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Trigon Hill Landfill and Materials Recovery Facility

Fire Prevention Plan

Valencia Waste Management Limited

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Valencia waste

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Contents

1 Introduction

1.1 Report Objectives

This Fire Prevention and Mitigation Plan (FPP) has been prepared for Valencia Waste Management Limited's in support of a permit variation application for Trigon Hill Landfill Site. Valencia currently operates a non-hazardous landfill at Trigon Hill site in accordance with permit referenced EPR/BX4054ID. This permit variation application is for a new Material Recovery Facility (MRF) with an annual throughput of 250,000 tonnes. This report provides an FPP to reflect the permit variation for a new MRF activity. Further details are provided in the permit variation report referenced K0485-BLP-R-ENV-00001.

This report has been prepared in accordance with the Environment Agency's web based guidance "Fire Prevention Plans: environmental permits (FPP guidance)" (Updated 11 January 2021)[1]" and Template for a Fire Prevention Plan[2] and document "ESA Waste 28, Fire Control Guidance, Reducing Fire Risk at Waste Management Sites (Issue 2 April 2017) (Waste 28)[3]".

The objective of the FPP is to set out suitable measures to be implemented at the MRF which:

- minimise the likelihood of a fire happening.
- aim for a fire to be extinguished within 4 hours; and
- minimise the spread of fire within the MRF and to neighbouring sites.

The FPP is a standalone document and forms part of the MRF's management systems. This FPP sets out the fire prevention measures and procedures in place at the MRF. All MRF staff will be made aware of the location of this FPP and be able to access it at all times. MRF staff and contractors working in the MRF will be made aware of the contents of the FPP to aid prevention of fire and how to act during a fire if one breaks out.

[1] https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits/fire-prevention-plans-environmental-permits
[2] https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits
[3] https://www.wishforum.org.uk/wp-content/uploads/2020/05/WASTE-28.pdf

2 Site Operations

2.1 Location

The wider site (permitted landfill and proposed MRF) covers an approximate area of approximately 26 hectares and is located to the south of Bere Road. The proposed MRF will require additional land to be included within the permitted boundary.

The wider site access is from Bere Road to the north. The MRF location is shown in drawing referenced K0485/1/001. Vehicles entering the Trigon Hill Landfill Site with waste to be accepted at the MRF will be required to enter off Bere Road, the designated site entrance. This is located to the north of the landfill and the proposed MRF. The internal haul road follows a southerly direction along the east of the landfill and the west of the proposed MRF. All vehicles entering and exiting the wider Trigon Hill Landfill Site and the proposed MRF will utilise the internal haul road. All wastes are expected to go via the weighbridge for inspection prior to acceptance and review of duty of care documentation. The wheel wash is located to the north on the internal haul road prior to exit onto Bere Road.

The MRF surface comprises steel reinforced concrete impermeable hardstanding with sealed drainage. The materials recycling activity is to be undertaken within a purpose built building which will be steel portal frame. The building will measure circa 85m by 39m with an eaves height of approximately 9m and a ridge height of circa 12.5m.

2.2 Permitted Activities

An environmental permit referenced BX4054ID was issued on 21st June 2006 to Viridor Waste Management Limited for landfilling at the site. The landfill comprises 6 phases and 25 cells and has accepted non-hazardous household, commercial and industrial wastes. The permit has been varied numerous times with the current extant permit issued on 13th March 2023 for a minor technical variation updating company name, address and financial provision.

2.3 Proposed operations

The proposed permit variation is to extend the existing boundary to the east to incorporate additional land for the proposed MRF. The proposed MRF will have an annual throughput of up to 250,000 tonnes of predominantly commercial and industrial wastes. The treatment of waste at the MRF will primarily involve physical treatment comprising: manual sorting screening; separation; baling and shredding.

The MRF will process waste which will be recovered to produce a refuse derived fuel (RDF) and solid recovered fuel (SRF). The MRF will also facilitate the recovery of metals and plastics. Recovered soils and aggregates may be utilised on the adjacent landfill.

All wastes will be received in accordance with the waste acceptance procedures in the wider site's Management System (MS).

3 Risk of Fire

3.1 Overview

The wastes to be received at the MRF will comprise of non-hazardous commercial and industrials wastes. Received waste will be mechanically processed to facilitate recovery plastic, scrap metal (ferrous and non-ferrous) and wood and to generate waste derived fuel.

Health and Safety of personnel is paramount at the MRF and procedures are in place to ensure that all staff are trained in the handling and processing of the waste types accepted.

3.2 Types of Combustible Materials

The MRF proposed to accept mixed commercial and industrial wastes for recycling and recovery.

The following treatment equipment will be applied dependent on the composition of the received wastes:

- Shredder
- Long-Part Separator (removes long items from the process)
- Magnet (removes ferrous metals)
- Combi Screen (removes fines),
- Eddy Separator (removes non-ferrous metals)

Manual picking lines will also be used (to remove wood and plastics)

The following approximate outputs will be generated from the material recovery facility although this is subject to the waste streams accepted:

- Hardcore 30% - to be used within the landfill site for engineering, daily cover and capping
- Fines 15% - to be recovered as an RDF / SRF not produced to specified standards
- Wood 10% - to be recycled
- Metals 5% - to be recycled
- Plastics 5% - to be recycled
- Residue 10% - to be landfilled
- Lights 25% - to be recovered as RDF /SRF

The waste materials at the MRF that have the potential to be considered combustible are:

- Scrap metals potentially contaminated or mixed with other waste such as oils or plastics
- Wood
- Plastics
- Refuse derived fuel (RDF)
- Solid recovered fuel (SRF)

Table 1 details the waste types accepted at the MRF and includes the maximum storage volume and timescales and storage type.

3.2.1 Waste Storage Capacities

The operational maximum storage capacity of each waste stream at the MRF is summarised in Table 1 below.

Wastes are to be stored in designated bays constructed of fire walls 5 m high x 10 x width x 10 m depth. A 1 m freeboard will be provided for in each bay and marked on the bay walls.

For RDF and SRF the maximum storage will be no more than 200 m^3.

Scrap metal at MRF may be combustible as it will arrive in mixed loads prior to treatment.

Table 1. MRF Waste Storage Capacities

Waste Stream	Dimensions	Max Storage Capacity (m^3)	Max Storage Time	Storage	Combustible/ Low Combustible/ Non-Combustible	Comments
Solid Recovered Fuels (SRF)	Loose SRF	200 m^3	48 hours	Indoor Bay (10m x 10m x 5m) Includes 1m freeboard	Combustible	Potential to self-heat
Refuse Derived Fuels (RDF)	Loose RDF is lower) x 10m width[3]	200 m^3	48 hours	Indoor Bay (10m x 10m x 5m) Includes 1m freeboard Wrapped in high-density polyethylene (HDPE)	Combustible	Potential to self-heat
Plastic (30mm-150mm)	10m x 10m x 5m	200 m^3	Typically 72 hours (Maximum FPP	Includes 1m freeboard Includes 1m freeboard	Combustible	Potential to self-heat

Waste Stream	Dimensions	Max Storage Capacity (m^3)	Max Storage Time	Storage	Combustible/ Low Combustible/ Non-Combustible	Comments
			storage 3 months)			
Wood (30mm-150mm)	10m x 10m x 5m	200 m^3	Typically 72 hours (Maximum FPP storage 3 months)	Indoor Bay (10m x 10m x 5m) Includes 1m freeboard	Combustible	Potential to self-heat
Long Parts	Cubic yard skip	35 m^3	72 hours	Contained skip	Combustible	Potentially contaminated Potential to self-heat
Ferrous Metals	Cubic yard skip	35 m^3	72 hours		Combustible	Potentially contaminated Potential to self-heat
0-10mm Fines	Cubic yard skip	35 m^3	72 hours		Non-Combustible	
10-50mm Lights	Cubic yard skip	35 m^3	72 hours		Combustible	Potential to self-heat
10-50mm Lights from the Waterbath	Cubic yard skip	35 m^3	72 hours		Combustible	Potential to self-heat
>50mm Heavies Ferrous Metals	Cubic yard skip	35 m^3	72 hours		Combustible	Potentially contaminated
10-50mm Heavies Ferrous Metals	Cubic yard skip	35 m^3	72 hours		Combustible	Potentially contaminated
>50mm Mid Heavies Picked Ferrous Metals	Cubic yard skip	35 m^3	72 hours		Combustible	Potentially contaminated Potential to self-heat
Plastic/other (30mm-150mm)	Cubic yard skip	35 m^3	72 hours	Contained skip	Combustible	Potential to self-heat

Waste Stream	Dimensions	Max Storage Capacity (m^3)	Max Storage Time	Storage	Combustible/ Low Combustible/ Non-Combustible	Comments
Residue	Cubic yard skip	35 m^3	72 hours		Combustible	Potential to self-heat
Wood (30mm-150mm)	Cubic yard skip	35 m^3	72 hours		Combustible	Potential to self-heat
Hardcore	Cubic yard skip	35m^3	72 hours		Non-Combustible	
>50mm Lights	Cubic yard skip	35 m^3	72 hours		Combustible	Potential to self-heat

The Environment Agency FPP guidance states that containers should be accessible from at least one side. All skip / containers are accessible from a minimum of one side as shown on the MRF layout plan.

No skip or container containing waste that is on fire will be moved by MRF personnel. Only combustible waste skips or containers adjacent to the skip or container may be moved to prevent the spread of the fire. The movement of containers and skips will be determined by the Site Supervisor or if requested by the Fire and Rescue Service and will be dependent on the location and the contents of the skip or container on fire.

3.2.2 Flammable Materials

Flammable materials are those which have the potential to be easily ignited and can cause combustible wastes to catch fire.

Fuel used for mobile plant is stored as stated in Table 2.

Table 2. Flammable Materials

Flammable Material	Storage
Fuel	Bunded tank

All flammable materials including fuels and oils are stored in accordance with the Oil Storage Regulations (The Control for pollution (Oil Storage) (England) Regulations 2001)).

4 Receptors

4.1 Sensitive Receptors

Sensitive receptors within 1 km of the MRF are identified in Table 3 and shown on the Sensitive Receptor Plan. The wider site (including both the MRF and Trigon Hill landfill site) is bounded: to the north by the Bere-Regis to Wareham road and North Trigon Farm; to the east by a bridleway, caravan park and solar farm; to the south by agricultural land; to the west by agricultural land and a solar farm; and, in all directions by woodland. The proposed MRF location is bounded: to the west by the landfill (adjacent to Cell 2 Phase 3); to the north by woodland; to the east by a solar farm and woodland; and to the south by the landfill and woodland.

The distance of these receptors to the MRF boundary, their direction relative to the MRF and the frequency the wind blows in the direction of the receptor is detailed in Table 3. Wind statistics have been obtained for Hurn[4] Weather Station shown in Figure 1 below demonstrate a prevailing wind direction from the west-southwest blowing towards the east-northeast. Hurn[4] Weather Station is located 22.9 km northeast of the wider site (proposed MRF and Trigon Hill landfill site) boundary.

Table 3. Potential Sensitive Receptors within 1km

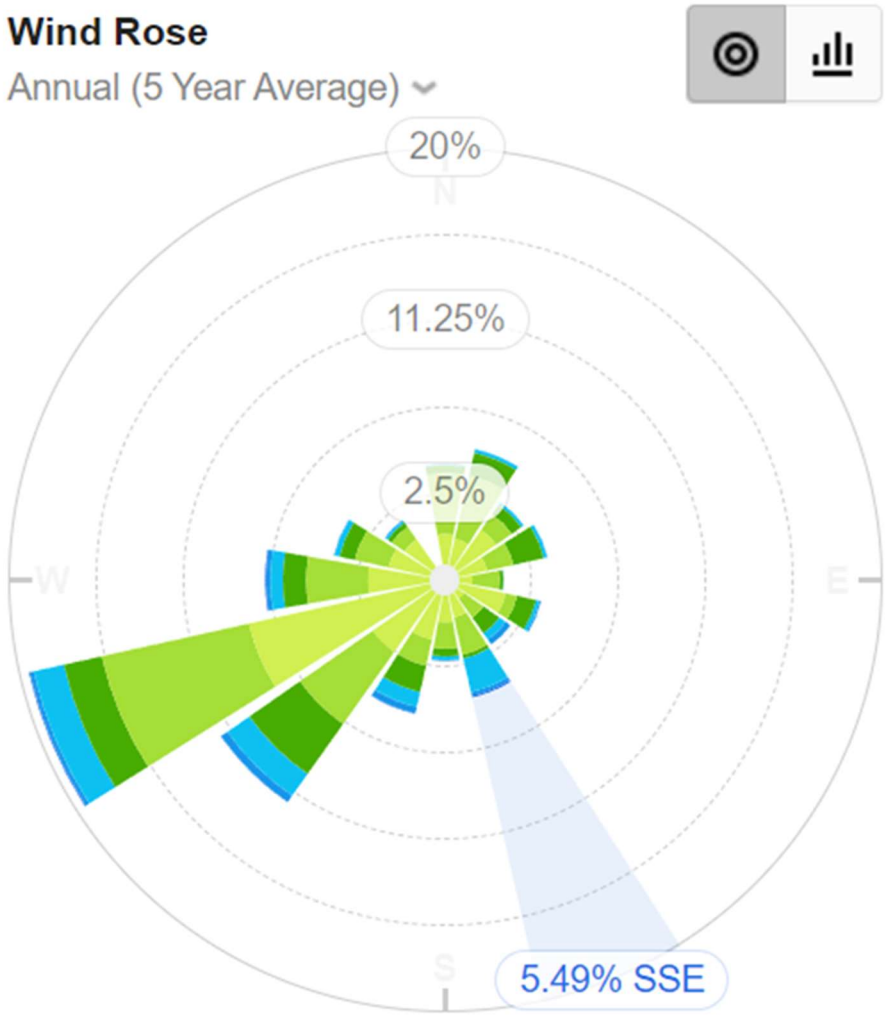
No	Description of Receptor	Type	Direction	Distance (m)	Frequency Downwind (%)
1	Landfill site, associated surface water bodies and site roads	Commercial/Industrial/ Surface Water/Road	S to NNW	<10	2.64 to 6.12
2	Local Wildlife Sites (Trigon Heaths, Stokeford Heath, Old Ram Plantation,Budden's Farm, South Heath Binnegar, Bloxworth and Morden Heaths, Hyde House, Wareham Lodge, Worgret Heath)	Protected habitat	SW to NNE	<10	2.64 to 6.26
3	Priority habitat (deciduous woodland)	Protected habitat	E to SSE	50	0 to 8.14
4	Priority habitat (lowland heathland, deciduous woodland and no main habitat), Trigon Hill Plantation and road	Protected habitat, commercial/industrial and road	NW to SE	80	3.35 to 19.27
5	Public right of way (PROW)	Bridleway/Footpath	N to S	95	0 to 19.27
6	Drainage ditches	Surface Water	ENE to SW	98	0 to 19.27
7	Solar power farm	Infrastructure	E to SE	132	3.35 to 8.14
8	Pond at the Covert	Surface Water	NE	217	12.4
9	Little Trigon Hill Plantation, Clean Hallow Plantation & Brick Kiln Plantation	Commercial/Industrial	S to W	248	2.64 to 6.12
10	Properties off Bere Road in Cold Harbour	Residential	ENE to E	480	8.14 to 19.27

[4] https://wind.willyweather.co.uk/sw/dorset/coldharbour.html

No	Description of Receptor	Type	Direction	Distance (m)	Frequency Downwind (%)
11	Protected habitats (Dorset Heaths (SAC), Morden Bog and Hyde Heath (SSSI)	Protected habitat	ESE	999	5.17
18	Caravan Parks, Silent Woman Farm, The Silent Woman, Residential premises located off Bere Road, walks/trails and picnic area	Residential/Commercial/Industrial/Recreational	NNW to E	513	3.71 to 19.27
19	South Lodge, Trigon Farm Camping, Double Bow Farm, The Cart House, Carey Outdoor Education Centre, Seven Barrows, Sand and Gravel Pit, residential houses Carey Road	Residential/Commercial/Industrial/Educational	SE to WSW	512	0 to 6.12

Note: Receptors numbered 12 – 17 exceed 1km screening distance of sensitive receptors for FPP. Addition of receptors 18 & 19 for FPP receptors as >500m from the MRF (and therefore excluded from screening distance for ERA).

Figure 1. Wind Rose



4.2 Effect of a Fire

The effects of a fire may be both immediate and long term, presenting a significant burden for Valencia Waste Management Limited and regulatory agencies. The potential consequences of a fire have been discussed within the accompanying Environmental Risk Assessment and are reviewed below with reference to Environment Agency guidance and Waste 28:

- Firewater run-off transporting pollutants to surface water and groundwater.
- Thermal radiation harming nearby properties leading to fire spread.
- Creation of hazardous waste by the fire and impacts of firefighting.
- Explosions and projectiles harming sensitive receptors and spreading the fire to unaffected areas.
- Transport disruption resulting from road and rail closures.
- Nuisance from smoke, odour and particulates; and
- Threat to life and property.

If a fire were to occur at the MRF the fire / smoke emissions are likely to result in an impact in terms of:

I. Damage to buildings from explosions or projectiles resulting from the fire.

II. Degradation of health to the public, workers in nearby factories or emergency services.

III. III. Physical prevention of access to buildings and businesses downwind of the fire due to fire or smoke hazard. The degree of this impact will decrease with distance from the fire.

IV. Disruption to normal business operations due to employees / customers being unable to reach places of work.

V. Infiltration of smoke into the ventilation systems of adjacent warehouses.

VI. Potentially hazardous travelling conditions (loss of visibility) arising on transport links downwind of the fire.

VII. Loss of amenity to domestic receptors downwind of the fire.

A summary of these impacts and how they may affect specific receptors is detailed in Table 5.

Table 4. Relevant Hazard and Pathway

No	Description of Receptor	Hazard	Pathway
1	Landfill site, associated surface water bodies and site roads	Explosions and projectiles harming sensitive receptors and	Airborne/ site drainage

No	Description of Receptor	Hazard	Pathway
2	Local Wildlife Sites (Trigon Heaths, Stokeford Heath, Old Ram Plantation,Budden's Farm, South Heath Binnegar, Bloxworth and Morden Heaths, Hyde House, Wareham Lodge, Worgret Heath)	spreading the fire to unaffected areas. Transport disruption resulting from road and rail closures. Nuisance / health impacts from smoke, odour and particulates. Pollution of water courses from firewater.	
3	Priority habitat (deciduous woodland)		
4	Priority habitat (lowland heathland, deciduous woodland and no main habitat), Trigon Hill Plantation and road		
5	Public right of way (PROW)		
6	Drainage ditches		
7	Solar power farm		
8	Pond at the Covert		
9	Little Trigon Hill Plantation, Clean Hallow Plantation & Brick Kiln Plantation		
10	Properties off Bere Road in Cold Harbour		
11	Protected habitats (Dorset Heaths (SAC), Morden Bog and Hyde Heath (SSSI)		
18	Caravan Parks, Silent Woman Farm, The Silent Woman, Residential premises located off Bere Road, walks/trails and picnic area		
19	South Lodge, Trigon Farm Camping, Double Bow Farm, The Cart House, Carey Outdoor Education Centre, Seven Barrows, Sand and Gravel Pit, residential houses Carey Road		

5 Managing Common Causes of Fire

5.1 Overview

The potential causes of a fire specific to the proposed activities on this MRF are identified with reference to Environment Agency guidance and 'Waste 28' as summarised below:

- Arson or vandalism
- Plant or equipment failure
- Electrical Faults
- Discarded smoking materials
- Hot works, e.g., welding, cutting
- Industrial heaters
- Hot exhausts and engine parts
- Ignition sources
- Batteries
- Leaks and spillages of oils and fuels
- Build-up of loose combustible waste
- Reactions between incompatible wastes/materials
- Deposited hot loads
- Hot and dry weather
- Self-combustion of stored waste materials

Any of the causes detailed above has the potential to either ignite the flammable waste types stored at the MRF.

The MRF will be operated in accordance with the Management System (MS). The principal objectives of the MS are to ensure the efficient and safe operation of the MRF through the implementation of procedures that define staff roles and responsibilities supported by provision of appropriate training.

The MS includes procedures that:

- Control the position and source of ignition such as naked flames or heated elements to ensure adequate distance is maintained from stockpiles of combustible materials.
- Ensure staff and contractors follow safe working practices when undertaking hot work.
- Ensure staff, contractors and visitors are trained or inducted on correct safety and fire prevention procedures; and,
- Defines a regular maintenance and inspection programme for all MRF areas including machinery and good housekeeping including maintaining levels of dust, fibre and litter to a minimum.

5.1.1 Operational Procedures

Operational measures to be provided at the MRF include waste acceptance checks. The MRF has waste acceptance procedures to prevent unauthorised waste being accepted, as far as is practical, and for limiting their potential impact. Control of incoming wastes will be managed according to the Operator's waste acceptance procedures.

All vehicles delivering waste to the facility will be under the control of the MRF staff, all of whom will have been trained in the procedures for the receipt of waste and the types of waste that are acceptable.

Waste acceptance procedures are contained within the Management System.

5.2 Preventing Fire – Managing Common Causes of Fire

The potential causes of a fire specific to the proposed activities on this MRF and the measures employed to prevent them are identified with reference to Environment Agency guidance and 'Waste 28' as summarised below.

5.2.1 Arson or Vandalism

A comprehensive CCTV system is to be installed within the MRF Building and will operate 24/7. The CCTV will comprise cameras with movement sensors and night vision capabilities. The MRF building is to be located as part of the wider landfill site with access limited to a main haul road from Bere Road to the north. The access of Bere Road is secured via palisade gates which will be locked out of hours.

The MRF building will have two vehicular access doors on the northern and southern aspect for waste delivery and export which will be closed and locked to prevent unauthorised access when not in use.

The location of the CCTV cameras will be provided on construction of the MRF building.

5.2.2 Plant, Vehicle or Equipment Failure

Plant and machinery may present a fire risk and potential ignition source.

Mobile plant within the MRF comprises wheeled loading shovels and wheeled slew.

The recycling plant within the MRF is to be installed by Kiverco and is to be controlled via a control panel. The control panel enables operation of the recycling plant to be monitored and alert to any potential failure. In addition, all recycling plant will be subject to preventative maintenance and regular inspections as per the manufacturer's instructions. This will be undertaken either by MRF personnel or where required by the manufacturer.

All plant are to be regularly serviced and cleaned in accordance with the EMS. A 6m exclusion zone will be maintained between plant or equipment and combustible waste when the machinery is not in use. The wastes are not stored near to or subject to vehicles or plant which may represent an ignition hazard.

All plant are to be regularly inspected on a daily basis and maintained in accordance with the manufacturer's specification.

5.2.3 Electrical Faults

All electrics within the MRF will be inspected and certified by a qualified electrician. This includes all fixed wiring and electric cabling that includes any fire detection & alarm system, CCTV system, emergency lighting and machinery checks / services. Portable appliances are checked and certified every two years and fixed electrics every 5 years.

5.2.4 Discarded Smoking Materials

Valencia will enforce a strict no-smoking policy at the MRF.

5.2.5 Hot Work, e.g. welding, cutting

No hot work is proposed to be undertaken within the MRF.

5.2.6 Industrial Heaters

There are no industrial heaters in use within the MRF.

5.2.7 Hot Exhaust and Engine Parts

Plant machinery will be regularly serviced and cleaned. A 6 m exclusion zone will be maintained between plant or equipment and any stored combustible or flammable waste when the machinery is not in use. All plant or machinery is to be turned off when not in use.

Only mobile plant to a specification suitable for handling the material will be in direct contact with the waste materials. Plant will be regularly inspected to ensure any wastes are cleared from around exhausts periodically throughout the day with a final inspection at the end of each working day.

Fire watches in the form of visual checks will be carried out twice daily (including at the end of every working day) to detect signs of fire caused by dust settling on hot exhaust and engine parts. Fire watch procedures are provided in Table 5.

5.2.8 Ignition Sources

No combustible or flammable waste is stored within 6 m of any ignition sources.

Ignition sources identified within the MRF include:

- Heating or electric equipment – including electrical faults, faulty or damaged wiring – all heating and electric equipment are subject to inspection and maintenance as specified in the sections above for electrical faults.
- Mechanical or electric spark – caused by metal-on-metal contact: this is most likely to occur in the process plant.
- Heat from plant and machinery – heat from plant and machinery are managed in accordance with the section on hot exhausts and engine parts.

Fire detection and fire-fighting systems are proposed for the MRF as detailed in Section 6.

5.2.9 Batteries

The MRF does not propose to accept any batteries for any treatment. Any loads containing batteries are rejected and reloaded back on to the vehicle to be removed from the MRF.

If batteries are identified with the waste accepted at the MRF, they will be removed to the quarantine bay and stored in appropriate containers. All batteries will be visually inspected to check for damage. All batteries are isolated and stored upright in clearly labelled, acid-resistant, leakproof container. Batteries will be stored dependent on their chemistry. Any damaged batteries identified will be isolated.

Any lithium batteries will be stored separately from other batteries in a waterproof container filled with inert material or sand.

5.2.10 Leaks and Spillages of Oils and Fuels

Leaks and spillages of oils and fuels may occur as a result of storage of oils and fuels. This includes fuels and combustible liquids leaking or trailing from MRF vehicles.

The MRF comprises steel reinforced concrete impermeable surface with sealed drainage.

The fuel tank within the MRF will be fully bunded to 110%. Any tanks and containers containing oils or fuels will be visually inspected at least weekly to ensure continuing integrity and fitness for purpose. The inspection and any necessary maintenance required will be recorded. In the event that any damage breaches the integrity of the engineered containment so that it no longer meets the required standards, necessary remedial work will be completed as soon as practicable.

All vehicles and plant will be inspected daily, any vehicles or plant found leaking fuel or oil will be repaired immediately.

Spillages will be cleared up immediately on discovery using spill kits available in the MRF building. The spill kits contain clear instructions and all MRF staff are trained in how to use the spill kit. Visual inspections of the spill area will be used to monitor for the presence of oil. Regular maintenance and inspection of plant and equipment will reduce the likelihood of spillages occurring.

The drainage system at the MRF will be subject to weekly visual inspections to ensure effective operation and integrity of the system in the case of a spillage. Maintenance will be undertaken to ensure the effective operation and defects will be rectified as soon as possible.

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

Based on the waste types to be accepted and the treatment in the MRF it is considered there is the potential for dust, loose combustible waste or fluff will be produced and if left to build-up within the MRF.

Good housekeeping practices will be in place to ensure that any loose dust or waste is cleared from the recycling plant and building. This will include daily inspections of waste treatment and storage areas and removal of any loose dust or waste.

Jet wash facilities will be available if necessary for cleaning of waste storage / treatment areas.

5.2.12 Reactions between Waste

Waste types to be accepted will comprise mixed commercial and industrial wastes prior to treatment. Due to the nature of the accepted waste materials and the pre-acceptance and acceptance checks that will be in place, it is deemed unlikely that there will be reactions between wastes. The overall aim for processing non-inert waste will be within 48 hours for loose RDF and SRF and 72 hours for all other waste to limit the potential for any reactions between waste. It is unlikely that the waste types to be accepted will chemically react.

5.2.13 Hot Loads or Ignited Materials Received

No ignited loads will be accepted. Robust waste acceptance procedures are in place and as such there is negligible risk of hot or ignited materials being accepted. All incoming waste is inspected on receipt for burning, smouldering or smoking waste. Where burning, smouldering or smoking

wastes are identified the waste will be rejected. If this is not possible the waste load shall be rejected and stored in the quarantine area for removal from the MRF as soon as practical and by no later than the end of the working day. The Site Manager will inform the Agency and their guidance will be sought if necessary.

5.2.14 Self-Combustion of Stored Waste Materials (e.g., chemical oxidation, microbial decomposition)

Wastes are to be stored within concrete bays with an A1 fire-resistant classification in accordance with the REI 240 standards and will be fire resistant for 4 hours. Wastes, comprising loose RDF and SRF, are to be stored no longer than 48 hours. All other wastes will be stored for a maximum of 72 hours.

Vigilance for signs of combustion over this short storage period are implemented as part of the MRF waste acceptance procedures, routine/daily MRF inspection procedures and comprehensive detection systems.

5.2.15 Hot and Dry Weather

All waste is proposed to be stored within the MRF building. Therefore, no additional measures are required for externally stored waste during dry or hot weather. The building is to be ventilated.

5.3 Preventing Self-Combustion

General self-combustion measures comprise:

- Management of Storage Time – maximum storage times are provided in Table 1. However, storage times are reduced through normal operations due to the continual processing of the waste.
- Monitoring and Controlling Temperature – visual inspection of the wastes will be undertaken in accordance with Table 4.

The short storage duration of the proposed waste types ensure that they do not self-heat which can potentially lead to self-combustion.

6 Fire Detection and Fire-Fighting Systems

6.1 Fire Infrastructure and equipment

6.1.1 Fire Detection System

Fire detection will be via an infrared heat detection system. The detection system will be connected to a fire suppression system.

The infrared heat detection system to be installed will comprise 8 fixed infrared cameras which measure the viewed surface temperatures in real time and can detect hot spots that are unable to be visually detected. The fire detection system will be connected to a fire suppression system. The fire suppression system will automatically operate when the heat detection system detects to a rapid rise in temperature.

CCTV is also in operation 24 hours a day/ 7 days a week at the MRF.

The Fire Warden will be responsible in responding to the event to ensure the correct action is taken. This will include the procedures listed in the Action Plan provided at Section 7.1 & 7.2.

6.1.2 Fire Suppression System

A comprehensive fire suppression system is proposed to be installed within the MRF including waste reception, treatment and storage areas. This will comprise a fire foam canon to be placed in the roof of the building, which can be either controlled from a control panel at the entrance to the building or automatically by the fire detection system. On detection of a fire, the foam cannon will automatically be directed to target pre-set suppression zones providing oscillations to give maximum suppression and cooling into the area.

A fire water storage tank will supply the cannon system comprising a 60m^3 tank. The tank will be connected to the mains water supply. The interface between walls and floors is sealed, with 90mm ramps forming the seal at doors. At a depth of 0.09m and area of 3,315m^2, the MRF floor provides 298m^3 storage. This will collect any firewater runoff from the waste.

In addition, fire extinguishers are to be provided at strategic locations around the MRF as shown on drawing referenced TRI-MRF2000 .

A dust suppression system is also to be installed within the building, the installation and specifications to be confirmed on construction of the building and liaison with an appropriate contractor.

6.1.3 Fire Walls

The bays will be constructed from pre-cast concrete blocks up to 5 m in height which have an A1 fire-resistant classification in accordance with the REI 240 standards and will be fire resistant for 4 hours.

Concrete is identified in the FPP Consultation Response produced by BRE2 to be a suitable material to use as firewalls. The Waste Industry Safety and Health Forum (WISH) guidance on reducing fire risk at waste management sites specifies that's 300 mm thick concrete provides adequate fire resistance.

If a fire is detected in a single bay, it is proposed to leave the material in situ as the fire suppression system will be activated. If safe to do so and under direction from the Fire Warden and Site Manager will attempt to remove any combustible wastes from the adjoining bays. These wastes will be kept under observation in case they also begin to combust.

6.2 Fire Watches

The waste reception and storage area are to be covered by CCTV and fire detection sensors.

Vigilance for potentially hot loads/signs of combustion (e.g., steam or smoke rising from waste) is part of the waste acceptance procedures and routine management of the stored wastes.

Staff are fully trained in and aware of the MRF waste acceptance and storage procedures. Consequently, continual observations will be being made for the visual triggers detailed below in Table 5 throughout the working day as the MRF is fully occupied.

Table 5 – Detecting and Managing Hotspots

Visual Trigger	Action to be taken
Smoke	Where smoke is identified, the waste will be transferred to the quarantine area and spread out unless the waste is stored within a container. Where smouldering or burning waste material is identified, the smouldering or burning wastes will be extinguished. The Site Manager will carry out checks to confirm that no embers remain and that the associated heat has dissipated completely. Any unburnt waste will be segregated and transferred to the appropriate storage bay within the facility. The remaining waste will then be transferred to an appropriate disposal facility. Delivery vehicles and mobile plant Where smoke is identified from a hot exhaust or engine parts the vehicle or mobile plant will immediately be switched off and the Site operative evacuated. All mobile plant are equipped with fire extinguishers and can be used if necessary. The Fire Warden will only allow operations to resume once a full inspection of the vehicle/mobile plant confirms it is safe to do so.
Vapour or Steam	Where vapour is identified, the waste will be isolated and spread out in order to allow the heat to dissipate from the waste pile, unless the waste is stored within a container. Intermittent turning of the waste will be carried out to promote cooling of the waste.

Visual Trigger	Action to be taken
	Delivery Vehicles and mobile plant Where vapour or steam is identified from a hot exhaust or engine parts the vehicle or mobile plant it may be a sign that the vehicle is overheating. The vehicles and mobile plant will immediately be switched off and the Site operative evacuated. All mobile plant are equipped with fire extinguishers and can be used if necessary. The Fire Warden will only allow operations to resume once a full inspection of the vehicle/mobile plant confirms it is safe to do so.

6.3 Quarantine Area

A quarantine area has been allocated as shown on drawing referenced TRI-MRF2000. Due to the use of fire walls at the MRF it is considered safer to leave the combustible material in situ if a fire is detected.

The quarantine area however is available for use if required to place burning or heating waste in order to manage them or to move adjacent low combustible wastes to. The quarantine area will be surrounded by three fire walls (10m x 10m x 5m) and will allow a maximum storage volume of 400m^3 which will be sufficient to hold at least 50% of the largest combustible pile in the MRF. It is not considered necessary to implement a separation distance of 6m due to the presence of the 3 fire walls.

6.4 Water Supply

The water supply requirements are provided in Table 6.

Table 6 – Water Supply Requirements

Maximum pile volume in cubic metres	Water supply needed in litres per minute	Overall water supply needed over 3 hours in litres	Total water available on site in litres
200 m3	1333	240,000	Fire water tank at the MRF – capacity of 60m^3 or 60,000 litres.

A fire water tank is to be installed. A fire water storage tank will supply the deluge system comprising a 60m^3 tank. The tank will be connected to the mains water supply. The system will be designed by a specialist fire contractor for a 60,000 litres storage tan with a foam agent. The Fire Brake Class A Foam Concentrate reduces the surface tension of water which elevates the wetting capability of the water.

The fire canon is to be activated on detection of an increase in heat within a specific waste storage area. The fire cannon will ensure a pile will not become fully involved in a fire due to early detection and action.

7 Containing and Mitigating the Effect of a Fire

7.1 Fire Detected – Action Plan

There is one designated Fire Warden at the MRF during operational hours.

In the event of a fire the following actions will be taken:

Discovery of a Fire: Operational Hours

Any outbreak of fire at the MRF shall be treated as an emergency and if a fire is discovered the following actions will be undertaken:

- Any outbreak of fire at the MRF shall be treated as an emergency. The fire detection system will detect any fire and sound a fire alarm. If a fire is detected prior to the fire detection system the alarm will be manually sounded via fire alarm points.
- Ring the Fire and Rescue Service immediately by dialling 999; and
- Where it is safe to do so, without endangering the safety of persons, immediate action shall be taken to extinguish the fire using the MRF fire extinguishers by the Fire Marshalls. If it is not safe to do so then report to the fire assembly point.

Inform site management of any fire, its location and if the fire brigade has already been called. The Site Manager/Fire Warden to liaise with the Fire and Rescue Service and will coordinate further activities.

Outside of Operational Hours

A fire detected through the infrared heat detection system will result in the following action being undertaken:

- The Company Control Room will be notified.
- Out of hours staff will immediately call the Fire and Rescue Service.
- Out of hours staff to attend MRF and liaise directly with the FRS.

7.2 Emergency Action Plan

In the event of an outbreak of fire, all or some of the following actions will be undertaken as appropriate.

ALL FIRES AT THE MRF WILL BE TREATED AS AN EMERGENCY AND MUST BE REPORTED TO THE FIRE WARDEN AS SOON AS POSSIBLE

- Where is it safe to do so and without endangering the safety of persons, immediate action shall be taken to extinguish the fire using MRF fire extinguishers / water supplies. No one should attempt to fight a fire unless they have received training in the use of fire extinguishers.
- If the fire cannot be controlled at the MRF then the Fire & Rescue Service is to be contacted by telephone immediately. Call **999** – Give the exact details including MRF address and telephone number;
- The area of fire must be evacuated without generating panic. All MRF personnel must make their way to the fire assembly points. MRF personnel must ensure that no persons or vehicles re-enter the affected area.
- A check shall be conducted to ensure that all persons present at the MRF are safe and accounted for as required for Fire Emergencies. Using clock cards and/or staff and visitor signing in sheets.
- The Fire Warden is to contact the Agency by telephone and in writing, as soon as reasonably practicable but within 24 hours, after the outbreak of a fire to advise them of the incident and of the action taken.
- Communication with local businesses and residents identified in the sensitive receptor table above will be undertaken in the event of a fire to reduce any environmental damage and risks to human health associated with smoke and dust. Communication will be carried out via door to door. A list of the contact details of the neighbouring businesses will be obtained and kept updated to ensure the Site Manager/Fire Warden or nominated deputy can call the relevant contacts to inform them of a fire.
- Upon the outbreak of fire the receipt of waste at the MRF is to be suspended and not resumed until authorised by the Site Manager after consultation with the Fire and Rescue Service and the Agency. All waste will be diverted to other suitable facilities as listed in the MS.
- Collected fire water to be retained as specified in Section 7.3. Any retained firewater will be removed from the MRF by tanker if necessary for suitable disposal.

7.3 Management of Fire Water

The MRF has a steel reinforced concrete, impermeable surface with sealed drainage. The entrance to the building will have low ramps of 90mm with building dimensions of 39m x 85m this will equate to internal surface storage of 298 m^3. The operations and external operational areas will benefit from a self-contained drainage system and kerbing. A drainage plan for the MRF will be provided once the building design is confirmed prior to construction.

The waste body will absorb a proportion of the water, in addition water will evaporate on contact with the waste. A conservative estimate is that there will be 25% evaporation and 12% of water will be absorbed by the waste. Therefore, the remaining water volume to be contained and

removed would be 455 m^3, ensuring all firewater without the need for recirculation through the storage tank.

7.4 Post Incident Procedures

7.4.1 Disposal of Fire Water

All fire water will be disposed of in accordance with the Water UK Protocol for the disposal of contaminated water and associated wastes at incidents. After the fire is extinguished plans will immediately be made to dispose of any fire water.

Fire Water will either be pumped into tankers and sent off site to permitted or authorised waste management business or be discharged to foul sewer on agreement from the water company or water authority and if approved by the Agency. A letter of agreement must be issued to the sewerage undertaker prior to disposal. This must be obtained prior to any discharge.

Valencia Waste Management Limited maintains a list of Approved Contractors as part of its MS which provides a list of contractors that may be used to provide road tankers to remove fire water for offsite treatment and disposal at a permitted treatment and disposal facility. The list is reviewed on an annual basis.

All 'Duty of Care' obligations will be complied with at all stages of the removal of fire water.

7.4.2 Disposal of Burnt Material/Waste

The disposal of burnt material / waste will be dependent on the type of waste or material that caught fire and the degree of combustion. An assessment will be undertaken to ascertain the condition of the waste / material. Valencia Waste Management Limited have a list of Approved Contractors to which burnt material or waste can be sent. This list is routinely updated. In addition, the adjacent landfill may be utilised for disposal of appropriate combusted waste if permitted.

All 'Duty of Care' obligations will be complied with at all stages of the removal of combusted waste and / or material.

7.4.3 Site Clearance

Once the MRF has been cleared of affected wastes, the infrastructure, including impermeable pavement will be inspected as required by suitably qualified engineers to determine whether any repairs are required.

If the fire was limited to only part of the MRF, operations at the MRF will be restricted to the unaffected area, providing that the MRF can comply in full with the permit conditions. No operations will commence in the affected area until all inspections and necessary repairs have been undertaken.

The Agency will be notified of the inspections and repairs undertaken within five working days and the recommencement of full MRF operations. All repairs will be undertaken with independent CQA supervision.

Following any incident, the event will be recorded and reported for inclusion within the MS.

Where it is considered that there is considerable contamination the Government Decontamination Service can be contacted for advice on clean-up protocols.

MRF operations will not be recommenced until deemed safe to do so by the Fire and Rescue Service and the Agency.

7.5 Emergency Contact Details

Table 7 below provides relevant contact details for individuals to be used in the event of a fire on MRF.

Table 7 – Emergency Contact Details

Company	Position	Name	Telephone Number	Email
Valencia Waste Management Limited	-	Central Control Room (CCR)	01869 876355	N/A
Environment Agency	Incident Switchboard	N/A	0800 80 70 60	N/A
Fire and Rescue Service	Emergency	N/A	999	N/A
	Dorset and Wiltshire Fire and Rescue Service	N/A	01722 691000 (during operational hours) 0306 799 0019 (out of hours)	businessfiresafety@dwfire.org.uk

7.6 Fire Prevention Plan Review

The FPP will be reviewed on an annual basis. The annual review will incorporate any changes to the following:

- Site operations;
- Site infrastructure;
- Sensitive receptors;
- Fire risk associated with the MRF;

- FPP guidance; and
- Control measures in place.

The emergency procedures set out within the FPP will be tested through regular exercises (twice annually) to ensure staff are appropriately trained and the procedures in place are effective.

Any fire drills/ tests carried out at the MRF will be assessed and where improvement is required these shall be integrated into the Fire Prevention Plan.

Drawing

A1

GENERAL NOTES

LEGEND

1. DO NOT SCALE
2. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM
3. ANY ANOMALIES ON THIS DRAWING ARE TO BE BROUGHT TO THE ATTENTION OF BYRNE LOOBY LTD

KEY

- PERMIT BOUNDARY PLAN
- PROPOSED MRF LOCATION
- PROPOSED EXTENSION TO THE PERMIT BOUNDARY

Rev	Date	Description	By	Chk	App

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IRELAND | UK | UAE | BAHRAIN | KSA

CLIENT:
Valencia Waste Management Limited

PROJECT:
TRIGON

DRAWING TITLE:
PERMIT BOUNDARY PLAN

STATUS:
FINAL

Date: 02.11.23	Scale: 1:3000	Drawn: JM	Chk: GH	App: JB

Project No:	Drg. No:	Rev:
K0483	K0485.1.001	00

A1

GENERAL NOTES

LEGEND

1. DO NOT SCALE
2. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM
3. ANY ANOMALIES ON THIS DRAWING ARE TO BE BROUGHT TO THE ATTENTION OF BYRNE LOOBY LTD

KEY

- PERMIT BOUNDARY
- PROPOSED BOUNDARY
- 2K BUFFER ZONE
- PROPOSED MRF LOCATION
- (4) RECEPTOR MARKER

Rev	Date	Description	By	Chk	App

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IRELAND | UK | UAE | BAHRAIN | KSA

CLIENT: Valencia Waste Management Limited

PROJECT: TRIGON

DRAWING TITLE: 2K SENSITIVE RECEPTOR PLAN

STATUS: FINAL

Date: 02.11.23	Scale: 1:7500	Drawn: JM	Chk: GH	App: JB

Project No:	Drg. No:	Rev:
K0485	K0485.1.002	00

A1

GENERAL NOTES

LEGEND

1. DO NOT SCALE
2. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM
3. ANY ANOMALIES ON THIS DRAWING ARE TO BE BROUGHT TO THE ATTENTION OF BYRNE LOOBY LTD

KEY

- PERMIT BOUNDARY
- PROPOSED BOUNDARY
- 10K BUFFER ZONE
- PROPOSED MRF LOCATION
- 4 RECEPTOR MARKER

Rev	Date	Description	By	Chk	Appr

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CLIENT:
Valencia Waste Management Limited

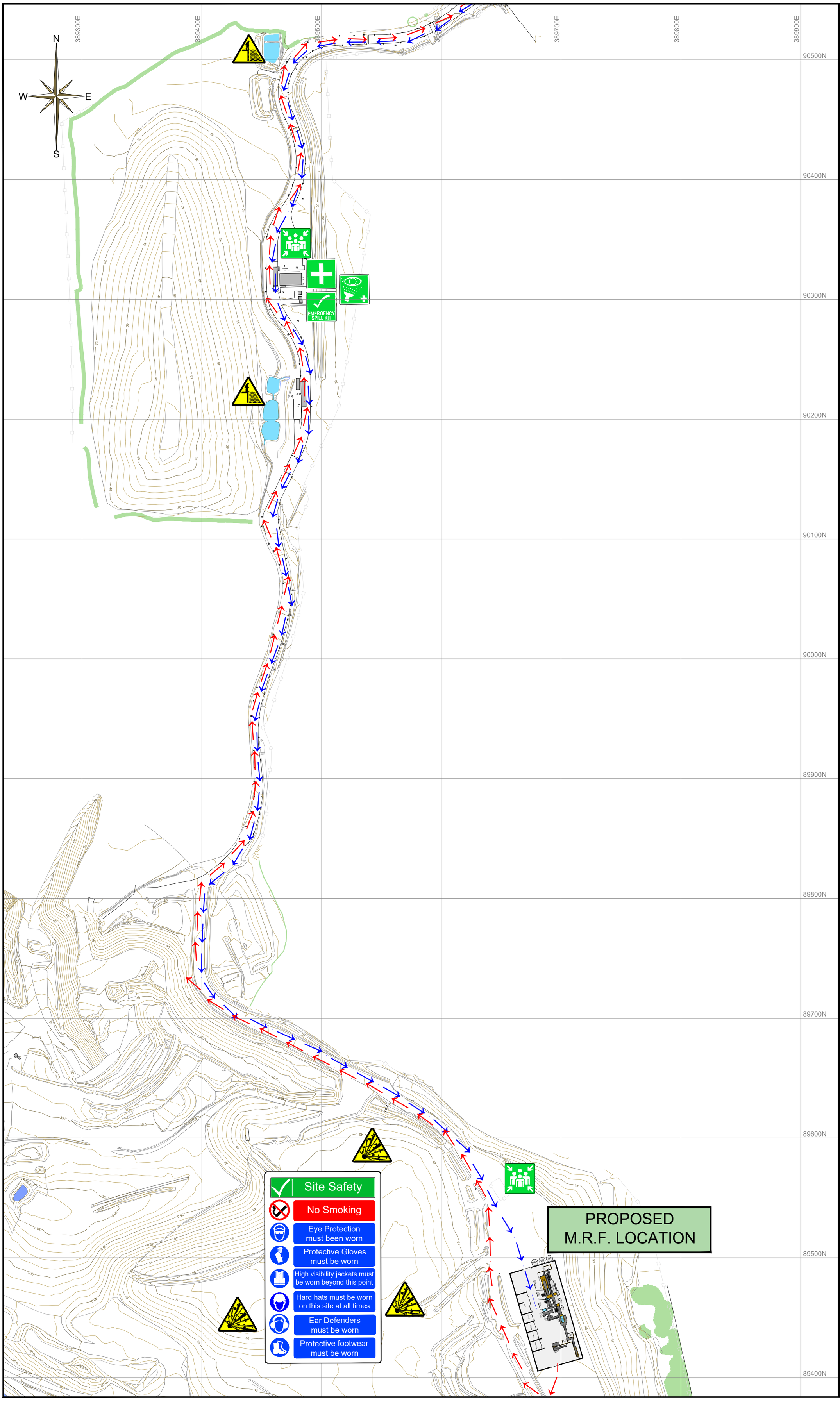
PROJECT:
TRIGON

DRAWING TITLE:
10K SENSITIVE RECEPTOR PLAN

STATUS:
FINAL

Date: 02.11.23	Scale: 1:35000	Drawn: JM	Chk: GH	Appr: JB

Project No:	Drg. No:	Rev:
K0485	K0485.1.003	00



Valencia

EMERGENCY ISOLATION POINTS

POWER SHUT OFF · GAS SHUT OFF · WATER SHUT OFF

FIRST AID KIT · EMERGENCY SHOWER · EYE WASH · HEART DEFIB

SPILL KIT · CRITICAL KEYS · EMERGENCY EXIT · MUSTER POINT

EMERGENCY INFORMATION · MANDATORY INFORMATION

NO SMOKING · DESIGNATED SMOKING AREA

AUTHORISED PERSONNEL ONLY · 5 SPEED LIMIT

TEXT DETAIL — HAZARDOUS MATERIALS · HAZARDOUS + INFLAMMABLE · FIRE-FIGHTING WATER

CALL POINT · FIRE ALARM CONTROL PANEL · FIRE HYDRANT · METER BOX

FIRE BLANKET · H_2O · CO_2 · FOAM · POWDER

HIGH VOLTAGE · DEEP WATER · INFLAMMABLE MATERIAL · RISK OF EXPLOSION · AUTOMATIC MACHINERY · HAZARD DESCRIPTION

MANDATORY PPE AREA
SAFE WALKING ROUTE
INCOMING TRAFFIC
OUTGOING TRAFFIC
BARRIER

KEY PERSONNEL

FIRST AIDERS:

FIRE WARDENS:

EMERGENCY TEL:

INCIDENT HOTLINE xxxxx xxxxxxx

ASSOCIATED DRAWINGS

SITE NAME
TRIGON
MRF
(PROPOSED)

DRAWING TITLE
SITE SAFETY
& INDUCTION LAYOUT
SHEET 1 OF 2

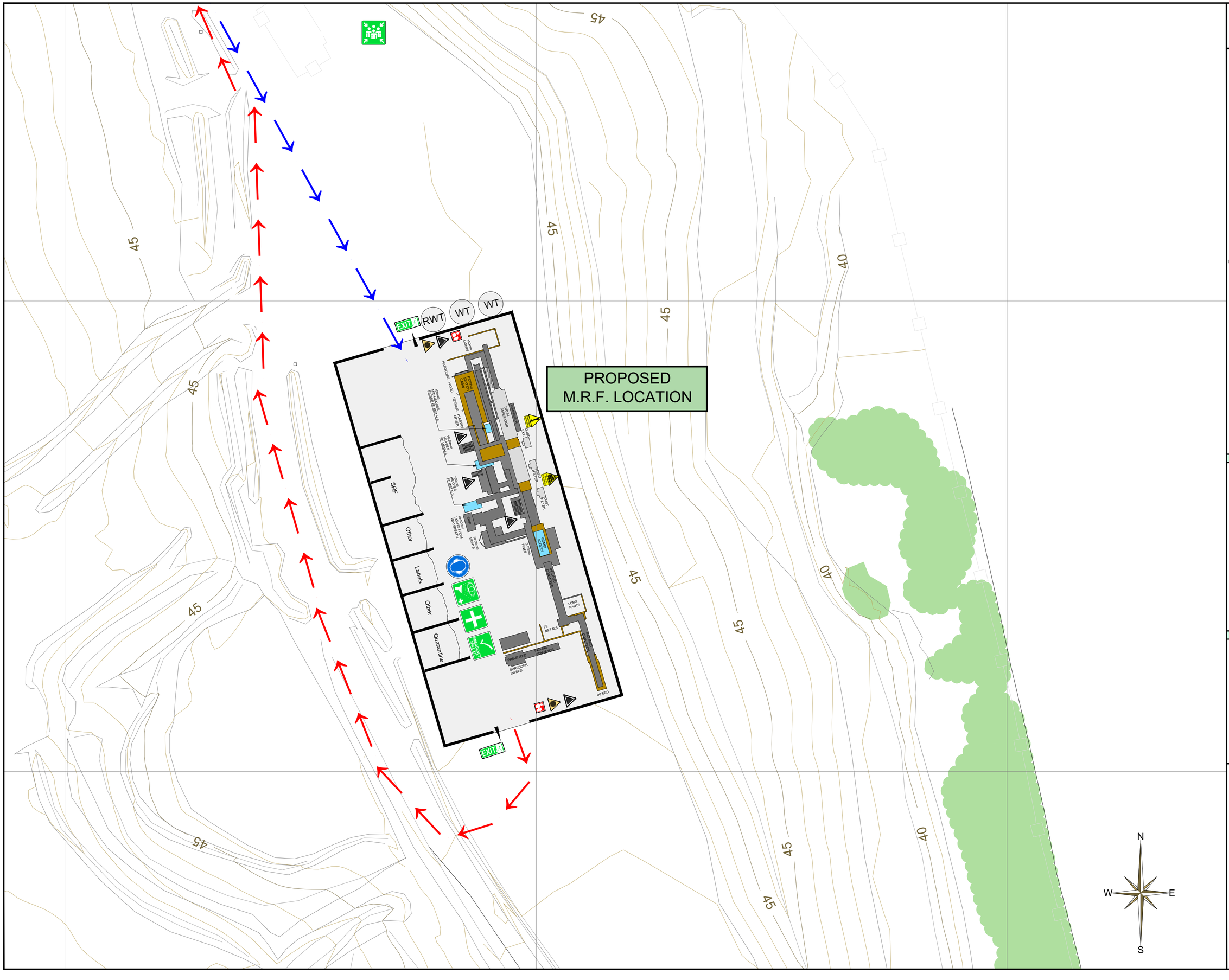
DRAWING NUMBER
TRI-MRF2000

TASK NUMBER 21428

SCALE	1:2000 @ A2	REVISION	
O/DRN	R.L.Meaden	R/DRN	
O/DATE	19.06.2023	R/DATE	
O/APP	L.Edmonds	R/APP	
OA/DATE	19.06.2023	RA/DATE	

INFORMATION TAKEN FROM

SURVEY	TRI090s - Jun'2023
SERVICES MASTER FILE	
OTHER DRAWINGS	TRI088 - Proposed MRF Location



Valencia

EMERGENCY ISOLATION POINTS

POWER SHUT OFF · GAS SHUT OFF · WATER SHUT OFF

FIRST AID KIT · EMERGENCY SHOWER · EYE WASH · HEART DEFIB

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TEXT DETAIL

HAZARDOUS MATERIALS · HAZARDOUS + INFLAMMABLE · FIRE-FIGHTING WATER

CALL POINT · FIRE ALARM CONTROL PANEL · FIRE HYDRANT · METER BOX

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MANDATORY PPE AREA
SAFE WALKING ROUTE
INCOMING TRAFFIC
OUTGOING TRAFFIC
BARRIER

KEY PERSONNEL

FIRST AIDERS:

FIRE WARDENS:

EMERGENCY TEL:

INCIDENT HOTLINE xxxxx xxxxxx

ASSOCIATED DRAWINGS

SITE NAME
TRIGON
MRF
(PROPOSED)

DRAWING TITLE
SITE SAFETY
& INDUCTION LAYOUT
SHEET 2 OF 2

DRAWING NUMBER
TRI-MRF2000

TASK NUMBER 21428

SCALE	1:500 @ A2	REVISION	
O/DRN	R.L.Meaden	R/DRN	
O/DATE	19.06.2023	R/DATE	
O/APP	R.L.Meaden	R/APP	
OA/DATE	19.06.2023	RA/DATE	

INFORMATION TAKEN FROM

SURVEY	TRI090s - Jun'2023
SERVICES MASTER FILE	
OTHER DRAWINGS	TR088 - Proposed MRF Location

Technology | Engineering | Consulting

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