists of wastes which can be placed in skips. However there is potential that some WEEE could be hidden within waste streams. If detected prior to tipping this would result in the load being rejected and returned to the customer. If tipped, it will be removed from the waste stream and quarantined. A key risk to combustion is litium ion batteries. These will be assessed then removed from the waste stream for damage, which could render them unstable. They will then be promptly removed from the facility.
Build-up of loose combustible waste, dust and fluff	Ignition of easily combustible materials on heat sources.	Autonomous inspections by operators takes place that check for poor housekeeping and the build-up of combustibles in inappropriate areas during day to day operations.
'Tramp' Metal	Pieces of metal becoming trapped in machinery and causing hot spots due to friction of metal against metal.	Prevent metal getting into moving machinery by pre-sorting and/or extraction by a magnet;
Neighbouring site activities.	Use of naked flames, cutting equipment,	There are no neighbouring sites to SGM Waste, with the nearest property being segregated from the site by the Tarwick Reen.

Cause of Fire	Risk	Mitigation
	fires, etc on neighbouring sites.	

4.4 Site Specific Fire Risk Reduction:

The following actions will be taken in addition to the risk specific actions outlined in Table 1.

Fire extinguishers will be located within workshops, offices and canteens and within plant and vehicles.

A fire supressing sprinkler system will be installed within the MRF, fed from the 30,000l capacity tanks on the eastern corners of the building, with 52mm mains back up. 14No Sprinkler heads will be installed across the roof of the MRF with an additional sprinkler installed in each bay beneath the picking line.

5. FIRE DETECTION:

George Knight Edins has been appointed as Fire Marshall for the facility. George will be responsible for ensuring all the actions set out in this plan are enforced.

If fire occurs, it is the responsibility of the person discovering the fire to raise the alarm. This will initially be done by shouting 'FIRE'.

This will be followed up by short blasts on the air horns located in the office building, the MRF and the yard office and shouting 'fire'. They will notify all other people in the area and then notify the Fire Marshal / Site Manager.

During hours when the site is not staffed (outside operational hours), there is a security guard on duty, based in the Yard Office but undertaking roaming patrols of the site. The permit holder also lives on site. Either the Security Guard or the Permit Holder will raise the alarm if a smoke detector is heard or if fire is noted at the site.

24hour contact details for George Knight Edins – Fire Marshall and the Deputy Fire Marshall will be retained on site and security personnel will contact the Fire Marshall or Deputy and the Emergency Services on discovery of a fire.

The fire brigade will then be called by dialling 999 and requesting fire.

The fire service will require the address of the site:

Sluice Farm,
Broad Street Common,
Peterstone Wentloog,
Cardiff,
CF3 2TN

6. CONTAINING AND SUPRESSING FIRES

We have consulted South Wales Fire and Rescue Service on how they would fight a fire within a waste management facility. The key controls are:

- Early identification of fires to prevent them becoming established;
- Minimising volumes of combustible materials stored on site;
- Segregation of waste piles;
- Having the ability to move piles of waste to prevent ignition;
- Early suppression of fires;
- A reliable source of water to either generate foam or to supress fires.

An excavator will be maintained on site, to move waste materials and form fire breaks.

A fire supressing sprinkler system will be installed within the MRF, fed from the 30,000l capacity tanks on the eastern corners of the building, with 52mm mains back up. 14No Sprinkler heads will be installed across the roof of the MRF with an additional sprinkler installed in each bay beneath the picking line.

Fuels will only be stored in the COSHH container, which is remote from the waste storage area and segregated by a pre-cast cantilever concrete wall.

Gas cylinders will only be stored in the workshop. Only gas cylinders required for the operation of the site and a reasonable number of spares will be stored.

On discovery of a fire, the Fire Service will be notified immediately. If the fire is within the MRF, the 14no fire suppressant sprinkler system will be activated, which will douse the area with the contents of the 2 x 30,000l tanks on the eastern corners of the building. This will supply water for up to 35 minutes, (based on a flow rate of 2l/s from each sprinkler) before the tanks are exhausted and this will then be supplied by the 52mm main at a rate of approximately 10.62l/s (based on a water pressure of 5m/s – residential mains should be able to deliver 6 – 7m/s).

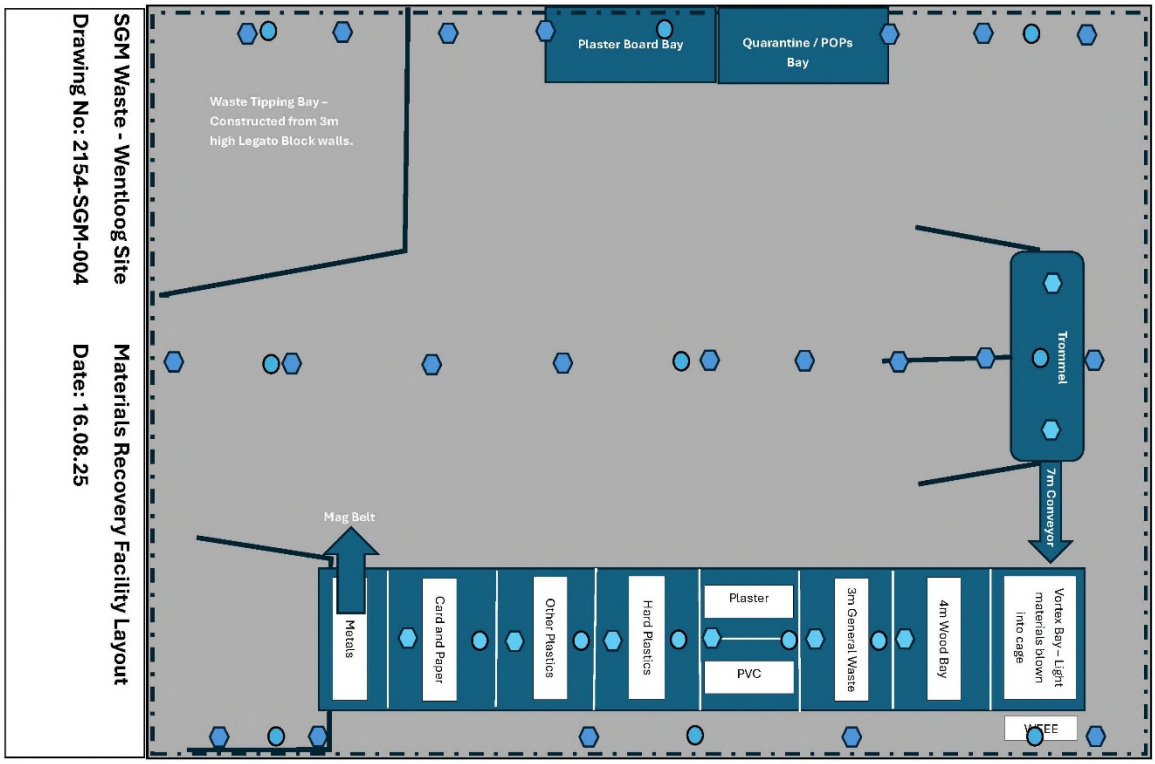


Figure 4 – Locations of Dust and Fire Suppressant Sprinklers

= Roof mounted dust suppression sprinkler;

= Bay mounted dust suppression sprinkler;

= Roof mounted fire suppressant sprinkler;

= Bay mounted fire suppressant sprinkler;

The fire suppressant system will be manually operated, due to the potential damage a false activation could cause. As part of the activation of the fire suppressant system, the buildings electrical system will be isolated.

If a member of staff feels confident to attempt to put out the fire i.e. the fire has not taken hold, they may do so, using one of the fire extinguishers available on site.

Personnel will move to the muster point adjacent to the site entrance (please refer to the Fire Management Plan Drawing in Appendix 1) The Fire Marshal will take a register to ensure everyone has evacuated the site.

Further decisions regarding fire fighting will be made by the Fire Marshal i.e. removing combustible wastes from the area of the fire, to limit the spread.

Once the Fire and Rescue Service arrives on site, they will be met by the Fire Marshal who will brief them on the situation and give them information on the locations of flammable

materials and water supplies. The Fire Marshal will also advise on potential hazards within the areas which will be entered by the Service i.e. gas bottles, electrical waste, etc.

SGM will also contact their insurance company as it is likely that they will be able to offer specialist input.

6.1 Water supplies

There are several water supplies around the site:

If water is required for firefighting it will be abstracted from the attenuation pond which has a surface area of 200m^2 and an approximate depth of 1.2m, giving an approximate volume of 200m^3. Water will also be available from the 2 x 30,000l tanks on the eastern side of the MRF building. It is likely that these will have been drained by the fire suppressant system in the MRF, but additional to be rain feed, there is a 52mm water supply onto this pipes, directly from the 8 inch main running along Wentloog Road.

Having spoken to South Wales Fire and Rescue, we have been informed that they generally fight this kind of fire using foam, which is supplied from the Tenders which are attending the scene. Any balance of water would need to be drawn from the fire hydrant on Wentloog Avenue opposite the sites western entrance – W3W location ///entire.narrating.descended.

The outlet from the hydrocarbon separator would be shut off to prevent water leaving site. South Wales Fire and Rescue have told us that as part of their standard practice they deploy water filled booms to channel water away from sensitive receptors. A stock of sandbags will be stored at the site and an excavator will be available to excavate ditches / build bunds, as required to direct firewater.

If required, water flowing into the attenuation ponds could be recirculated, either at the outlet of the ponds so that suspended solids are removed or upstream of the pond.

SGM Waste's Environmental Permit allows for the storage of 2000t of DCI Waste at any one time, the reality is that due to the size of the site and the space available for the storage of wastes this is likely to be less than 200t at any time, with at least 30% of this being inert hardcore and soils and the majority of the remainer stored in segregated bins outside the MRF. Once bins are full, they are uplifted and removed from site.

Due to this limited volume of combustible material stored on site it is unlikely that large volumes of water would be required for firefighting. Additional to the use of water by the Fire Service there a several items of plant on site, including excavators, which can be used to pull unburnt materials away from the fire. Full bins will be moved away to give additional space for firefighting. Burning material could also be pulled out of the fire and spread out to aid with the firefighting process, this would only be done under the supervision of the Fire and Rescue Service. Soils stored at the site could also be used to smother the fire, again this would need to be under the direction of the Fire and Rescue Service.

SGM Waste maintain a tractor and 11,000l bowser on site for the suppression of dust during periods of dry weather. This will be maintained full at all times and this water can be utilised for fire fighting if required.

6.2 Quarantine Area

A Quarantine Area is somewhere where burning wastes can be placed to extinguish them. Unburnt wastes can also be moved into the Quarantine Area to isolate and prevent them catching fire. The Quarantine Area must be within the boundary of the site for which a permit is held.

The SGM Waste site has two areas that could be used as Quarantine Areas, one being the concrete yard infront of the MRF and the inert waste storage a processing area. The concrete slab infront of the MRF is 120m^2 and the inert waste storage area is 1,500m^2.

Both of these areas drain into the attenuation pond and hence runoff from both areas can be isolated and retained on site.

The NRW FPMP guidance document states that the quarantine area should be large enough to hold at least 50% of the volume of the largest waste pile on site. In addition, it should have a separation distance of at least 6 m around its perimeter from adjacent buildings and waste piles (this distance can decrease if concrete bunkers/ fire walls are installed). The inert Waste Area and concrete slab are able to satisfy the requirements of the NRW FPMP guidance.

Waste affected by a fire would be moved to an appropriate place in the Quarantine Area by the Mobile Plant. A fire break would be established between the burning waste and the remaining combustible materials and the F&RS would then act as required (see Section 4.2). If fire fighting operations are required on burning wastes in the Quarantine Area, it will not be left unattended until the fire is extinguished. Monitoring will be carried out following extinguishing to ensure that the material does not re-ignite.
The Concrete area for waste processing and storage and the area around the WTS are also both areas of hardstanding that are connected to a sealed drainage system; burning waste could be moved to locations within these areas if required.
There are two assembly points for staff and visitors; one located in the

7. MANAGING FIRE WATER

The area of the site with the highest risk of fire is the workshop and the Materials Recovery Facility and the full segregated skip area outside. All other materials stored within the site are inert.

If fire were to occur within the workshop it would most likely be due to vehicle fire or the combustion of stored COSHH within the workshop. These sorts of fires would be tackled using foam or CO_2.

If water is required for firefighting it will be abstracted from the attenuation pond – this contains 200m^2 x 1.2m deep = 240,000l, this water will be recirculated back into the pond. The outfall from the hydrocarbon separator into the Tarwick Reen will be closed. The attenuation pond is able to raise to a level 1m above the usual water level, before it will overflow. This will provide an additional 200,000l capacity for the storage of water used for firefighting. This will give a capacity of 440,000l (440m^3) within the attenuation pond.

An additional pond to retain firewater can be formed within the soil storage area. A 14m x 30m HDPE liner will be retained at the site as part of the firefighting inventory. A pond can be formed using plant on site and can be lined with the HDPE sheet. Firefighting water can then be diverted into here, using the tractor and bowser or one of SGMs fleet of vacuum road brushes. This would provide an additional capacity of 275,000l of storage.

Due to the relatively low volumes of waste stored on site and the fire suppressant system, being available to supress fires before they can become established, it is considered that this volume of storage is adequate.

Provision would need to be made to remove solids from the ponds, test this material and dispose of it within the Duty of Care for the material, following the fire.

8. DISPOSAL OF ASH AND BURNT MATERIALS:

Ash and burnt materials from the fire will need to be tested to allow the waste to be fully described. Determinants tested for will depend on the nature of the materials and the potential contaminants likely to be present.

The results of this testing will be assessed in line with WM3 to determine its nature and disposal requirements.

Wastes will then be sent to a facility / facility permitted to accept them.

9. TRAINING:

All staff and sub-contractors will be briefed into the contents of this plan during site inductions. Key issues they will be made aware of are:

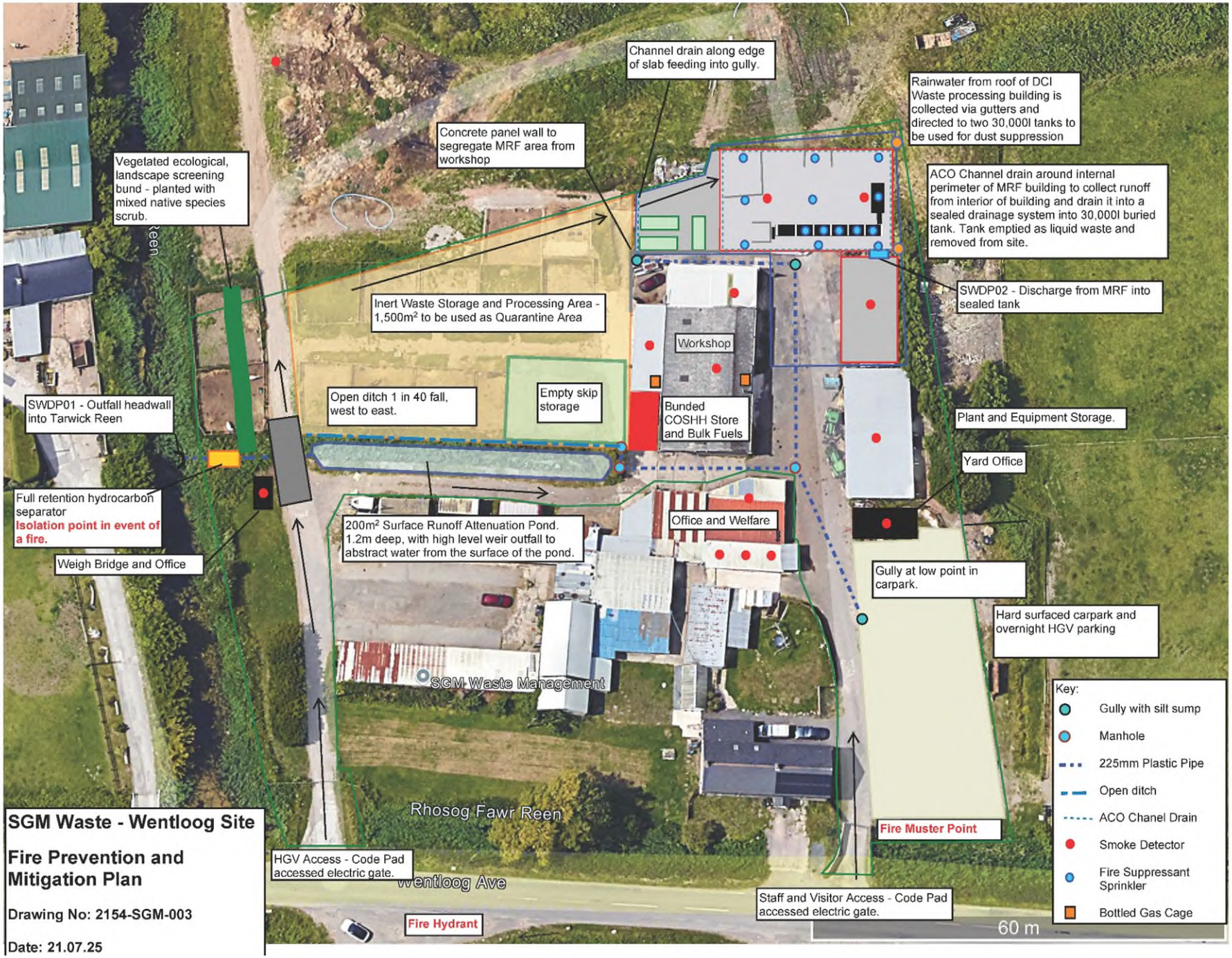
- Actions on the discovery of fire, how to raise the alarm, who should be contacted.
- The location of the muster point.
- The location of fire extinguishers and how to use them.
- Requirements for Hot Works Permits.
- The location of water sources for firefighting.
- Staff at the site will be fully briefed on the requirements for fire prevention.
- Fire drills will be undertaken every six months to ensure personnel are familiar with the actions required on the discovery of a fire.

Additional training will be provided on the safe use of firefighting equipment and what personnel should and should not take on. This will include the use of fire extinguishers, the use of plant and machinery to aid firefighting i.e. the removal of non-combusted material to quarantine areas, the use of earth at the site to smother fires and create fire breaks. This will include scenarios to aid staff in making decisions as to safe and unsafe practice.

10. FIRE ACTION CHECK LIST

Action:	**Complete**
Weekly test of fire alarm / smoke / CO detector systems. To be recorded on the check form. Test call to be undertaken to the alarm companies' switchboard through the GSM system.	
Fire drill to be undertaken every six months and the results recorded.	
Wastes to be stored as illustrated on the Fire Prevention Plan Drawing and in Table 2.	
The following materials will be retained on site to assist the Fire Service: - 70 empty sandbags and quantities of sand and stone dust. - A 14m x 30m HDPE sheet to create additional fire water storage. - Excavators and loading shovels to move waste materials away from fires and to supress fires using soils. - A towable bowser / gully sucker to remove fire water from the attenuation pond to the temporary pond;	
Weekly inspection of the site by the Fire Marshal to ensure the requirements of this plan have been complied with.	
All plant and areas to be inspected at the end of each shift to identify fire risks i.e. damage to electrical infrastructure, dust settling on plant exhausts.	
Training to be given to all personnel as outlined in Section 9 of this document.	
Key points of this plan to be included within Site Inductions. Visitors and contractors to the site to be informed of the location of Muster Points and actions to be taken in the event of discovery of fire.	

APPENDIX 1 – FIRE MANAGEMENT PLAN DRAWING



SGM Waste - Wentloog Site

Fire Prevention and Mitigation Plan

Drawing No: 2154-SGM-003

Date: 21.07.25

APPENDIX 2 – SITE LAYOUT PLAN

APPENDIX 3 - DRAINAGE LAYOUT DRAWING