



PEMBROKESHIRE COUNTY COUNCIL ECO-PARK

ENVIRONMENTAL PERMIT APPLICATION

Fire Prevention & Mitigation Plan V1

About WRAP

WRAP is a climate action NGO working around the globe to tackle the causes of the climate crisis and give the planet a sustainable future.

Our core purpose is to help you tackle climate change and protect our planet by changing the way things are produced, consumed, and disposed of.

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Written by: SLR Consulting Ltd



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Acknowledgements

The content of this Report has been based upon information provided by WRAP Cymru and Pembrokeshire County Council.

1.0 Introduction

1.1 Report Context

The Waste and Resource Action Programme (WRAP), on behalf of Pembrokeshire County Council (PCC), has instructed SLR Consulting Limited (SLR) to prepare a Fire Prevention & Mitigation Plan (FPMP) in support of a bespoke Environmental Permit (EP) application for the Pembrokeshire County Council Eco Park in Milford Haven, Pembrokeshire under the Environmental Permitting (England and Wales) Regulations 2016 (as amended). The Eco Park will consist of a Waste Transfer Station (WTS), and a Waste and Recycling Centre (WRC).

This report follows the Natural Resources Wales (NRW) guidance for FPMPs¹ and details the required mitigation and management methods to prevent a fire of combustible materials stored on site.

The information contained within this FPMP aims to satisfy NRW that the following factors are equivalent or less than would be incurred if the site followed the minimum standards in the regulatory guidance:

- Likelihood of fire;
- Impact from emissions during or after a fire on the local community, critical infrastructure and the environment;
- Resources required by NRW and other emergency responders during an incident; and
- Post incident clean-up and remediation costs.

Under current fire safety legislation², a responsible person must carry out, or appoint a competent person to carry out, a suitable and sufficient Fire Risk Assessment (FRA) of the risks of fire to employees and others who may be affected by the site. The FRA will be kept on site available for review at any time.

Competent advice from PCC's building insurers regarding their requirements from an insurance perspective, WSP as PCC's Eco Park designers along with advice from WRAP has been sought to guide the fire prevention and mitigation measures to be implemented within the WTS main recycling building, and residual waste building, and is integrated throughout the FPMP. Liaison with Building Control has also been undertaken to ensure the site complies with Part B (fire safety) of the Building Regulations.

¹ Fire Prevention & Mitigation Plan Guidance, August 2017

² Regulatory Reform (Fire Safety) Order 2005

A copy of this FPMP is stored in the WTS site office, satellite office of the WRC, and within the site's emergency pack located to the south of the Phase 2 area. Whilst this area is located on site, it does not include waste operations, and therefore is not included within the EP boundary. A copy of the FPMP is issued to PCC's maintenance department and the Fire Rescue Service (FRS). Whilst it is outside of the permitted area a copy will also be held within the garage workshop and crew offices to the west of the site (Phase 2).

1.2 Report Contents

PCC propose to open a new multi-faceted Eco-Park to support its county-wide collection service implementing the Welsh Government Blueprint. Additionally, the new site location will allow the vehicle fleet to be relocated reducing current waste mileage, and increasing productivity.

This FPMP covers all activities carried out under the EP including the operation of the Waste Transfer Station (WTS), and the Waste and Recycling Centre (WRC).

The site will be developed in four phases as follows:

- **Phase 1:** Recycling transfer facility, and associated access roads. This phase will contain an office and a visitor centre, offering the opportunity for groups to come and learn about waste and recycling;
- **Phase 2:** Vehicle and staff parking area. A vehicle maintenance workshop and staff welfare facilities are also included as part of this phase;
- **Phase 3:** Residual waste building and recycling facility; and
- **Phase 4:** Publicly accessible Waste and Recycling Centre (WRC).

Phases 1 and 3 make up the WTS, whilst Phase 4 consists of the WRC. Phase 2 does not consist of any waste activities, and therefore is not included within the EP boundary.

The WTS is comprised of the following:

- Recycling building, housing pre and post processed (sorted and baled) recyclates along with sorting and baling equipment;
- Residual waste building housing bagged and loose residual waste, bagged Absorbent Hygiene Products (AHP), and loose glass waste; and
- External covered bays for the bulking of a range of materials as illustrated on Drawing 005.

The WRC consists of multiple, appropriate, containers/designated areas for the receipt, bulking up, manual sorting, and separation of waste delivered to the site by members of the public and commercial businesses.

Any fire prevention, detection or management measures that differ between the WTS and the WRC have been outlined in separate sections throughout the document.

1.3 Site Location

1.3.1 Surrounding Land Use

The site is situated approximately 3km north west of Milford Haven and approximately 8km south west of Haverfordwest. The National Grid Reference (NGR) for the site is SM 88985 09338.

The area to the north of the site consists predominantly of open/agricultural land and commercial/industrial premises associated with Puma Energy are located immediately to the south and west. Pembrokeshire Coast National Park lies approximately 50m from parts of the site's northern boundary and extends to the north and west. An individual residential property (holiday let property – human receptor) lies approximately 80m to the north and further residential and farm/agricultural buildings are located approximately 100m north.

The surrounding land uses and local receptors within 1km are identified on Drawing 002A, Environmental Site Setting Local Receptors. Drawing 002B Environmental Site Setting Natural and Cultural Heritage shows the cultural and natural heritage receptors within 2km.

A summary of the site's immediate surrounding land uses is identified in Table 1 below.

Table 1: Surrounding Land Uses

Boundary	Description
North	Pembrokeshire Coast National Park and an unnamed road, followed by a residential property (holiday let property – human receptor), and farm/agricultural buildings. Beyond this lies open/agricultural ground.
East	Farm/agricultural buildings (including a poultry farm) and open/agricultural land. Beyond this lies a solar farm.
South	Immediately to the south lies commercial/industrial premises associated with Puma Energy (separately permitted COMAH industrial fuel storage facility). A railway line and open/agricultural ground are also located in this direction.
West	Commercial/industrial land is located to the west of the site. Beyond this lies open/agricultural land, individual residential properties, and Pembrokeshire Coast National Park.

The immediate surrounding land uses are described in further detail below.

1.3.2 Residential Properties

A few individual residential properties lie within a 1km radius of the site, mostly to the north west of the site. The closest is a holiday let (human receptor) situated approximately 80m from the site's northern boundary. Further residential properties associated with farms and agricultural premises are located approximately 100m north, 280m north, 410m north west, and 950m west. To the north east individual residential properties lie approximately 590m and 980m from the EP boundary.

1.3.3 Commercial and Industrial Premises

The area adjacent to the site's southern boundary is dominated by commercial/industrial premises associated with Puma Energy. Puma Energy is a separately permitted industrial fuel storage facility (COMAH site).

A vehicle and staff parking area, vehicle maintenance workshop and staff welfare facilities associated with PCC Eco-Park lie immediately to the west of the EP boundary (Phase 2).

1.3.4 Farm/Agricultural Buildings

Farm/agricultural buildings associated with a poultry farm lie adjacent to the site's south eastern boundary. Additional farm/agricultural premises can be found approximately 100m north, and 750m north east.

1.3.5 Local Transport Network

Access to the site is via the existing Amoco Road. Old Hakin Road links Amoco Road to Dale Road in the south and Haverfordwest via Tiers Cross in the north.

The local road network, providing access to the immediately surrounding area is illustrated on Drawing 002A.

A private railway line which runs direct to the Puma Energy terminal for fuel loading is located approximately 450m south of the site.

1.3.6 Open/Agricultural Ground

The site is located within an area which predominantly consists of open/agricultural ground. The closest areas are situated approximately 40m north.

1.3.7 Solar Farms

Solar farms are located approximately 500m east, and 960m north east.

1.3.8 Wells

Two wells are situated to the north of the site, approximately 120m, and 380m from the northern EP boundary.

1.3.9 Surface Water Features

Several drains can be found within a 1km radius of the EP boundary, particularly associated with the commercial/industrial area to the south/west. The closest drain lies approximately 20m to the south.

A small detention basin / pond associated with the site's drainage, but located outside of the EP boundary lies immediately to the south.

Small streams are located approximately 240m north west, 310m east, and 660m north. Several small ponds are located to the north, with the closest approximately 360m from the EP boundary.

1.4 Ecology

The following information has been assessed to determine the ecological site setting:

- MAGIC Mapping Website³;
- Data Map Wales⁴; and
- Natural Resource Wales Designated Sites Tool⁵.

1.4.1 National Park

Pembrokeshire Coast National Park lies approximately 50m from parts of the site's northern boundary and extends to the north and west of the site.

1.4.2 Ancient Woodland

Multiple areas of ancient woodland are located within 1km of the site's EP boundary. The closest lies approximately 320m west of the site. An additional area is situated approximately 560m north west.

The searches confirmed that there are none of the following within a 1km radius:

- Ramsar's;
- Special Protection Area's (SPA);

³ <https://magic.defra.gov.uk/MagicMap>, accessed March 2023

⁴ [Home | DataMapWales \(gov.wales\)](https://data.gov.uk/data/data-map-wales), accessed March 2023

⁵ NRW Designated Site Search, accessed March 2023

- Special Areas of Conservation (SAC);
- Sites of Special Scientific Interest (SSSI);
- Areas of Outstanding Natural Beauty;
- Local Nature Reserves;
- National Nature Reserves.

1.5 Cultural and Heritage

1.5.1 Listed Buildings

The Church of Saint Andrew Grade II* listed building is located approximately 350m north west. Romans Castle is situated approximately 1km north of the site.

The search on Data Map Wales confirmed that the following features do not lie within 1km of the site:

- World Heritage Sites;
- Scheduled Monuments;
- Registered Battlefields; and
- Registered Parks and Gardens.

1.6 Receptors

Table 2 and Drawings 002A and 002B show the locations of receptors that are considered to be potentially sensitive and could reasonably be affected by the activities occurring on site.

Table 2: Identified Receptors

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Receptors located within 1km of the EP boundary as shown on Drawing 002A and Drawing 002B			
Secondary A Aquifer	Aquifer	Below Ground	N/A
Puma Energy	Commercial/Industrial	South	Adjacent
Farm/Agricultural Buildings (Poultry Farm)	Farm/Agricultural Buildings	South east	Adjacent
PCC Eco-Park Parking, Maintenance, and Staff Welfare (phase 2)	Commercial/Industrial	West	Adjacent
Detention basin / Pond	Surface Water Feature	South	Adjacent
Drains	Surface Water Feature	South	20m
Unnamed Road	Local Transport Network	North	30m

Open/Agricultural Ground	Open/Agricultural Ground	North	40m
Pembrokeshire Coast National Park	National Park	North	50m
Holiday Let Property (Human Receptor)	Residential	North	80m
Residential Property	Residential	North	100m
Farm/Agricultural Buildings	Farm/Agricultural Buildings	North	100m
Well	Well	North	120m
Stream	Surface Water Feature	North west	240m
Residential Property	Residential	North	280m
Stream	Surface Water Feature	East	310m
Restored Ancient Woodland	Ancient Woodland	West	320m
Church of Saint Andrew	Grade II* Listed Building	North west	350m
Well	Well	North	380m
Pond	Surface Water Feature	North	360m
Residential Property	Residential	North west	410m
Railway	Local Transport Network	South	450m
Solar Farm	Solar Farm	East	500m
Restored Ancient Woodland	Ancient Woodland	North west	560m
Residential Property	Residential	North east	590m
Stream	Surface Water Feature	North	660m
Farm/Agricultural Buildings	Farm/Agricultural Buildings	North east	750m
Residential Property	Residential	West	950m
Solar Farm	Solar Farm	North east	960m
Residential Property	Residential	North east	980m
Romans Castle	Listed Building	North	1000m

1.7 Windrose

The nearest meteorological recording station to the site is Milford Haven Conservancy Boar ('Milford Haven') located approximately 4km south of the site. In reference to the 2018 to 2022 meteorological data acquired from this recording station, the prevailing winds in the site locale are from the west and south west, with winds from the north and north east being relatively infrequent.

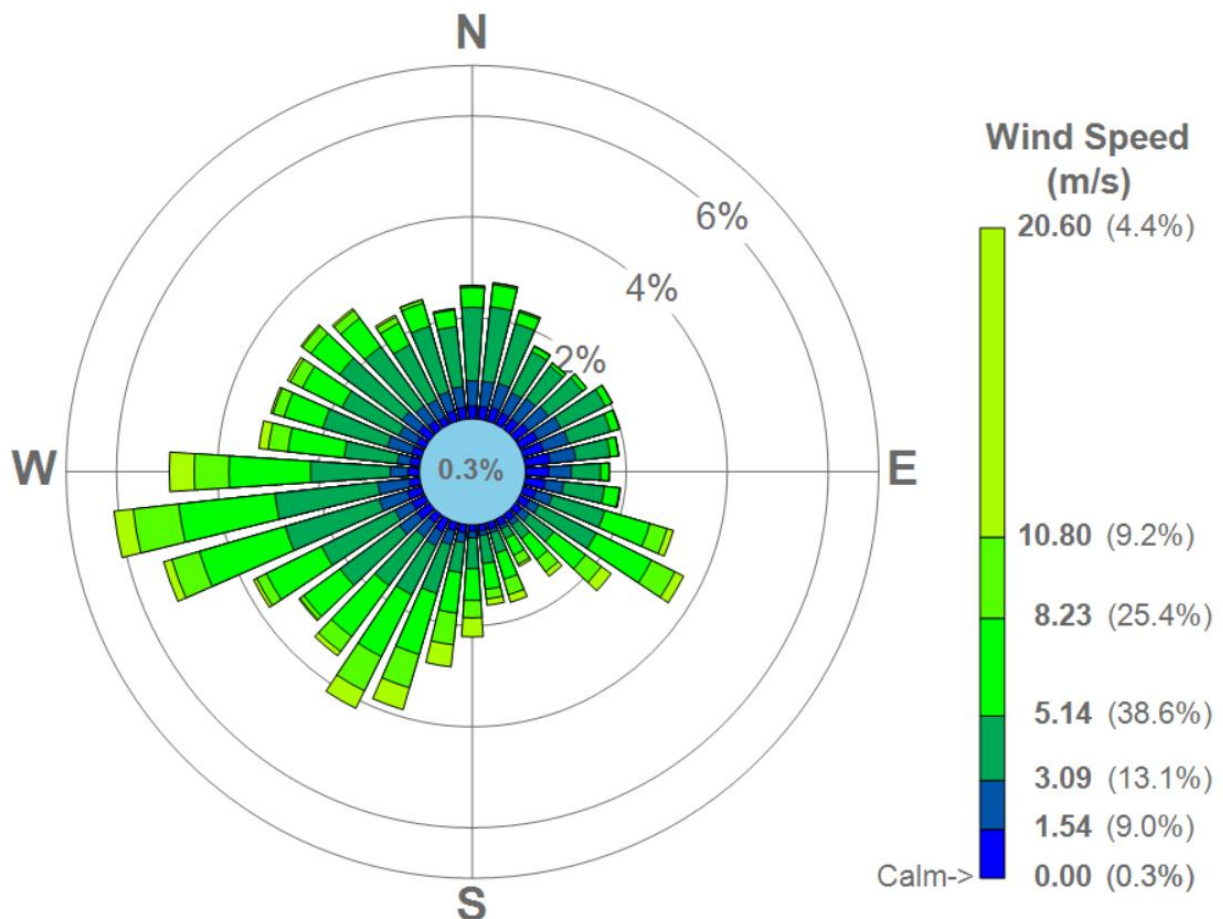


Figure 1 Milford Haven Recording Station Wind Rose (2018 - 2022 average)

1.8 Site Type

The site as a whole (including both the WTS and WRC) is permitted to accept and process up to 74,999 tonnes per annum (tpa) of non-hazardous and hazardous waste arising from household and commercial premises. Waste is delivered to the site in local authority and commercial vehicles or delivered directly to the WRC by members of the public and commercial businesses.

1.8.1 Waste Transfer Station

The WTS is permitted to accept and process non-hazardous and hazardous material arising from household and commercial premises collected by PCC.

The following treatment activities are carried out within the recycling building at the WTS:

- Bulking up of materials for transfer;
- Automated and manual sorting;
- Separation; and
- Baling.

Within the recycling building, mixed metals, plastics, and food and beverage cartons are stored in designated bays before being sorted and baled using a conveyor and sort-line system which incorporates both manual and automated sorting and baling. Manual picking is used to remove food and drink cartons for storage and baling and any contrary material is removed for disposal.

Cardboard is stored in a designated bay prior to being baled (primarily using a second baler and conveyor system however both balers may be used where required). Food waste arrives on site in Resource Recovery Vehicles (RRVs) pods/stillages or trade waste vehicles. Food waste will be tipped into the designated food waste bay prior to transfer to the sealed skip/trailer prior to onward transfer for processing (representing a maximum retention time in the bay of less than 1 day (8 hours)). All food waste will be loaded into the sealed container prior to the end of each day, so no food waste would be stored within the bay overnight. Food waste is typically loaded into the sealed container throughout the working day to prevent an accumulation in the bay. Each skip/trailer remains on site for no more than 72 hours (3 days). Household batteries are stored in a small, designated bin, to the west of the sorting line.

Residual waste, arrives on site bagged and is deposited in dedicated bays within the residual building at the WTS for bulking up prior to onward transfer. AHP waste received during the day is deposited within the designated bay, for subsequent transfer to the skip/trailer by the end of the day (representing a maximum retention time in the bay of less than 1 day (8 hours)). No AHP waste is stored within the bay overnight. Glass waste is collected loose and stored in a designated bay. Glass waste is reduced in size during lifting and moving (storage and loading operations). The Residual Waste Building is an enclosed structure which would provide a level of containment to odours generated from the waste types stored.

The external covered bays at the WTS are used for the bulking of a range of materials. Wood waste is reduced in size during lifting and moving (storage and loading operations).

All materials are then transferred off site for further processing, recovery, or disposal via third part hauliers or PCC haulage vehicles as appropriate.

The layout of the WTS, including material storage locations have been identified on Drawing 005. Within the WTS main recycling building, waste storage areas are fire compartmented away from office areas/welfare areas by a floor to ceiling partition wall. The wall, including its windows and doors, has a fire resistance of a minimum of 60 minutes. The design has been confirmed as

acceptable under Part B (fire safety) of the Building Regulations by both PCC Building Control and Mid and West Wales Fire and Rescue Service. The fire strategy for the WTS main recycling building is included as Appendix 3.

1.8.2 Waste and Recycling Centre

The WRC is permitted to accept and process non-hazardous and hazardous material arising from households and commercial businesses, delivered by members of the public and commercial businesses.

The following treatment activities are carried out at the WRC:

- Bulking up of materials for transfer;
- Manual sorting; and
- Separation.

Private vehicles enter the WRC from the site entrance road. They are stopped by a site attendant who identifies the waste items they are carrying and directs them to the appropriate waste unloading area. Any commercial vehicles are dealt with in accordance with the commercial waste policy and procedure and their loads are visually inspected for contaminants or hot loads before allowing the vehicles to discharge their load and exit the site.

Permitted waste streams are contained in appropriate designated containers.

The WRC may also undertake sorting where recyclates are removed from residual bags brought in by members of the public.

The WRC site layout, including material storage locations, is illustrated on Drawing 004.

1.9 Waste Types

The full waste list for both the WTS and WRC is included within Table S2.1 of the EP.

1.9.1 Waste Transfer Station

The EP allows for the following materials to be accepted at the WTS which are defined as 'combustible materials' in the FPMP Guidance¹:

- Paper;
- Cardboard;
- Plastic Film;
- Hard/Rigid Plastic;

- Aluminium;
- Steel;
- Cartons;
- Mixed plastic, cartons, and metal packaging;
- Tyres;
- Scrap Metal;
- UPVC;
- Residual Waste; and
- Wood;
- Mattresses;
- Carpets; and
- Cartons (baled).

The WTS also accepts non-hazardous batteries which the FPMP guidance¹ require to be considered within the FPMP.

1.9.2 Waste and Recycling Centre

The EP allows for the following materials to be accepted at the WRC which are defined as 'combustible materials' in the FPMP Guidance¹:

- Residual Waste;
- Cardboard;
- Hard/Rigid Plastics;
- Paper;
- Wood;
- MDF;
- Green Waste;
- Scrap Metal;
- UPVC;
- Books;
- Textiles;
- Cartons;
- Cans and plastic;
- Plasterboard;
- WEEE (LDA's);
- Tyres;
- TV Cages;
- Gas Cages;
- Large Domestic Appliances;

- Oil bank and cooking oils;
- Household and vehicle batteries;
- Furniture;
- Carpets; and
- Mattresses.

1.10 Site Access

Both the WTS and WRC areas of the site are accessed via the site's southern entrance road. The site can also be accessed via the northern entrance road in case of an emergency.

The closest Fire Station is Milford Haven Fire Station to the south east of the site. Using Google directions and mapping⁶, the drive time is approximately 9 minutes and it is approximately 4.0 miles between the site and the Fire Station.

The local road network within the surrounding area is designed to accommodate large haulage vehicles. As such, the FRS would be able to reach the site without difficulty.

Access roads around the perimeter of the site, the WTS (including the external bays), and the WRC are kept clear to allow easy access to the combustible material storage areas during an incident. The access points for vehicles are illustrated on Drawing 003.

The site does not have set hours however typical operating hours, are as follows:

- **WTS:** Waste collections (via RRVs and CCVs) and ongoing haulage of transferred materials would typically be undertaken at the site from 7am to 5pm Monday to Friday. To ensure continuity of service, the site would occasionally be operational (and waste collections would be undertaken) on Saturdays and Sundays, public holidays and over the Christmas and New Year period. The WTS will be manned between 7am and 5pm, Monday to Friday; and
- **WRC:** Open to the public 7 days a week during the summer months (1st April to 31st October) and 5 days a week during the winter months from 8am to 6pm. In order to maintain the site for public use, the site is serviced by vehicles and operatives between 6:30am and 8pm.

Occasional working is required on Saturday's and Sunday's, public holidays and over the Christmas and New Year period.

PCC have access to the site office from 5am to 8pm seven days a week including public holidays and over the Christmas period. However, as these times are outside of standard operational hours, only limited staff will be present on site.

⁶ Google Maps, Accessed in March 2023

Outside of operational hours, when the site is unmanned, a key to the site is held by PCC's out of hours service (which is manned 24/7) and the local FRS. Therefore, in the event of a fire, the FRS would be able to gain immediate access.

1.11 Compliance

The site operates its own Environmental Management System (EMS) that governs all operations at this facility.

Consequently, operational procedures for the management of the facility ensure that all appropriate pollution prevention and control techniques are delivered reliably and on an integrated basis.

This FPMP is considered to be a 'working' document that is reviewed and updated annually or as required should any of the following occur:

- A fire on site;
- Additional combustible waste streams accepted on site;
- An increase in waste volumes accepted on site;
- Development of site infrastructure (including new buildings);
- Installation of new equipment or plant;
- A change or review of legislation; or
- If the site is instructed to do so by NRW.

The following sections of the FPMP will be reviewed and updated following the occurrence of any of the above:

- Staff training;
 - Confirm that the FPMP is available and all staff know where it is kept;
 - Ensure staff training is reviewed and updated to enable them to carry out the procedures and measures within this FPMP. This will include:
 - New starters – Induction training;
 - Existing staff and new starters – refresher courses, toolbox talks, on-site exercises/drills;
 - Record all training within the EMS.
- Site Monitoring
 - Site inspections before, during and after shifts to ensure:
 - No identifiable ignition sources; and

- All equipment is operating/turned off correctly.
- Waste stacks and separation distances are in accordance with the FPMP;
- The monitoring and recording of waste storage times;
- The plant and equipment servicing and maintenance records;
- The records of daily, weekly and monthly checks; and
- The periodic testing of the FPMP.

It is the responsibility of the site manager or nominated person to maintain this FPMP and to ensure it is adhered to in the event of a fire on site.

2.0 Fire Prevention Measures

The site is considered to have a low risk of fire as it operates on the basis of low volumes, short storage times and the implementation of Welsh Government Blueprint collection of kerbside segregated household waste.

The following measures are implemented on site to minimise the causes of fires.

2.1 Fire Detection and Alarm System

2.1.1 Waste Transfer Station and Waste Recycling Centre

The WTS and WRC will benefit from a BS5839 certified fire detection and alarm system (or equivalent) provided by Fire Shield Systems Ltd. The chosen provider will be commissioned by PCC to design, supply, install, test and commission the site's fire detection and suppression systems. The system will consist of a video flame detection system which shows a live feed meaning that a fire is identified in under ten seconds. The detection system will focus on video analytics and infrared heat signatures as opposed to temperature alone. Flame detectors have been chosen because they are a sophisticated, technically advanced method of detecting a fire in a WTS setting. Heat/smoke detectors can be falsely triggered by dust and vehicle fumes etc. causing unnecessary nuisance and disruption. Multiple cameras will be located across the plant and waste storage areas to mitigate blind spots and to eliminate single point failure. Each risk area will be broken down into a number of detection 'zones' which are monitored in real time, providing a visual feed and outputs which are monitored by the house fire alarm system. Every camera will be checked at least once per second by the controller to confirm it is connected, working successfully, and hasn't detected a flame.

On detection of a fire the system will highlight the fire on the corresponding monitoring screen. The on site sound beacons will be activated, along with the corresponding automatic fire suppression system at the WTS area of the site. The detection system will be connected to an external company who monitors the alarm, 24 hours a day, 7 days a week (24/7), including outside of operational hours. An instant notification will be sent to site staff, and off-site responders including the FRS, and PCC's out of hours service. If an alarm is raised, the site manager, PCC's out of hours service, and the emergency services are contacted immediately. All out of hours, off-site responder staff are familiar with the site and have received training on the use of plant/machinery.

In addition, manual call points are installed throughout the site and the automatic detection system can be overridden remotely by site operatives from set operator monitoring areas.

The fire detection system will be tested on a monthly basis.

The recycling building and residual building, all external areas of the WTS, and the WRC benefit from a CCTV system that is linked to a central control station. The system is monitored 24 hours a day, 7 days a week by a contracted alarm receiving centre. If an alarm is raised, the site manager and/or emergency services are contacted immediately.

Site operatives are trained in the detection of fires and therefore can provide an additional level of management for fire detection when the site is operational.

2.2 Waste Acceptance and Rejection

2.2.1 Waste Transfer Station

The site follows strict waste acceptance and rejection procedures to ensure that no non-conforming material is accepted on site. The procedure adopted by all site operatives is included in the EMS and includes the following key points:

- Material is mostly of kerbside segregated household origin;
- Trade/commercial clients are made aware of the permit requirements and acceptable waste types;
- PCC are part of a continuous improvement scheme where its residents are continually informed about the waste types that can be presented at the kerbside and that are accepted at the WRC;
- Each incoming load is visually inspected upon arrival. This ensures that only permitted wastes are accepted and that batteries are not received in the incorrect load. Particular attention is given to the identification of batteries and non-conforming material. Site operatives are trained in the identification of batteries and battery operated products;
- Furthermore, waste is offloaded at the site supervised by qualified site operatives, providing a second opportunity to identify batteries and non-conforming waste in incorrect loads prior to waste processing;
- In the event that unauthorised waste is delivered to the site, the waste will be segregated and stored in a designated quarantine area within the EP boundary if it is safe to do so. Site Management will be informed and, if required, a specialist contractor will be contacted to remove the waste from site (within 24 hours) to a suitably permitted facility for recovery or disposal;
- In the event that batteries are identified in an incorrect waste stream they will be stored in a designated battery box within the recycling building. If damaged batteries are identified during waste acceptance visual inspections, they will be isolated from other batteries and quarantined prior to removal from site to an appropriately permitted facility for recovery or disposal;
- All waste storage areas will be visually inspected throughout the day and all findings will be logged in the site diary as a minimum;

- Any non-conforming material deemed to be unsafe to move to the quarantine area will be cordoned off and site operations/traffic movements in that area will be suspended; and
- All details of the non-conformance will be recorded in the site diary and an incident report form will be completed.

2.2.2 Waste and Recycling Centre

Waste delivered in private vehicles by the general public, and commercial businesses is accepted at the WRC area of the site.

The procedure described above for the WTS is also followed at the WRC. In addition, the following measures are implemented at the WRC:

- To ensure that batteries are removed from waste delivered by households at the WRC prior to processing, a designated battery box is provided, and signposted, and site operatives remain vigilant and will remind those delivering waste to separate batteries;
- Any users that are identified as bringing unauthorised wastes onto the site will be refused access and advised of the nearest permitted facility for that particular waste (if known);
- Details of the attempted unpermitted deposit will be recorded in the site diary including date & time, description of the waste and the vehicle registration number;
- Any suspicious circumstances will be reported to PCC management;
- If unauthorised waste is discovered on site, the site operatives will visually inspect the waste and only after determining that it is safe to do so, using the appropriate PPE, will relocate the waste to the quarantine area; and
- If on visual inspection it is determined that the waste may be hazardous, physically unsafe to move, or the nature of the waste cannot be determined, then the immediate area will be cordoned off to prevent further contact and all site operations in the immediate vicinity will be suspended, and traffic and customers diverted as required. In certain circumstances the site may need to be temporarily evacuated and closed until the site is deemed safe to re-open.

2.3 Inspections and Amenity Monitoring

The site is continually manned during typical operational hours as stated in Section 1.10 above and site operatives are asked to remain vigilant at all times and look out for signs of fire. Staff are trained in how to identify fires and fire hazards on site. Staff also receive training on the use and selection of fire extinguishers, site evacuation and shut down procedures, fire safety and all relevant emergency procedures.

At the end of each day site operatives undertake temperature checks of all waste storage areas, using a handheld device. The check is used to identify any hotspots in the stockpile by identifying any areas of waste that are higher in temperature than the surrounding waste. Hotspots identified will be dealt with accordingly:

- If the bay is wide/empty enough, the waste will be spread, and broken up within the bay to release the heat and doused with water/the appropriate fire extinguisher if necessary;
- If there is not enough space, the waste will be moved to the closest quarantine area using the loading shovel and broken up/rotated to dissipate any heat; and
- The daily check is recorded in the site diary.

Additional temperature monitoring for waste types stored for longer than 3 months is described further in Section 2.5.3 below.

All material storage areas are visually inspected throughout the day and all findings are logged in the site diary as a minimum. Should signs of self-combustion be identified, such as steaming/smouldering/smoking, the stockpile will be removed to the nearest quarantine area and rotated using the loading shovel to dissipate any heat built up in the pile. Any excessively wet loads will be monitored to check for 'steaming off'. If identified the stockpile will be rotated using the loading shovel to dissipate any heat built up. Checks of the affected stockpile using the handheld temperature device will be increased to hourly for the remainder of the day to ensure no further hotspot development occurs.

Site operatives undertake a daily clean of the site flooring and bays with a brush (on telehandler) to prevent build-up of debris and dust on site. A washdown is carried out as required. Mobile plant is cleaned weekly using the vehicle wash bay located in the phase 2 area, and the baler/sorting line is cleaned weekly. The food waste bay is washed down quarterly, and swept daily, and all other bays are swept and cleaned on a regular basis when emptied.

All escape routes, fire exits, alarm call points, and fire extinguishers are kept clear from loose material at all times. The waste storage bays are built with a separation distance to the external building structure which form walkways that can be used for fire escape. The walkways are cleaned daily with the hand brush, to ensure they remain clear.

Daily and weekly monitoring is recorded in line with the requirements of the EP and detailed in the EMS.

2.4 Material Storage Arrangements

Material storage takes place within the designated areas illustrated on Drawings 004 and 005.

2.4.1 Waste Transfer Station

All material in the WTS area of the site is stored within designated bays in either the recycling building, the residual waste building, or the external covered bays except for household batteries, which are stored in small bins in the recycling building. Food waste arrives on site in RRVs pods/stillages or trade waste vehicles. Food waste will be tipped into the designated food waste bay prior to transfer to the sealed skip/trailer prior to onward transfer for processing. All food

waste will be loaded into the sealed container prior to the end of each day, so no food waste would be stored within the bay overnight (representing a maximum retention time in the bay of less than 1 day (8-hours)). Food waste is typically loaded into the sealed container throughout the working day to prevent an accumulation in the bay. Each trailer remains on site for a maximum of 72 hours (3 days).

All bays are constructed from Legato block walls (or similar) with the following fire resistance properties:

- Class A1 fire resistance in accordance with clause 4.3.4.4 of EN 13369;
- Concrete specification of RC40/50XF equivalent with a minimum cement content of 360kg/m³, cement type CEM1 52.5N;
- Walls have a designed work life of 100 years as defined in BS EN 1990:2002 + A1: 2005; and
- Are 0.8m thick.

The construction of the bay walls offers a thermal barrier, which prevents thermal transfer from one bay to another and enables cooling of waste stored within the bay. This meets the fire resistance requirement of 120 minutes as set out in the FPMP Guidance.

All bays were installed in line with the methods recommended by the manufacturer. A freeboard space of at least 1m is maintained at the top, and front of each bay. Lines drawn on the inside of each bay mark the maximum height and width of each stockpile ensuring the maximum volumes are adhered to. The bay walls, and building walls for wastes stored inside, offer protection from wind whipping.

Bales are stored a maximum of 3 high, and wherever operationally possible, are stacked interlaced (pyramid stacked) to avoid the chimney effect by reducing air-flow and the intensity of a potential fire.

The waste types, maximum storage times and storage arrangements are detailed in Table 3 below.

Separation Distances

Separation distances for the WTS area of the site have been calculated in accordance with NRW's FP&MP Guidance (August 2017) and guidance from WISH, WASTE 28: Reducing fire risk at waste management sites, issue 2 April 2017 and are shown on Drawing 005. The separation distances and minimum 1m freeboard at the top each bay, and 1m clear buffer zone at the front of each bay prevent the spread of fire between piles, brands or lighted material moving outside the bay walls and the bridging across or around bay walls/containers. The rigid plastic bay has a clear buffer zone of 1.2m at the front of the bay.

All waste storage bays are constructed from Legato Block bay walls (as described above), therefore reducing the required separation distance.

2.4.2 Waste and Recycling Centre

All material at the WRC is stored within suitable, designated containers, except for gas bottles which are stored in a cage, and tyres and LDA which have a designated set down area as illustrated on Drawing 004.

Table 4 below details the waste types, maximum storage time and storage arrangement.

Separation Distances

All containers used at the WRC have a capacity of 1,100 litres of waste or more, and each container can be accessed to extinguish a fire inside. Therefore, in accordance with Section 13 of NRW's FPMP Guidance, the specified sizes and separation distances are not applicable to the WRC area of the site.

Waste storage arrangements at the WRC are illustrated on Drawing 004.

2.4.3 Material Type, Storage and Quantity

The site is permitted to accept and process up to 74,999 tonnes per annum of waste.

The total amount of waste stored on site at any one time will not exceed 1495 tonnes.

The amount of any one material type included in Tables 3 and 4 received or stored on site could be up to the maximum thresholds shown above. The combination and quantities of different material types varies daily but will not exceed the maximum daily tonnage shown above.

Wherever possible stock capacity is controlled in line with the 'first in, first out' concept detailed in Section 2.5.1 below.

The material types, maximum storage times and storage arrangements are detailed in Tables 3 and 4 below. Non-combustible material types, hazardous waste types, and other waste types not subject to the FPMP guidance requirements are shaded grey in the table below

Table 3: . Waste Transfer Station Material Types, Storage Time and Dimensions

Material Type	Max Storage Time	Length (m)	Width (m)	Height (m)	Max Volume (m ³)
Waste Stored in Bays in Main Recycling Building					
Cardboard ⁷ (temporary storage)	-	5.4	10	3	-
Mixed Plastic and Cans (temporary storage) ⁹	-	7.8	7.4	3	-

⁷ The cardboard, and mixed plastic and cans storage areas illustrated on Drawing 005 are attached to and associated with the feed lines for the baler and sorting line and therefore material will not be permanently stored here. They represent temporary storage areas that will be emptied fully at the end of the working day. Extended material storage will only occur in these areas for contingency measures if a baler is not working.

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Loose Paper	1 month	7.8	8.4	3	152.5
Baled Cardboard	1 week	7.8	8.4	3	157.3
Cardboard – Contingency	1 week	6.2	14	3	186.9
Food Waste	3 days	3	5.6	3	25.2
Loose Film	1 week	7.8	8.4	3	98.3
Spare Bay 1 (Loose Cardboard)	3 days	7.8	7.2	3	130.7
Spare Bay 2 (Loose Paper)	1 month	7.8	7.2	3	130.7
Baled Aluminium	4 months	4.6	9.6	3	70.2
Baled Plastic	1 month	8.6	8.0	3	115.6
Baled Steel	1 month	8.6	7.2	3	115.6
Baled Cartons	4 months	8.6	7.2	3	115.6
Mixed plastic, cartons and metal packaging	3 days	7.0	7.2	3	113.4
Mixed plastic, cartons and metal packaging	3 days	4.6	7.2	3	61.6
Household Batteries	3 months	1	1	1	3
Waste Stored in Bays in Residual Waste Building					
AHP	2 weeks	9	10	3	217.5
Glass	1 week	9	10	3	135
Residual Bay 1	3 days	9	10	3	217.5
Residual Bay 2	3 days	9	10	3	217.5
Residual Bay 3	3 days	9	10	3	217.5
Waste Stored in External Covered Bays					
Tyres	6 months	9	10	3	229.5
Scrap Metal	1 month	9	10	3	229.5
UPVC	6 months	9	10	3	229.5
Baled Plastic Film	3 months	9	10	3	157.3
Baled Carpets	3 months	9	10	3	214.6
Wood	1 week	9	10	3	229.5
Mattresses	1 month	9	10	3	216
Rigid Plastic	3 months	8.8	10	3	123.2

Note: all bays benefit from a minimum of a 1m freeboard at the top of each bay, and a 1m clear buffer zone at the front of each bay. The rigid plastic bay benefits from a 1.2m clear buffer zone at the front of the bay.

Maximum waste pile volumes have been calculated taking into account the slope of the waste pile.

Where the number of storage days listed is greater than the permitted storage times, the bays will be emptied more frequently to ensure compliance.

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Table 4: Waste and Recycling Centre Material Types, Storage Time and Dimensions

Material Type	Max Storage Time	Length (m)	Width (m)	Height (m)	Max Volume (m ³)
Waste Stored Externally in Designated Containers					
Large Domestic Appliances 1	1 month	5.84	2.44	2.65	40
Large Domestic Appliances 2	1 month	5.84	2.44	2.65	40
WEEE (LDA's)	1 month	5.84	2.44	2.65	40
Paints 20ft shipping container	3 months	1.2	1	0.73	40
Reusable Furniture 20ft shipping container	2 weeks	6.0	2.6	2.6	40
Non-reusable Furniture 1 20ft shipping container	2 weeks	6.0	2.6	2.6	40
Non-reusable Furniture 2 20ft shipping container	2 weeks	6.0	2.6	2.6	40
Mattresses 20ft shipping container	2 weeks	6.0	2.6	2.6	40
Plasterboard 40 cu/yd closed container	2 months	5.84	2.44	2.65	30
Mixed Glass 20 cu/yd skip	1 month	5.84	2.44	1.50	15
Inert 20 cu/yd skip	1 month	5.84	2.44	1.50	15
Cans and Plastic 1100L Wheelie Bin	2 weeks				1.1
Paper 1100L igloo/bank	3 months	6.0	2.44	2.1	1.1
Textiles 1100L bank	2 months	1.3	1.4	1.9	1.1
Books 1100L bank	3 months	1.6	1	1.8	1.1
Cartons 1100L bank	4 months	2.0	2.0	1.9	1.1
Shoes	2 months	1.3	1.4	1.9	
Gas Bottles Cage	3 months	13	8	1.9	60
Spare 1 40 yd skip	-				30
UPVC 40 yd skip	3 months	5.84	2.44	2.65	30
Scrap Metal 40 yd skip	1 month	5.84	2.44	2.65	30
Green Waste 1 40 yd skip	1 week	5.84	2.44	2.65	30

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Green Waste 2 40 yd skip	1 week	5.84	2.44	2.65	30
Green Waste 3 40 yd skip	1 week	5.84	2.44	2.65	30
Spare 2 40 yd skip	-	5.84	2.44	2.65	30
Spare 3 40 yd skip	-	5.84	2.44	2.65	30
Spare 4 40 yd skip	-	5.84	2.44	2.65	30
Spare 5 40 yd skip	-	5.84	2.44	2.65	30
Spare 6 40 yd skip	-	5.84	2.44	1.50	30
MDF 40 yd skip	1 week	5.84	2.44	2.65	30
Wood 40 yd skip	1 week	5.84	2.44	2.65	30
Hard/Rigid Plastics 40 yd skip	2 months	5.84	2.44	2.65	30
Tyres 20ft shipping container	2 months	5.84	2.44	2.65	40
Carpet 30 yd skip	1 month	5.84	2.44	2.1	20
Cardboard 35 yd skip	2 weeks	6.0	2.5	2.7	25
Residual Waste 1 35 yd skip	4 days	6.0	2.5	2.7	25
Residual Waste 2 35 yd skip	4 days	6.0	2.5	2.7	25
Spare 7 40 yd skip	-	6.0	2.5	2.7	30
Spare 8 40 yd skip	-	6.0	2.5	2.7	30
FLO tubes	3 months	2.49	1.2	1.2	
TV Cages	1 month	2.1	1.6	1.2	
Oil bank and cooking oils	-				
Household and vehicle batteries	-				

Stock Management – Maximum Storage Time and Capacity

PCC implement stock management procedures on site which ensure that the maximum waste storage times and volumes detailed in Tables 3 and 4 above are not exceeded. All incoming waste

deliveries to the WTS are required to report to the weighbridge, where site operatives will visually inspect the waste. A record of all waste accepted at the WTS is measured, recorded, and managed via the site's weighbridge software, with details including the quantity, characteristics and the date and time of the delivery. Material transfers off site are increased if the weighbridge software detects that the site appears to be reaching maximum capacity.

Where practicable waste at the WTS and WRC is managed on a 'first in, first out, basis such that storage duration and the risk of hot spots and self-combustion is minimised. For example, material is deposited into the left side of the bay on a Monday and the right side on a Tuesday. It is then removed from the left side first followed by the right and the process repeats like this. The deposit of waste on either side of the bay is recorded by site operatives using the Site Diary. The site manager is responsible for ensuring that this is followed where operationally possible and uses the sites weighbridge recording system and site diary to ensure that the waste with the earliest storage dates is processed first, and removed from site first. In this way no wastes are stored for longer periods than indicated in Tables 3 and 4.

There is no requirement to record the quantity of waste accepted at the WRC. During operational hours, site operatives continually visually monitor the quantity of waste within each waste storage area/container and notify the site manager when nearly full. Lines drawn on the inside of each bay mark the maximum height and width of each stockpile ensuring the maximum volumes are adhered to. When nearly full the site manager then arranges for the container to be removed/emptied or the bay to be emptied. PCC have contracts in place for the regular removal of material from site as described in Section 2.4.5 which allow for additional loads to be collected during periods of peak throughput to ensure that the site does not exceed its capacity.

2.4.4 Non-Waste Materials

The site stores non-waste materials that are not covered by the FPMP Guidance but are considered due to the potential for them to cause or increase the impact of a fire on the site. The materials and their storage arrangements are shown in Table 5 below and illustrated on Drawings 004 and 005.

Table 5: Non-Waste Materials: Storage Arrangements

Type	Storage Location	Storage Arrangement
Oil/grease for baler/sorting line	Inside recycling building in WTS	Container on a bunded trip tray.

There is no regular draining of oils from servicing, but any drain as a result of repairs, will be taken off site and disposed of at the Thornton Depot (location of main fleet garage: Unit 23, Thornton Business Park, Milford Haven, SA73 2RR).

2.4.5 Seasonality of Material Acceptance

Material volumes and supply and demand of material on site are subject to seasonal variation at Christmas and during summer months. Christmas and summer are also popular times of year for members of the public to visit the WRC. Procedures to monitor the variations are included within the EMS.

At the WTS incoming material volume is measured and recorded via the weighbridge software and material transfers off site are increased if the site appears to be reaching maximum capacity.

There is no requirement to record the quantity of waste accepted at the WRC, and site operatives continuously monitor the quantity of waste within each container and notify the site manager when nearly full. The site manager arranges for the container to be removed/to be emptied. If a higher volume of waste is received due to seasonal variation, the containers will be filled and subsequently removed from site at a faster rate, therefore reducing the risk of self-heating.

PCC have the following contracts and agreements in place allowing for the regular removal of material from site. Material is removed from site as required, as the bays/containers are filled, and each contract allows for additional loads to be collected during periods of peak throughput:

- **Cardboard:** Parry & Evans, Saica Paper Mill;
- **Plastic:** Monoworld Recycling;
- **Aluminium:** Novelis;
- **Steel:** ERP – Sims Metals;
- **Glass:** Recresco, Cwmbran Glass Recovery;
- **Food:** Part of CCWO Group (Bridgend, Cassingston, Roundhill);
- **Residual:** Viridor Energy From Waste;
- **Garden/Inert:** Lawrence Landfill;
- **Food and Drink Cartons:** Ace Recycling, Sonoco Cores Paper Ltd;
- **Small WEEE:** ERP – Sims;
- **WEEE LDA:** ERP – Sims;
- **WEEE CRTs:** ERP (Metatek);
- **WEEE FloTubes:** ERP (Mercury);
- **Batteries Household:** ERP Ecobat on behalf of ERP;
- **Batteries Automotive:** Metatek;
- **Aerosols:** Novelis;
- **Textiles:** J P Wilcox;
- **AHP:** Nappi Cycle;
- **Carpets:** EFW Belgium;
- **Books:** Goldstone Books;
- **Plasterboard:** Griffiths Waste Management;
- **Wood:** Griffiths Waste Management;
- **Scrap Metal:** Tendered every month, usually Pembrokeshire Metals or Airfield Metals;

- **Paints:** Metatek;
- **Bulky Household Waste Collections:** Frame;
- **Gas Cylinders:** WasteCare & PG Recycling;
- **Oil:** Cooking Hodge Oil Ltd;
- **Oil – Motor:** Slicker Recycling;
- **Orange Bag MRF:** Cwm International;
- **Tyres:** TD Tyres Recycling Ltd;
- **Mattresses:** Amgen; and
- **UPVC:** AWD Group, Port Talbot.

If the need arises PCC can call upon WRAP Cymru's materials brokerage service for ad-hoc additional collections, to provide contingency measures in case the preferred destination is unable to accept the waste.

2.5 Monitoring and Turning of Stacks

2.5.1 Stockpiles

As detailed in this FPMP, suitably qualified site operatives carry out daily checks of the site to identify the risks and to inspect the storage bays/containers.

At the WTS area of the site visual checks of moisture content and any excessively wet loads will be monitored to check for 'steaming off'. If identified, the site manager will be informed, and the stockpile will be removed to the nearest quarantine area using the loading shovel and broken up/rotated to dissipate any heat built up in the pile. Checks of the affected stockpile using the handheld temperature device will be increased to hourly for the remainder of the day to ensure no further hotspot development occurs.

Due to the containers and limited storage times at the WRC, waste turning is not considered to be necessary at the WRC.

To reduce the likelihood of hotspot development within material storage areas the storage time is minimised. Material storage times are in accordance with Tables 3 and 4 above.

Where practicable the site operates on a 'first in, first out' basis. For example, material is deposited into the left side of the bay on a Monday and the right side on a Tuesday. It is then removed from the left side first followed by the right and the process repeats like this. Therefore, stock rotation is not required. The deposit of waste on either side of the bay is recorded by site operatives using the Site Diary. The site manager is responsible for ensuring that this is followed where operationally possible and uses the Site Diary, and weighbridge recording software to ensure that waste with the earliest storage dates is processed first and removed from site first and that no wastes are stored for longer periods than indicated in Tables 3 and 4.

During normal operating conditions, materials are not driven over by on site plant to avoid compaction, which may contribute to a build-up of heat within the pile.

The only processes undertaken at the WTS are bulking up, automatic and manual sorting, separation and baling. The only processes undertaken at the WRC are bulking up, manual sorting, and separation. Therefore, all material is stored in its largest form (no size reduction occurs) prior to being removed from site.

As described in Section 2.1 above, the WTS and WRC will benefit from an automatic fire detection and alarm system which will consist of a video flame detection system which shows a live feed meaning that a fire is identified in under ten seconds. Stockpiles within the recycling building, and residual waste building are also covered by an integrated automatic suppression system. Therefore, the stockpiles are constantly monitored by this system.

In addition, stockpiles are visually inspected throughout the day and the findings logged within the site diary at the start and end of each shift as a minimum.

As described in Section 2.3 above, at the end of each day site operatives undertake temperature checks of all waste storage areas, using a handheld device. The check is used to identify any hotspots in the stockpile by identifying any areas of waste that are higher in temperature than the surrounding waste.

To summarise, stockpiles are managed as followed at the site to minimise self-combustion:

- Stockpile storage times are minimised;
- Risk factors (e.g. mixing of materials) are reduced;
- Stockpile sizes are minimised;
- Stored materials are processed, on a first in, first out basis; and
- Hotspots are detected and controlled within stockpiles by:
 - Routinely visually monitoring stockpiles;
 - Stockpiles are covered by the sites' automatic detection system, and those within the recycling building and residual waste building benefit from an integrated automatic suppression system;
 - Daily temperature monitoring of stockpiles using a handheld device; and
 - Minimising external heating during hot weather by avoiding ignition hotspots / concentrated beams of sunlight or glare reflected onto stockpiles through surfaces – When stationary or parked, mobile plant and all vehicles delivering or removing waste will be positioned to avoid concentrated beams of sunlight or glare reflected onto stockpiles through surfaces.

2.5.2 Bales Storage Areas

As detailed in Section 2.5.1 above, suitably qualified site operatives carry out daily checks of the site including the bale storage bays in the WTS area.

As shown in Table 3, bales are stored for less than 6 months and therefore probing for temperature and moisture is not deemed necessary. Additional measures for bales stored for over 3 months are detailed in Section 2.5.3 below.

All bales are stored within the WTS area of the site, which benefits from the site's automatic detection system as detailed in Sections 2.1.1.

Bales are stored a maximum of 3 high, and wherever possible, are stacked interlaced (pyramid stacked) to avoid the chimney effect by reducing air-flow and the intensity of a potential fire.

To summarise, bales are managed as follows to minimise self-combustion:

- Bale storage times are minimised;
- Risk factors (e.g. mixing of materials and heat generated during treatment) are reduced; and
- Bale storage areas are minimised.

2.5.3 Extended Waste Storage Time Additional Measures

To allow for full loads of waste materials to be generated for efficient haulage, the following waste types may be stored on site for more than 3 months:

- WTS Main Recycling Building:
 - Baled aluminium;
 - Baled cartons.
- WTS External Covered Bays:
 - Tyres;
 - UPVC;
- WRC:
 - Cartons.

Additional fire prevention measures for waste types stored for longer than 3 months are described as follows:

- All waste types stored within the WTS and WRC benefit from the site's BS5839 certified fire detection and alarm system (or equivalent). The system will consist of a video flame detection system which shows a live feed meaning that a fire is identified in under ten seconds. The system will be operational and constantly monitoring the waste 24/7 and is therefore considered sufficient to rapidly detect an increase in heat in any waste materials stored in excess of 3 months;
- The WTS main recycling building benefits from an effective, state-of-the art, automatic suppression system, integrated into the detection system and is automatically activated if a flame is detected. The system can also be manually activated by site operatives. The system is described further in Section 3.1 below. The suppression system will be operational and constantly monitoring the waste 24/7 and is therefore considered sufficient to rapidly detect an increase in heat in any waste materials stored in excess of 3 months.
- As described in Section 2.3, on a daily basis at the end of each day site operatives undertake temperature checks of all waste storage areas, using a handheld device to identify any hotspots in the waste storage area, by identifying any areas of waste that are higher in temperature than the surrounding waste. For those waste types that may be stored in excess of 3 months the following measures will be implemented on a daily basis to ensure that the centre of the stockpile can be monitored, during daily temperature inspections:
 - Piles of tyres, and UPVC waste stored in bays do not interlock and therefore the site operative undertaking the temperature monitoring angles the handheld device to ensure that all parts of the stack are accessible. If the centre of the pile is particularly difficult to access, a probe will be used.

- Handheld temperature monitoring for the baled cartons, and baled aluminium covering all parts of the stack is not considered necessary due to the extensive coverage of the site's automatic detection and suppression system which will provide constant real time monitoring of all waste stored in the WTS main recycling building (including the centre of the stockpiles).
- The WRC carton container will hold a small amount of waste only (max capacity 1,100 litres) and due to the need to generate an efficient load prior to transfer waste will build up slowly over the course of the 4 months maximum storage period. The waste will be checked on a daily basis both visually and using the handheld temperature monitoring device. The bin will be kept out of direct sunlight to prevent overheating. Therefore, self-combustion of this waste is unlikely.
- If hotspots are identified (i.e. the temperature is recorded at between 45°C and 48°C) within the waste, stacks will be turned using the loading shovel to dissipate heat as described in Section 2.3 above;
- Waste is managed on a 'first in, first out, basis such that storage duration and the risk of hot spots and self-combustion is minimised. For example, material is deposited into the left side of the bay on a Monday and the right side on a Tuesday. It is then removed from the left side first followed by the right and the process repeats like this. The deposit of waste on either side of the bay is recorded by site operatives using the Site Diary. The site manager is responsible for ensuring that this is followed where operationally possible and uses the sites weighbridge recording system and site diary to ensure that the waste with the earliest storage dates is processed first, and removed from site first. In this way no wastes are stored for longer periods than indicated in Tables 3 and 4;
- Bales of aluminium, and bales of cartons are stacked interlaced (pyramid stacked) to avoid the chimney effect by reducing air-flow and the intensity of a potential fire;
- For the above waste types, waste is turned regularly on a weekly basis using the loading shovel to dissipate, and prevent heat build up. A record of waste turning is maintained by the Site Manager in the site diary;
- No size reduction of the above waste types is undertaken, and all waste material is stored in its largest form;
- Visual monitoring for signs of steaming/smoking is undertaken daily as described in Section 2.3;
- Baled materials will not be placed into their respective storage bays immediately upon formation and will be allowed to cool prior to storage;
- Baled aluminium, baled cartons, tyres, and UPVC are either stored inside or under covered bays shading the waste and preventing external heating from direct sunlight. The cartons container at the WRC will be located in a shaded area of the WRC to prevent heating by direct sunlight.

2.6 Plant and Equipment on Site

The following items of fixed plant are held within the main recycling building of the WTS:

- 2 x balers; and
- 1 x sorting line.

3 x compactors are held within the WRC area of the site.

The following items of mobile plant are held on site:

- 4 x tele handler/JCB type shovel; and
- 2 x fork lift/tele truck.

Daily checks are carried out on all mobile plant and any findings are recorded in the site diary. All mobile and fixed plant servicing and maintenance is carried out as per the manufacturer's instructions. Any defects that might harm the environment are entered into the incident management system. Staff are continually reminded to pay particular attention to fuel tanks and mobile plant for signs of leakage.

The site is inspected on a daily basis for evidence of spillage and leakage. The results of all daily and weekly monitoring are recorded in the site diary, as well as any remedial actions taken.

Spillages and leakages of fuels and oils will be handled in accordance with the site's Accident Management Plan.

Minor spillages will be cleaned up immediately using sand or proprietary absorbents to clean up liquids and placed in alternative containers.

Materials suitable for absorbing and containing minor spillages (spill kits) will be maintained on site. After use the materials will be bagged up and stored within the building (at least 6m from combustible waste and ignition sources) prior to removal off site to a suitably licenced facility.

In the event of a major spillage, immediate action will be taken to contain the spillage and prevent liquid from entering surface water drains (to include using the shut off valves to the drainage network) and any permeable ground. The spillage will be cleared immediately and placed in containers (a minimum of 6m from combustible waste/ignition sources) for off-site disposal and NRW will be notified. Details of major spillages will be kept for the lifetime of the permit.

All mobile plant is fitted with fire extinguishers as are all vehicles entering the WTS area of the site. All heavy mobile plant used to move waste around the site is suitable for the task and benefits from enclosed cabs.

Any mobile plant not in use is temporarily stored within the WTS in a designated area of the recycling building, away from potentially combustible material as illustrated on Drawing 005. The designated mobile plant storage area at the WRC is illustrated on Drawing 004. The storage area is located over 6m from any combustible material.

Plant and equipment are visually inspected prior to every use to ensure it is fit for purpose.

Additional plant and equipment including, but not limited to, water bowser, spray equipment and road sweeper will be made available from PCC resources as required.

The following parking will be provided on site:

- 56 Bay Recycling and Refuse Vehicle Parking;
- Hooklift Trailer Vehicle Parking Bay;
- 136 total parking bays for staff car park including, 4 disabled parking bays, 11 EV charging bays and 6 motorcycle parking bays; and
- 2 x cycle stores.

Whilst these areas are located on site, they do not constitute waste operations, and are therefore not included within the EP boundary.

All vehicles are parked within bays away from waste storage areas, and therefore parked vehicles will not affect firefighting efforts or impinge upon the movement of waste from the storage areas to the quarantine areas.

2.7 Training

Staff receive training in the use and selection of fire extinguishers, site evacuations, fire safety and all relevant emergency procedures. Site operatives are trained in the detection of fires and can therefore provide an additional level of management for fire detection. In addition, site operatives are trained in fire prevention and mitigation, monitoring activities and emergency procedures. Refresher courses are provided as necessary.

The Site Manager and Site Supervisors are responsible for maintaining the training matrix (produced under the EMS). Records of training will be kept on site in the offices adjacent to the recycling building.

All staff and contractors working on site are made aware of the contents of the FPMP and the procedures that are in place in the event of a fire on site during their induction. Staff training is regularly refreshed particularly in the event of non-compliance.

The procedures for fires discovered on site are provided both in the site's EMS and on-site notice boards.

PCC review and test the FPMP with a full fire drill at least once a year, or in the event of any significant changes to site operations, to ensure that the contents are still relevant and that all staff members' knowledge is current and up to date.

A copy of the FPMP is kept on site within the WTS office, satellite offices of the WRC and Phase 2, and within the site's emergency pack on the southern site boundary as illustrated on Drawing 004. PCCs maintenance department and the fire brigade will be issued copies.

2.8 Security Measures

The site as a whole is enclosed by 2.4m high weldmesh security fencing, and the WRC is separately fenced to prevent members of the public accessing other areas of the site from the WRC. The site's northern boundary consists of 3m high metal acoustic fencing. There are lockable gates at the site's access point which are locked outside of operational hours and all doors to buildings are locked when not in use. Keys to the gates are held by PCC, PCC's out of hours service which is manned 24/7 and by the local FRS, to ensure that the FRS will have access to the site 24/7 including outside of operational hours.

Some waste types at the WRC are stored within shipping containers. Prior to site operatives leaving the WRC at night, the shipping containers are closed and secured, and the entire site is locked, to ensure that the containers are secure outside of operational hours.

Outside of operational hours, the fire alarm system connects to an external company who will contact the site manager and/or emergency services as appropriate.

Waste storage areas, buildings, security gates and access points are inspected daily at the commencement of each working day, and the site perimeter fencing is inspected weekly unless an issue is reported. Any defects identified which compromises the integrity of the facility will be notified to the site manager and made secure by temporary repair within 24 hours, with a permanent fix implemented as soon as possible within a maximum of 7 days, unless a timescale is otherwise agreed with NRW.

The site benefits from CCTV which provides full coverage of the WRC and WTS. CCTV locations are illustrated on Drawings 004 and 005. The CCTV system is linked to a central control station which is monitored 24 hours a day, 7 days a week. If an alarm is raised, the site manager and/or the emergency services are contacted immediately, as appropriate.

The site lies adjacent to a COMAH site, and therefore the police regularly patrol the area.

All visitors to the WTS and WRC (other than those delivering waste to reception areas of the WRC, which benefits from a separate booking system) are required to register in the visitor's book and sign out again on exit to minimise the risk of unauthorised visitors being present on site. Visitors are accompanied at all times by a site operative.

2.9 Fire Sources and Prevention Measures

Table 6 below provides a summary of the potential causes of fire on site and associated preventative measures and is taken from the FPMP guidance.

Table 6: Fire Sources and Preventative Measures

Cause	Preventative Measure
Arson and Vandalism	<p>The site has a number of security measures in place to limit the likelihood of arson or vandalism including:</p> <ul style="list-style-type: none"> • A minimum of 2.4m weldmesh perimeter fencing security with a gated entrance which is locked if appropriate; • 3m high metal acoustic fencing along the site's northern boundary; • Lockable doors on all buildings; • Full recorded CCTV coverage of the site, monitored remotely via an external company 24 hours a day, 7 days a week; • Prior to site operatives leaving the WRC at night, the shipping containers are closed and secured, and the entire site is locked, to ensure that the containers are secure outside of operational hours Inspection and maintenance procedures; and • A visitor sign in system. <p>In the event of a breach of security at the site, the cause will be investigated, and appropriate mitigation measures implemented. This will be recorded in the Daily Site Log. Records maintained will include inspections and maintenance of doors and locks, breaches of security, investigations and actions taken.</p> <p>Any damage caused by an intrusion will be identified and repaired with a temporary solution within 24 hours, with a permanent fix implemented as soon as possible, within a maximum of 7 days, unless a timescale is otherwise agreed with NRW.</p> <p>The WTS recycling building and residual building benefit from a recorded CCTV system that provides full coverage of the site. The CCTV system is linked to a central control station which is monitored 24 hours a day, 7 days a week. If an alarm is raised, the site manager, PCC's out of hours service, and/or the emergency services are contacted immediately.</p>

	Section 2.8 describes how safe access to the site for the FRS and other emergency responders is achieved outside of operational hours.
Ignition Sources	All fixed ignition sources are kept a minimum of 6m away from the storage of combustible and flammable materials. No naked flames, space heaters, furnaces or incinerators are permitted on site.
Site Visitors and Contractors	<p>Site safety and fire prevention procedures are explained to all site visitors and contractors to the WTS. Site visitors to the WTS are required to register in the visitor's book and are accompanied at all times by a site operative.</p> <p>All visitors to the WRC (other than those delivering waste to the reception areas) are required to register in the visitor's book and sign out again on exit. They are accompanied at all times by a site operative.</p>
Self-Combustion	<p>Material is mostly of kerbside segregated household origin. No physical treatment takes place either on site or prior to arrival to the site on the accepted materials that would induce temperature increase in the waste streams.</p> <p>Effective stock management limits the likelihood of the self-combustion of materials stored on site. As such, the site has waste acceptance and stock management procedures which are upheld by all employees at the site, as detailed in Section 2.2.</p> <p>The risk of self-combustion is significantly removed due to the short overall storage time of material.</p> <p>Only material included in Table S2.1 of the EP are accepted at the site.</p> <p>Non-waste materials that pose a risk of self-combustion are stored as indicated in Table 5.</p>
Plant or equipment failure	<p>Plant and equipment are maintained in accordance with the manufacturer's recommendations. The details of the maintenance and inspection procedure are contained within the EMS – see OTD. All new plant on site is fitted with telematics, which automatically highlights any faults.</p> <p>Plant and equipment are operated in accordance with the manufacturer's instruction manuals. Instruction manuals for plant and equipment are held either on site or online if a hardcopy is not available from the manufacturer.</p> <p>All mobile plant will be inspected daily to identify potential defects that could lead to a leakage of fuel across the site, and staff are continually reminded to pay particular attention to fuel tanks for signs of leakage.</p>

	<p>The site is inspected on a daily basis for evidence of spillage and leakage. The results of all daily and weekly monitoring are recorded in the site diary, as well as any remedial actions taken.</p> <p>No industrial heaters are utilised on site. Heating is provided in the office and welfare areas of the site only, via electric panel heaters with no open elements exposed. The Site Manager ensures that the heaters are switched off when an area is not in use.</p> <p>Induction training and refresher training is provided to staff in the safe operation of plant and equipment relevant to their role, in accordance with the EMS.</p> <p>Inspection of plant and equipment is undertaken on a daily basis to check for faults and ensure appropriate safeguards are in place. The procedure also covers general housekeeping and cleaning of plant and all equipment on site.</p> <p>Storage of mobile plant is detailed in Section 2.6 above.</p> <p>In the event of a failure or suspected fault with an item of plant or piece of equipment, the operator will ensure that the equipment is shut off in a safe manner and not used until the equipment can be repaired or replaced.</p>
Electrical faults (including damaged or exposed electrical cables)	<p>All electrics on site are fully certified by a qualified electrician and regular safety inspections are carried out in accordance with the EMS. Records of faults and/or daily electrical maintenance are recorded in the site diary. Annual PAT testing is carried out on all electrical devices.</p>
Discarded Smoking materials	<p>PCC operates a no smoking policy (to include e-cigarettes and vapes) and therefore no smoking is allowed on any area of the site.</p>
Hot works	<p>All hot works are undertaken under a permit to work system which includes a 60-minute fire watch by a competent person at the end of the works. No hot works will be carried out within the last 2 hours of the working day. No hot works are undertaken by staff unless they are trained and have the relevant permit to work.</p> <p>All hot works are conducted in a cleared area of the site at least 6m from any combustible materials. A site operative performs a continuous fire watch during the hot work and for a minimum of 60 minutes after the work is completed.</p>
Hot Exhausts	<p>Vehicles are turned off when not in use. Consideration is given to the high-risk time for hot exhausts (one hour after switch off when dust can settle on hot surfaces) and wherever possible vehicles are given time to cool down prior to site staff leaving site at the end of a shift.</p> <p>All plant is inspected and undergoes a visual fire check twice daily, at the start and end of the working day. Visual fire check inspections are logged throughout the day on the 'daily walkaround' sheet. Any issues/concerns will be reported to the site manager who will implement appropriate</p>

	<p>remedial actions which will be recorded on the same 'daily walkaround' sheet.</p> <p>All plant is parked, a minimum of 6m from material storage, minimising potential for exhausts to result in ignition of materials when left unattended following the end of the shift.</p>
Open Burning	Burning is not permitted on site.
Neighbouring sites	<p>The site is located within a predominately rural area.</p> <p>Puma Energy, a separately permitted industrial fuel storage facility (COMAH site), lies adjacent to the site's south/south west boundary and represents a potential risk of fire. The Site Manager and Site Supervisors will be made aware of the alarm system which is operated at Puma. HSE were consulted during the planning application for the site and raised no immediate concerns.</p> <p>Employees remain aware at all times and report activities or behaviour which could represent a fire risk from nearby sites to the site manager. The manager will then take action as appropriate to address the risk.</p>
Incompatible Wastes (Including reactions between incompatible materials and batteries)	<p>To ensure that incompatible materials or reactions do not take place, material is offloaded at the site supervised by suitably qualified site operatives. All materials are checked in accordance with the waste acceptance procedure, details of which are included within Section 2.2 of this FPMP to ensure no non-conforming materials are accepted. Each load that arrives at the site is visually inspected to ensure that only permitted wastes are accepted and that batteries are not accepted in the incorrect load. Site operatives are trained to identify batteries and battery operated products within the incoming waste loads. Furthermore, waste is offloaded at the site supervised by qualified site operatives, providing a second opportunity to identify batteries and non-conforming waste in incorrect loads prior to waste processing.</p> <p>Only vehicles that are accompanied by the correct documentation are accepted at the WTS.</p> <p>To ensure that wherever possible batteries are removed from waste delivered by households at the WRC prior to processing, a designated battery box is provided, and signposted, and site operatives remain vigilant and will remind those delivering waste to separate batteries;</p> <p>In the event that unauthorised waste is delivered to the site, the waste will be segregated and stored in a designated quarantine area within the permit boundary prior to export from site to a suitably permitted facility for recovery or disposal as soon as reasonably practicable.</p> <p>Any identified batteries are safely handpicked and placed into the specialised battery storage box, located within the recycling building. If damaged batteries are identified during waste acceptance visual inspections they will be isolated from other batteries and quarantined</p>

	<p>prior to removal from site to an appropriately permitted facility for recovery or disposal.</p> <p>Tanks containing fuel are constructed so that any leaks/spillages are contained. Tanks are integrally bunded with a leakage containment bund capable of containing at least 110% of the volume of the tank. Bunds are impermeable and resistant to the stored materials.</p> <p>Spillages and leakages of fuels and oils will be handled in accordance with the Accident Management Plan.</p> <p>Minor spillages will be cleaned up immediately using sand or proprietary absorbents to clean up liquids and placed in alternative containers.</p> <p>Materials suitable for absorbing and containing minor spillages (spill kits) will be maintained on site. After use the materials will be bagged up and stored within the building (at least 6m from combustible waste and ignition sources) prior to removal off site to a suitably licenced facility.</p> <p>In the event of a major spillage, immediate action will be taken to contain the spillage and prevent liquid from entering surface water drains (including use of the shut off valves) and any permeable ground. The spillage will be cleared immediately and placed in containers (a minimum of 6m from combustible waste/ignition sources) for off-site disposal and NRW will be notified. Details of major spillages will be kept for the lifetime of the permit.</p>
Hot loads deposited at site	<p>No burning, reactive / reacting or visibly hot (producing smoke, or steam) loads are accepted on site. In accordance with the waste acceptance procedure detailed within Section 2.2 of this FPMP, each load is visually inspected at the site entrance, therefore minimising prohibited materials and the acceptance of hot loads.</p> <p>Instructions are given to customers to ensure no hot loads are accepted on site.</p> <p>Should a hot load be deposited on site, it will immediately be removed to the nearest dedicated quarantine area and attempts will be made to cool the waste (either with water or extinguisher as appropriate) and the load will be removed to a suitably licenced facility for disposal.</p>
Build-up of loose combustible waste, dust and fluff	<p>As outlined in Section 2.3, site operatives undertake a daily clean of the site flooring and bays with a brush (on telehandler) to prevent build-up of debris and dust on site. A washdown is carried out as required. Mobile plant is cleaned weekly using the vehicle wash bay located in the phase 2 area, and the baler/sorting line is cleaned weekly. The food waste bay is washed down quarterly and swept daily and all other bays are swept and cleaned on a regular basis when emptied.</p> <p>All escape routes, fire exits, alarm call points, and fire extinguishers are kept clear from loose material at all times.</p>

	PCC adopt good housekeeping measures on site. And all cleaning is carried out in accordance with the EMS.
"Tramp" metal	The waste acceptance procedures outlined in Section 2.2 ensure a low risk of contamination.

3.0 Fire Management

3.1 Containing and Mitigating Fires

3.1.1 Automatic Suppression System

The recycling building and residual building at the WTS will benefit from an automatic suppression system, provided by Fire Shield Systems Ltd. The suppression system is integrated into the detection system and automatically activated if a flame is detected. The system can also be manually activated by site operatives.

The system consists of automatic cannons which are designed to cover open areas with a radius of up to 45m from the monitor at 360 degrees, therefore providing coverage of all waste storage and processing areas. The location of the cannons is illustrated on Drawing 005. The cannons are supplied by a water tank, utilising a Class A wetting agent which *"increases water's wetting capability 10-fold. In more simple terms, 'making water wetter'"*. Fire Shield Systems Ltd have been commissioned by PCC to design, supply, install, test and commission the site's fire detection and suppression systems. The system allows any potential fire to be automatically detected and managed at the earliest possible stage.

The automatic suppression system will be tested on a monthly basis.

3.1.2 Manual Fire Suppression

A fixed fire suppression system is not considered to be appropriate or Best Available Technique (BAT) for external waste storage areas, therefore the most effective way of minimising the time it would take to extinguish a fire in external waste storage areas (the external covered waste bays at the WTS and the WRC) is to focus on early detection and monitoring of material piles. This allows any potential fire to be detected and managed at the earliest possible stage, when on-site plant can be utilised to move material and isolate a fire so that it can be suppressed and extinguished quickly using extinguishers or fire hoses.

As described in Section 2.1, the site benefits from an extensive series of detection systems.

The WRC is manned 7 days a week during the summer months (1st April to 31st October), and 5 days a week during the winter months from 8am to 6pm. In order to maintain the site for public use, the site is serviced by vehicles and operatives between 6:30am and 8pm. The WTS area of the site is manned between 7am and 5pm Monday to Friday with the option for occasional working on Saturdays and Sundays, public holidays and over the Christmas period. Therefore, fires will be detected early by trained employees or the automatic detection system both inside and outside of operational hours.

The local FRS will assume full control for the approach to suppression/extinguishing of any fire once it is in attendance at the site.

A series of fire hydrants are located strategically around the entire site and are connected to the 459m³ fire water storage tank. The hydrants have suitable connections to allow the FRS to connect directly to access water at all waste storage areas. The location of the hydrants is illustrated on Drawings 004 and 005.

The locations of all fire extinguishers, and fire blankets on site are illustrated on Drawings 004 and 005. Foam, carbon dioxide and powder extinguishers are provided across the entire site. The extinguishers are inspected annually.

The site benefits from at two manual hose reels located around the site at the locations illustrated on Drawings 004 and 005. In addition, the residual building, and spare bay at the WTS also benefit from hoses for cleaning purposes, which could be used for manual fire suppression if required. The hose reels are fed by a mains water supply.

The waste processing and storage buildings are constructed to the appropriate standards. Should fire compromise the stability or integrity, the buildings and site will be immediately evacuated.

3.1.3 Quarantine Area

The site benefits from dedicated quarantine areas which can be used for fire management. The WTS area of the site benefits from two dedicated fire management quarantine bays, both of which can hold at least 50% of the largest stockpile at the WTS.

The WRC quarantine area is located in the centre of the site and is able to hold at least 50% of the largest stockpile within the WRC.

The quarantine areas are also used to store non-conforming waste temporarily. Any non-conforming waste moved to the quarantine area will be removed from the site as soon as possible, within a maximum of 72 hours, to a suitably authorised facility for disposal. In the event of a fire, these materials will be removed from the quarantine area immediately by site operatives and stored within an alternative suitable container on site, or a spare bay.

Additionally, it is also possible to move material from the WTS area of the site to the WRC and vice versa to free up space within bays or separate burning/unburnt material as required.

The location of the quarantine areas is illustrated on Drawings 004 and 005 and detailed in Table 7 below.

Non-conforming material will be handled in one of the following ways:

- Handpicked in the existing bay; or
- Segregated and stored within the quarantine area and removed from site as soon as possible, within a maximum of 72 hours.

Table 7: Quarantine Area Dimensions

Quarantine Area	Location	Primary Use	Length (m)	Width (m)	Height (m)	Volume (m ³)
Waste Transfer Station						
Non-conforming Waste and Fire Prevention	North of main recycling building.	Separation of either unburnt or burnt material as appropriate. Separation of non-conforming material.	10	5	3	150
Non-conforming Waste and Fire Prevention	East of residual waste building.	Separation of either unburnt or burnt material as appropriate. Separation of non-conforming material.	10	5	3	150
Waste and Recycling Centre						
Non-conforming Waste and Fire Prevention	Centre of WRC.	Separation of either unburnt or burnt material as appropriate. Separation of non-conforming material.	5.0	4.0	3.0	60

The quarantine areas will always have a separation distance of at least 6m on all sides.

The largest stockpile at the WTS is 229.5m³ therefore each quarantine area at the WTS is able to hold at least 50% of the largest stockpile. The largest stockpile at the WRC is 60m³ and therefore the quarantine area at the WRC is able to hold at least 50% of the largest stockpile.

The release of firewater outside of the site from fire suppression activities at the quarantine areas would be prevented by the existing containment arrangements detailed in Section 3.6.3 above. Penstock valves will be closed manually if not already triggered by the sites' detection system. The placement of the quarantine areas provides an open area of the site to allow for the prompt and direct removal of burning materials from the storage areas and to allow access by the FRS.

Site Management will instruct all site operatives when and how either the unburnt or burnt material, or any hot loads delivered accidentally to site, will be moved to the quarantine area. The following procedure will be implemented on site:

- When it is safe to do so, the material will be moved by on site plant to the quarantine area;
- The movement of the material will be overseen at all times by the site manager to minimise any spillages and ensure the area is not overfilled; and
- To limit any spillages, plant will not be overfilled when moving the material.

All site operatives will be trained to follow this FPMP and all procedures listed in the above sections.

3.1.4 Site Plans

Up-to-date site plans are on display in the site offices and detail:

- Site layout;
- Material storage arrangements;
- Firefighting equipment locations (Pollution Control Equipment); and
- Personal Protection Equipment (PPE).

In addition, all procedures relating to emergency procedures on site, including fires, are held within the site office and can be easily found and are readily available.

3.2 Managing Emissions to Air, Land and Water

PCC recognise that a fire at the site could impact on the sensitive receptors identified in Table 2 above. Receptors highlighted in bold in Table 2 are likely to be affected in the event of a fire as they are located in the path of the prevailing wind (from the west and south west). Emissions from a fire include smoke, ash, soot and contaminated firewater.

3.2.1 Minimising Fire Combustion Emissions (Smoke, Ash and Soot)

As detailed in Section 2.1, the WTS and WRC benefit from a fire detection and alarm system which is monitored 24 hours a day, 7 days a week (24/7) by an external company. In addition, site operatives are trained in the detection of fires and carry out regular visual inspections of all waste storage areas at both the WTS and the WRC. If an alarm is raised, the site manager and/or the emergency services are contacted immediately. This will ensure rapid detection of a fire and minimisation of damage and emissions.

At the WTS area of the site, the recycling building and residual waste building benefit from roller shutter doors to aid firefighting by enabling the clearance of any smoke. This provides multiple access points to the building for the FRS and enables rapid extinguishing of a fire therefore minimising emissions of smoke. Local residents, Traffic Wales, Network Rail and Puma Energy will be notified of a fire following the procedure in Section 3.4 below.

3.2.2 Minimising Fire-fighting Emissions (Contaminated Firewater)

The site has an engineered firewater containment system and associated procedures as detailed in Section 3.6.3 below.

3.2.3 Emergency Response

As detailed in Section 3.6.3, all firewater will be contained within the site.

In the WTS area of the site, firewater flows from the recycling building southwards, where it would be retained in the lowest southern most areas of the buildings and yard. The retention volume is 611m³.

Firewater from the WRC would flow southwards and be retained in the lowest areas of the WRC operational yard. The retention volume is 94m³.

If the fire alarm is triggered (either through detection or manual call points), all penstock valves will be automatically shut to prevent the release of firewater to surface water. The closure of the penstock valves is completed automatically when the fire alarm is activated without the need to be on site, allowing the penstock valves to be closed outside of operational hours.

3.3 Fire Drills on Site

A full fire drill is carried out and documented at least once a year, or in the event of any significant changes to site operations.

This FPMP is implemented across the site and all fire management equipment is tested on an annual basis.

If any issues are found during these fire drills, the FPMP will be updated or amended accordingly and site operatives will be re-trained.

Regular checks are made of all escape routes and equipment.

3.4 Emergency Contact Details

An emergency contact sheet, including contact details for local receptors and transport networks, is included in Appendix 01. In the event of a fire the following procedure will be followed:

- The site manager or individual nominated by the site manager will locate the emergency contact list included in Appendix 01;
- In the event of a large fire, 999 will be dialled first;
- The site manager or individual nominated by the site manager will phone Traffic Wales, South Wales Trunk Road Agent, Network Rail and each of the local receptors, included in Appendix 01, if appropriate to do so; and
- Finally, the NRW incident hotline will be dialled once the situation is under control.

PCC will use its website and social media channels to further communicate information and developments regarding the fire event to local residents. PCC will also liaise with the community council and County Councillor (and neighbouring community councils), in addition to the internal

Highways department, South Wales Trunk Road Agent, Network Rail and neighbouring Puma Energy (COMAH site).

3.5 Firefighting Strategy and Procedures

3.5.1 Firefighting Strategy

Both the WTS and WRC areas of the site benefit from quarantine areas. There is sufficient space within the operational areas on site to move either unburnt or burnt material to the appropriate quarantine areas as outlined in Section 3.8.1. It is also possible to move material from the WTS area of the site to the WRC and vice versa to free up space within bays or separate burning/unburnt material as required.

Mobile plant required to move material from within bays/containers and to move skips/containers is available at all times. All heavy mobile plant used to move waste around the site is suitable for the task and benefits from enclosed cabs. Additional mobile plant could be hired if required. Mobile plant available at all times on site to move material/skips/containers (as appropriate) is listed in Section 2.6 and includes:

- 4 x tele handler/JCB type shovel (material movement); and
- 2 x fork lift/tele truck (container/skip movement).

Outside of operational hours, the fire alarm system connects to an external company. If an alarm is raised, the site manager, and/or the emergency services are contacted immediately. If necessary the Site Manager would contact available out of hours staff to attend site. All site staff have received an induction on the site, its operations, its layout, and firefighting procedures. Required staff are also trained to use the on site plant/machinery as necessary to move material from within bays/containers, and to move skips/containers in the event of a fire to prevent the fire spreading.

Unburnt waste within close proximity to the fire will be dampened down by site operatives to prevent the fire from spreading further.

As detailed in Section 2.7, site operatives are trained in the use of fire extinguishers, fire safety and procedures for moving material to the quarantine area. A trained Fire Marshal is always present on site during operational hours.

Depending on the severity and location of the fire, the following techniques may be used:

- Applying water to cool unburnt material within a bay or a skip/container and other nearby hazards;
- If safe to do so, and if possible separating either unburnt or burnt material from a bay or skip/container (as appropriate) using a tele-handler and placing it in the quarantine area thereby reducing the amount of material available to be burnt;

- If safe to do so, and if possible moving entire containers/skips holding either unburnt or burnt material using a fork lift/tele truck and placing it in the quarantine area thereby reducing the amount of material available to be burnt, and increasing the separation distance. All containers are accessible to allow movement using mobile plant.

3.5.2 Firefighting Procedures

Small Fire – Material within Bay or Container/Skip

A small fire or area of smouldering waste in a bay or container/skip, within an area of the site not covered by the automatic suppression system, may be dealt with as follows:

- A fire or area of smouldering waste in a bay or container/skip will either be dealt with in-situ, or mobile plant (tele-handler/JCB type shovels) will be utilised to pull the affected waste from the bay/container/skip into the open and away from any further waste that could become alight on contact, depending on the location of the fire within the bay (i.e. if fire at back of bay/container/skip deal with in-situ but if at front/top pull into open to extinguish); and
- If safe to do so, the fire will be extinguished immediately⁸ utilising the fire extinguishers or fire hoses.

Once a small fire is dealt with the remaining area will be visually inspected immediately by site operatives for any signs that a fire / smouldering waste still remains. The handheld temperature monitoring device will be used to ensure the waste is a suitable temperature. The same procedure, detailed in this section, will be implemented should any signs of fire/elevated temperature remain.

Small Fire – Container/Skip Movement

A small fire or area of smouldering waste in a container/skip, within an area of the site not covered by the automatic suppression system, may be dealt with as follows:

- A fire or area of smouldering waste in a container/skip will either be dealt with in-situ, or a fork lift/tele truck may be utilised to move the entire container/skip into the open and away from any further waste that could become alight on contact, depending on the location and extent of the fire within the container/skip.
- Alternatively, unburnt waste storage containers/skips may be moved into the open and away from burning waste using the fork lift/tele truck therefore increasing the separation distance and preventing the fire from spreading further.
- The Site Manager/FRS will decide on the most appropriate firefighting tactics.

⁸ Should a single item of the waste stream be alight, and the fire is well contained, then the waste will be doused via use of an extinguisher/fire rose as it is pulled from the waste pile. The burned / fire- damaged portion will then be removed to the quarantine area and the remaining waste returned to the pile.

- The fork lift/tele trucks are available to facilitate for the movement of containers/skips and all waste storage containers/skips are accessible to allow mobile plant to move the container/skip if safe to do so.
- If safe to do so, the fire will be extinguished immediately⁹ utilising the fire extinguishers or fire hoses.

Once a small fire is dealt with the remaining area will be visually inspected immediately by site operatives for any signs that a fire / smouldering waste still remains. The handheld temperature monitoring device will be used to ensure the waste is a suitable temperature. The same procedure, detailed in this section, will be implemented should any signs of fire/elevated temperature remain.

Uncontainable Small Fire or a Large Fire

The following procedure is in place on site that will be followed in the event of a small fire becoming uncontainable or in the event of a major fire onsite:

- The site manager and FRS will be contacted immediately. NRW will be notified at the first opportune moment;
- The site and buildings will be evacuated; and
- The penstock valves will be closed automatically both during and outside of operational hours, when the fire alarm is activated, before firefighting commences on site. The valves can also be closed manually if required.

3.5.3 Additional Procedural Considerations

The following techniques will be considered in addition to extinguishing a fire using water:

- Reducing the amount of firewater run-off generated by using sprays and fogs rather than jets (this is the responsibility of the FRS); and
- Recycling firewater will occur if it is possible to reuse (this is the responsibility of the FRS).

Site operatives will work in conjunction with, and take instruction from, the FRS if they deem recycling firewater to be a possibility.

The following parameters will be considered when determining which firefighting options/strategy to implement in the event of a fire:

⁹ Should a single item of the waste stream be alight, and the fire is well contained, then the waste will be doused via use of an extinguisher/fire rose as it is pulled from the waste pile. The burned / fire- damaged portion will then be removed to the quarantine area and the remaining waste returned to the pile.

- The scale and nature of the environmental hazards on site and the activities that take place on it;
- The risks posed to people, the environment and property;
- The types of materials currently stored on site, in what form they are stored in, and the length of time needed to extinguish a fire involving them; and
- The availability of firewater containment facilities.

3.6 Fire Waters

3.6.1 Site Drainage

The main details of the site's drainage system are illustrated on Drawings PECO-CAP-PW-XX-DR-D-000506-C07, PECO-CAP-PW-XX-DR-D-000507-C05, and PECO-WSP-P4-XX-DR-D-0540-P01 and described below.

All waste is stored and treated on impermeable concrete surfacing with sealed construction joints and an engineered drainage system, either within the buildings or outside of the buildings. All runoff from waste storage and treatments areas drain to a controlled drainage system.

The site benefits from a sealed, engineered drainage system throughout all areas used for waste storage, and treatment as illustrated on Drawings PECO-CAP-PW-XX-DR-D-000506-C07, PECO-CAP-PW-XX-DR-D-000507-C05, and PECO-WSP-P4-XX-DR-D-0540-P01.

Clean surface water from non-storage areas will drain through a number Sustainable Drainage Systems (SuDS) features to filter run off. Technologies will be in place including a rainwater harvesting system, permeable paving, urban planted rill, and swales. Once treated through the SuDS features, this water will be discharged directly into the watercourse to the south of the site. The SuDS system has been approved by the Sustainable Drainage Approving Body (SAB).

Foul drainage will be treated by an approved package treatment plant prior to discharging at the same location as the SuDS system outlet (a discharge consent is currently being considered by NRW).

Levels across the site have been designed so that run off from all areas used for the storage and treatment of waste (trade effluent) will flow to the trade effluent drainage system.

The trade effluent drainage system at the WTS will be linked to a main holding tank. This tank is not connected to the SuDS system and will be tankered off site when full. The tank will have a high level alarm to alert staff to the requirement to empty in advance of it being full.

The trade effluent drainage system at the WRC will be linked to a main holding attenuation tank. The WRC trade effluent will be monitored from a dedicated sampling point from the trade effluent tank in line with the requirements of the discharge consent (application for this consent will be made once adequate trade effluent data has been collected). If the trade effluent meets the

requirement of the discharge consent the trade effluent will be pumped from the tank into the attenuation storage and it will flow to the bioretention area (which is the first stage of the SuDS surface water treatment train). The treated trade effluent will then be discharged into the watercourse to the south of the site along with the sites surface and domestic foul waters. PCC will monitor the discharge in accordance with the discharge consent, via an agreed dedicated sampling point. If the WRC trade effluent does not comply with the requirements of the discharge consent, trade effluent will be collected in the trade effluent tank, prior to tankering off site for treatment. This tank will also have a high level alarm to alert staff to the requirement to empty in advance of it being full. As the site is being constructed in a phased manner the WRC discharge consent will be applied for at the time of construction of this phase (at a later date to the main WTS) and will be in place prior to the option of the WRC.

Shut off valves, as described in Section 3.6.3 below prevent the release of firewater run off from the site.

3.6.2 Firewater Calculations

Based upon the FPMP guidance firewater calculations a 300m³ stack of combustible material will require an average water supply of at least 2,000 litres a minute for a minimum of 3 hours. This equates to approximately 360m³ of water.

Based on this calculation and the largest stockpile within each area of the site, the water requirements, available water sources and containment capacities are shown in Table 7 below.

Table 8: Firewater Requirements, Sources and Site Containment Capacity

Waste Storage Area	Largest Stockpile	Firewater Requirement	Firewater Source	Firewater Containment Capacity
Waste Transfer Station	299.5m ³	276,777 litres (277m ³)	459,000 litre (459m ³) water tank connected to a network of fire hydrants illustrated on Drawing 005	611,000 litres (611m ³) as described in Section 3.6.3 below
Waste and Recycling Centre	60m ³	72,360 litres (72m ³)	94,000 litre (94m ³) water tank illustrated on Drawing 004	94,000 litres (94m ³) as described in Section 3.6.3 below

The 459m³ water tank feeds the network of fire hydrants and both water tanks have suitable connections to allow the FRS to connect directly to the tanks to access water, as shown in Figure 2 below.

Both water tanks are accessible and can be filled by the FRS from the top, if the FRS intended to bring water to the site to supply the tanks, to ensure a steady supply.



Figure 2 Water Tank Connections

3.6.3 Fire Water Containment

An overland flow path and volume analysis has been undertaken using the onsite firewater supply tank volumes and ground elevations to determine the expected route, area and depths of the above ground firewater containment.

Firewater would be contained within the site's drainage system, and the lowest areas of the operational yard surfaces for collection at appropriate locations by tanker vehicles for removal and treatment offsite.

In the event of a fire, all shut off valves will be closed prior to the commencement of firefighting activities to prevent the release of firewater outside the site through the surface water drainage systems. The shut off valves are closed automatically when the fire alarm is activated without the need to be on site or remote operations, therefore, allowing shut off valves to be closed outside of operational hours. All containment features are illustrated on Drawings PECO-CAP-PW-XX-DR-

D-000506-C07, PECO-CAP-PW-XX-DR-D-000507-C05, and PECO-WSP-P4-XX-DR-D-0540-P01, and shut-off valves are clearly identified.

Following a fire incident, either PCC's own tanker or the contractors listed in Section 3.8.1 below would be used to pump all of the water from the system, before the shut off valves are re-opened.

Waste Transfer Station

Firewater from the WTS buildings gravitates south where it would be retained in the surface water drainage system, and would be prevented from leaving the site via the automatic closure of the shut-off valves as identified on Drawings PECO-CAP-PW-XX-DR-D-000506-C07, PECO-CAP-PW-XX-DR-D-000507-C05, and PECO-WSP-P4-XX-DR-D-0540-P01. Firewater would also be contained in the lowest southern most areas of the buildings and yard, as illustrated on Drawing 005. The area and drainage system combined is able to hold up to 611m³ of firewater within the 'proposed fire water area' illustrated on Drawing 006. The maximum retained water level depth will be 95mm within the residual waste building. The 611m³ containment capacity includes a freeboard to allow for vehicle movements through the contained water.

Following a fire incident, the drainage system would be cleaned out by tanker as described in Section 3.8.1 below. Waste and Recycling Centre

Firewater in the WRC area flows southward and would be retained in the lowest areas of the WRC operational yard, as illustrated on Drawing 004. The area can contain up to 94m³ of firewater with a retention level of approximately 65.310m AOD. The maximum retained water level depth will be 490mm against the south eastern retaining wall and covered skip area, where lowest yard level is approximately 64.820m AOD.

Firewater would also be contained within the drainage system and would be prevented from leaving the site via the automatic closure of the shut-off valves. Fire water would flow to the effluent tank, and shut off valves would prevent the release of water from the tank. Following a fire incident, the drainage system and tank would be cleared out by a tanker as described in Section 3.8.1 below.

3.7 Management after a Fire Event

After a fire event, the following procedure will be implemented depending on the severity of the fire:

- A small and containable fire that can be safely dealt with in-house using suitably trained staff and firefighting equipment located on site: The fire will be recorded in the site diary, including the causes of the fire and methods used to manage the fire. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any

outcomes to be implemented onsite will be incorporated within this FPMP and the site's EMS as required.

- A larger fire that requires the presence of the FRS: If the site operatives have been told to evacuate or cease operations by the NRW and/or FRS, the site staff will wait until told safe to re-enter site and resume operations. Site operatives will ensure that the WRC is closed to the public, so no further waste can be deposited. All incoming material will be diverted to the authorised facilities shown below and no material collections will take place during the fire event. Any closure of the site will be followed by informing customers and the regulatory authorities. The fire will be recorded in the Daily Site Log and in an incident report and will detail the causes of the fire and methods used to manage the fire. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this FPMP and the site's EMS as required.

Should damage be sufficient to prevent the site from being able to store material, the site will cease accepting material and will divert material intended for the WTS to the following sites:

- Residual bulking and disposal: Cwn Environmental in Carmarthenshire;
- Residual and recycling bulking at disposal at AJ Recycling in Boncath; and
- AHP direct to Nappy Cycle in Carmarthenshire.

The WRC will be closed, and members of the public will not be able to deposit waste.

The site manager will liaise with NRW to determine a plan-of-action to introduce normal operations at the site, and the timescales involved to achieve this.

3.8 Fire Damaged Material

A visual assessment will be carried out by the site manager to determine whether the material can remain on site and be bulked up. Wherever possible, unburnt materials will be separated from fire damaged piles. If material piles have become mixed, then it is likely that the material will be removed from site to a suitably permitted facility.

3.8.1 Clearing and Decontaminating the Site and Steps to Becoming Operational Again

Site Management will determine what decontamination and cleaning measures will be required to be carried out proportionately to the impact caused by the fire. Measures to be implemented include (but are not limited to):

- Hose down affected areas;

- Sweep/brush up any loose burnt material or contaminated firewater ready for removal from site; and
- Assess any damage to site infrastructure as detailed below.

After a significant incident, an assessment will be undertaken by a suitably qualified individual. Technically competent managers and/or engineers and/or the insurance company will assess the degree of damage caused by a fire and the residual risk from fire damaged material, emissions or equipment. Burnt material will be kept on site for a short period of time if required for a subsequent internal investigation. Following this, the material will be transferred off site to a suitably licensed disposal facility.

Firewater would be contained within the lowest areas of the operational yard surfaces for collection at appropriate locations by tanker vehicles for removal and treatment offsite. As described above, the maximum containment capacity for both the WTS and the WRC includes a freeboard to allow for vehicle movements through the contained water. Firewater contained within the site's drainage system would also be cleared using a tanker, who would pump all the water from the system before the shut off valves are reopened.

Firewater will be removed from site, and the drainage system cleaned by either PCC's own tanker, or alternatively the following contractors may be used:

- Waste Wales Waste: Tel: 01646 629089: Website: www.westwaleswaste.com; or
- Wales Environmental: Tel: 01834 860777: Website: www.walesenviro.com.

Arrangements will be made to clear and remove fire water as soon as practicable and safe to do so after a fire.

The period of time taken to restore the site or affected part of the site to operational status will be determined by the nature and extent of the fire. If the affected area does not impact the rest of the site's operation, operations will re-start as and when appropriate.

Appendix 1: Emergency Contact Sheet

Fire Service (in the event of a major fire)

- 999 or 112

Natural Resources Wales Hotline (24 hour service)

- 0300 065 3000

Local Receptors (with associated directions)

- Catamouse Cottage, Robestone West (North): Contact details to be obtained prior to opening subject to GDPR consent;
- Puma Energy (West and south): 01646 663340;
- Little Welsh Wood Camping Farm (North west): 07861 397706
- Woody Kiln Caravan and Motorhome Club Certificated Location (South west): 01646 695479
- Capestone Organic Poultry Ltd (West): 01437 781247
- Stoddard Tyres – Haverfordwest (North east): 01437 206199

Traffic Wales (Report an incident that could impact the road network)

- 0300 123 1213

Network Rail (Report an incident that could impact the railway)

- 03457 11 41 41 (24/7 Emergency Line)

South Wales Trunk Road Agent (Report urgent issues such as road traffic incidents or hazards)

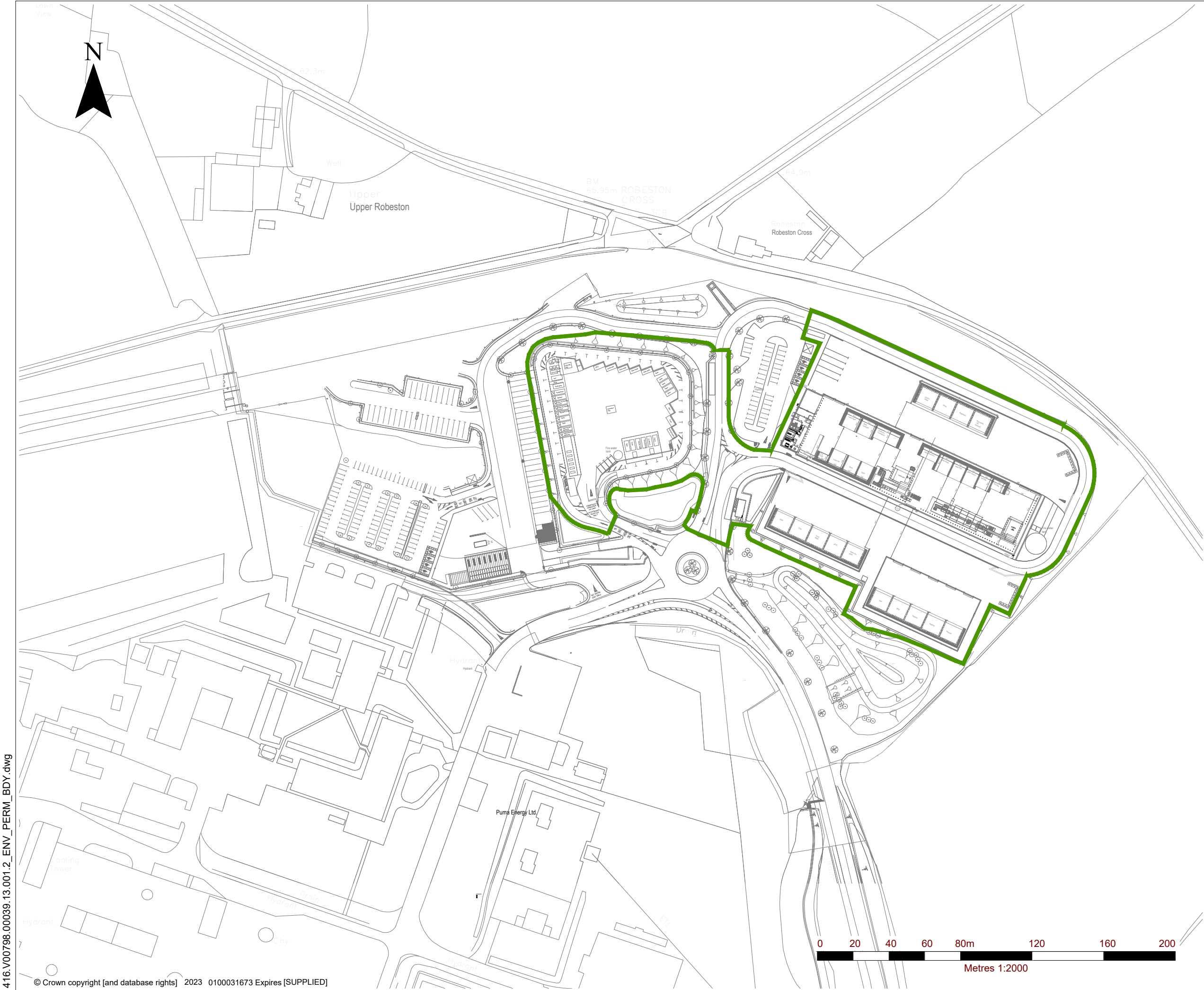
- 0300 123 1213

Pembrokeshire County Council Eco-Park

- Nigel Cole: 07717 348034
- Craig Meacham: 07826 267630 ; and
- Neil McCarthy: 07779 967658 .

Appendix 2: Drawings

Drawing 001	Environmental Permit Boundary
Drawing 002A	Environmental Site Setting Local Receptors
Drawing 002B	Environmental Site Setting Natural and Cultural Heritage
Drawing 003	Site Layout and Environmental Permit Boundary - Overview
Drawing 004	Site Layout and Environmental Permit Boundary – WRC
Drawing 005	Site Layout and Environmental Permit Boundary – WTS
Drawing PECO-CAP-PW-XX-DR-D-000506-C07	Drainage Layout Surface and Foul Water Sewers
Sheet 5 of 7	
PECO-CAP-PW-XX-DR-D-000507-C05	Drainage Layout Surface and Foul Water Sewers Sheet 6 of 7
PECO-WSP-P4-XX-DR-D-0540-P01	Phase 4 Drainage Layout



NOTES

1. DRAWING IS BASED ON PERCY THOMAS DRAWINGS REF: PECO-CAP-PW-XX-DR-A-051100 REV C01 (27.01.22), PECO-CAP-PW-XX-DR-A-050002 REV T03 (28.01.22) AND PECO-CAP-PW-00-DR-A-910101 REV C03 (10.03.23)

LEGEND

ENVIRONMENTAL PERMIT BOUNDARY

3RD FLOOR
THE BREW HOUSE
JACOB STREET
BRISTOL, BS2 0EQ
T: 01179 064280
www.slrconsulting.com

PEMBROKESHIRE COUNTY COUNCIL
ECO PARK

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APPLICATION

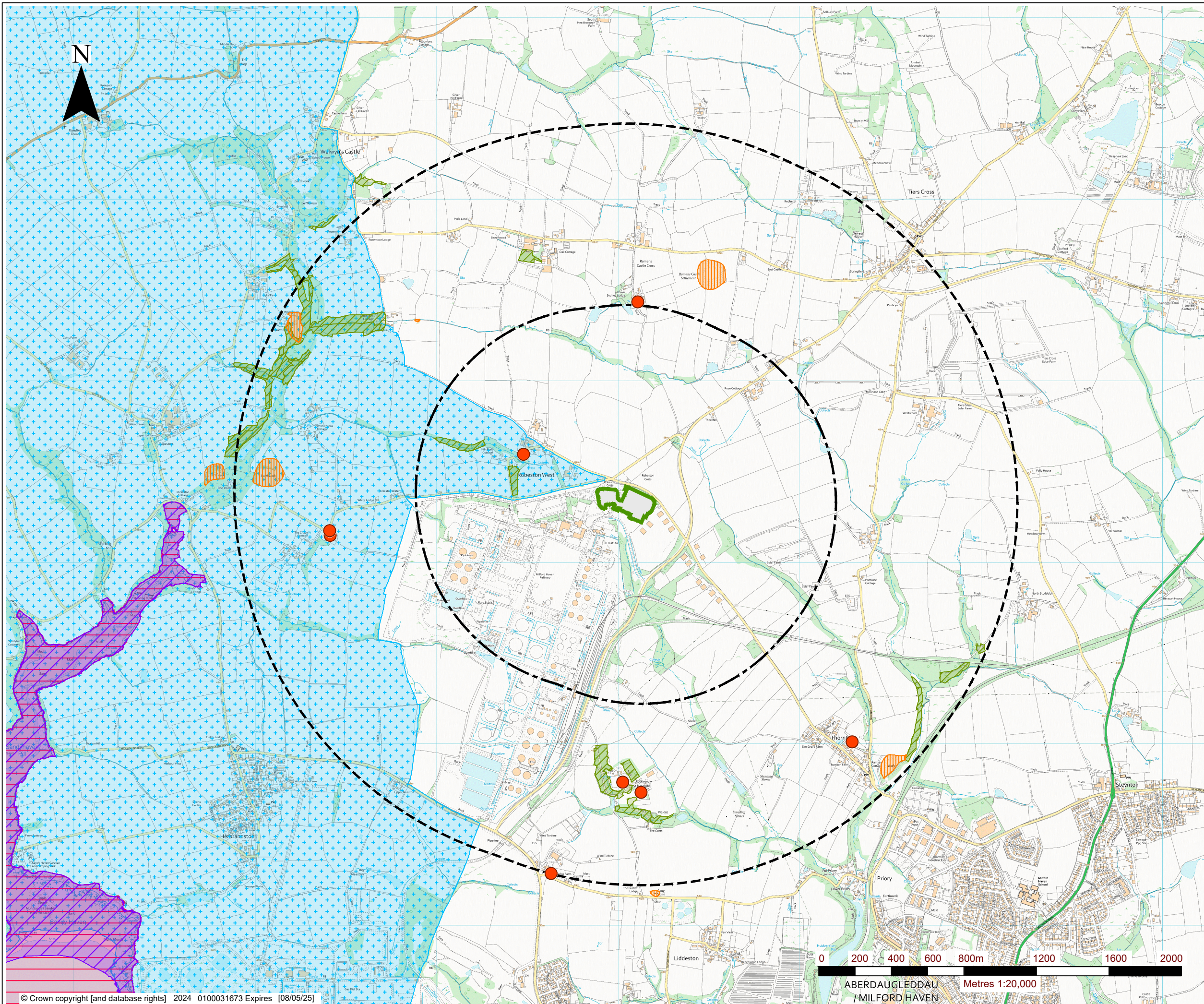
ENVIRONMENTAL PERMIT
BOUNDARY

DRAWING 001

Scale
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Date
MAY 2024

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LEGEND	
	ENVIRONMENTAL PERMIT BOUNDARY
	1km OFFSET BOUNDARY
	2km OFFSET BOUNDARY
	LISTED BUILDING
	ANCIENT WOODLAND
	SCHEDULED MONUMENT
	NATIONAL PARK
	SPECIAL AREA OF CONSERVATION (SAC)
	SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)



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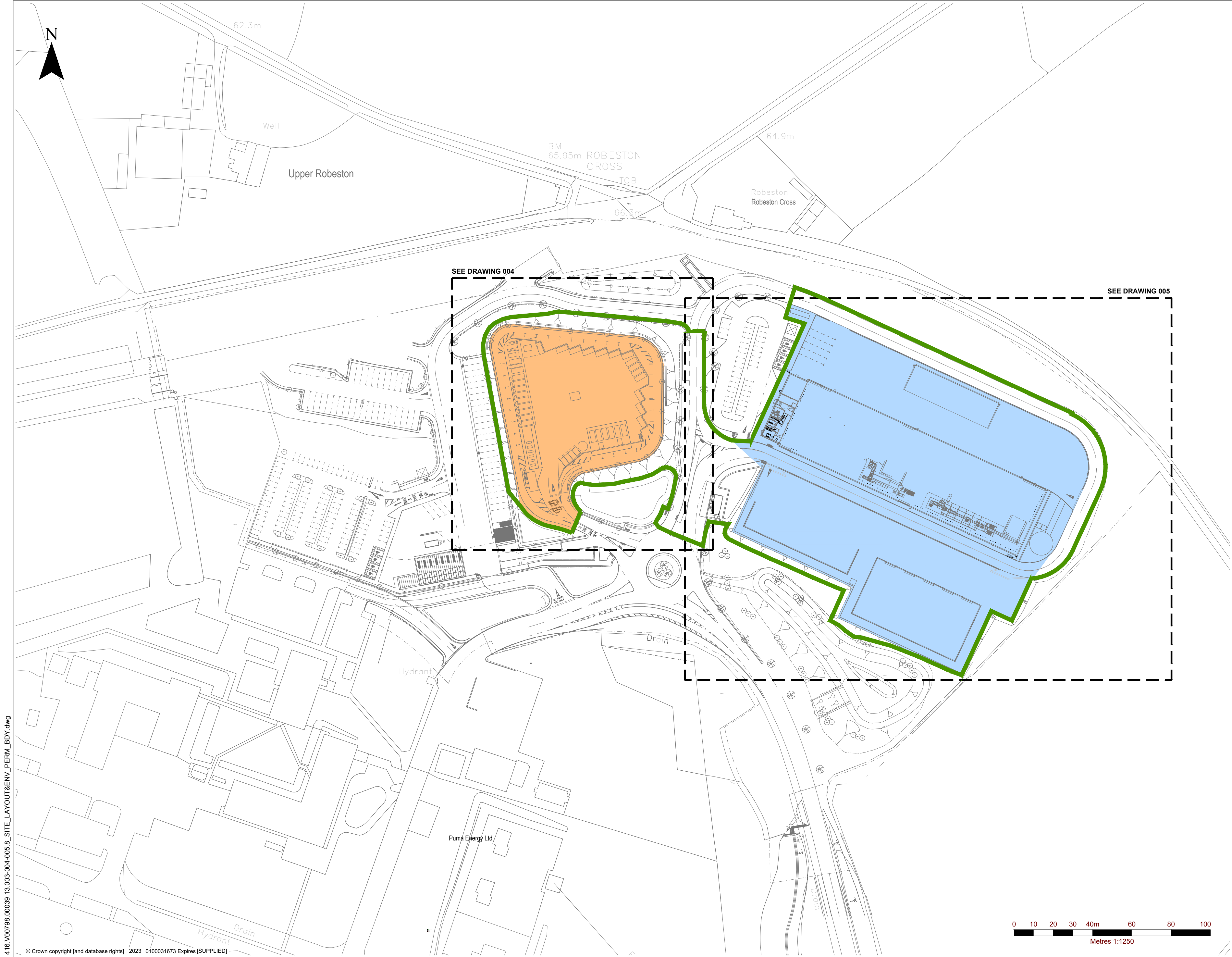
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ENVIRONMENTAL SITE SETTING
NATURAL AND CULTURAL
HERITAGE

DRAWING 002B

Scale 1:20,000 @ A3	Date MAY 2024
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NOTES

1. DRAWING IS BASED ON PERCY THOMAS DRAWINGS REF: PECO-CAP-PW-XX-DR-A-051100 REV C01 (27.01.22), PECO-CAP-PW-XX-DR-A-050002 REV T03 (28.01.22) AND PECO-CAP-PW-00-DR-A-910101 REV C03 (10.03.23)

LEGEND	
	ENVIRONMENTAL PERMIT BOUNDARY
	WASTE RECYCLING CENTRE (WRC)
	WASTE TRANSFER STATION (WTS)

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SITE LAYOUT AND ENVIRONMENTAL
PERMIT BOUNDARY - OVERVIEW

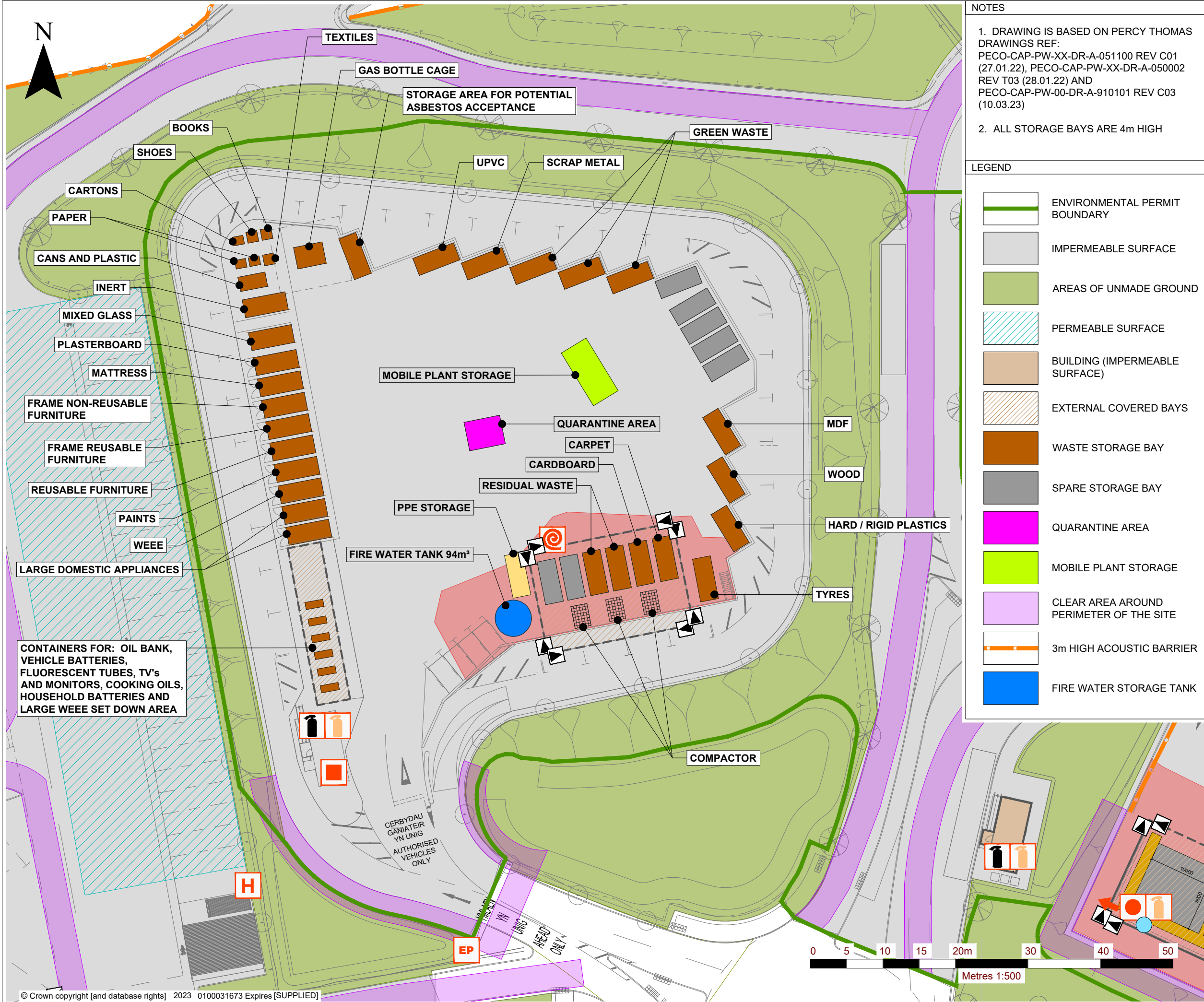
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Date MAY 2024

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NOTES

1. DRAWING IS BASED ON PERCY THOMAS DRAWINGS REF: PECO-CAP-PW-XX-DR-A-051100 REV C01 (27.01.22), PECO-CAP-PW-XX-DR-A-050002 REV T03 (28.01.22) AND PECO-CAP-PW-00-DR-A-910101 REV C03 (10.03.23)

2. ALL STORAGE BAYS ARE 4m HIGH

LEGEND	
	ENVIRONMENTAL PERMIT BOUNDARY
	IMPERMEABLE SURFACE
	AREAS OF UNMADE GROUND
	PERMEABLE SURFACE
	BUILDING (IMPERMEABLE SURFACE)
	EXTERNAL COVERED BAYS
	WASTE STORAGE BAY
	SPARE STORAGE BAY
	QUARANTINE AREA
	MOBILE PLANT STORAGE
	CLEAR AREA AROUND PERIMETER OF THE SITE
	3m HIGH ACOUSTIC BARRIER
	FIRE WATER STORAGE TANK

LEGEND	
	FIRE WATER AREA
	FIRE HOSE
	MANUAL CALL POINT
	FIRE BLANKET
	EMERGENCY PACK
	PPE STORAGE
	FIRE ASSEMBLY POINT
	FIRE EXIT
	CO² FIRE EXTINGUISHER
	FOAM FIRE EXTINGUISHER
	POWDER FIRE EXTINGUISHER
	WATER FIRE EXTINGUISHER
	FIRE SUPPRESSION MONITOR
	FIRE HYDRANT
	CCTV CAMERA

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APPLICATION

**SITE LAYOUT AND ENVIRONMENTAL
PERMIT BOUNDARY -
WASTE RECYCLING CENTRE**

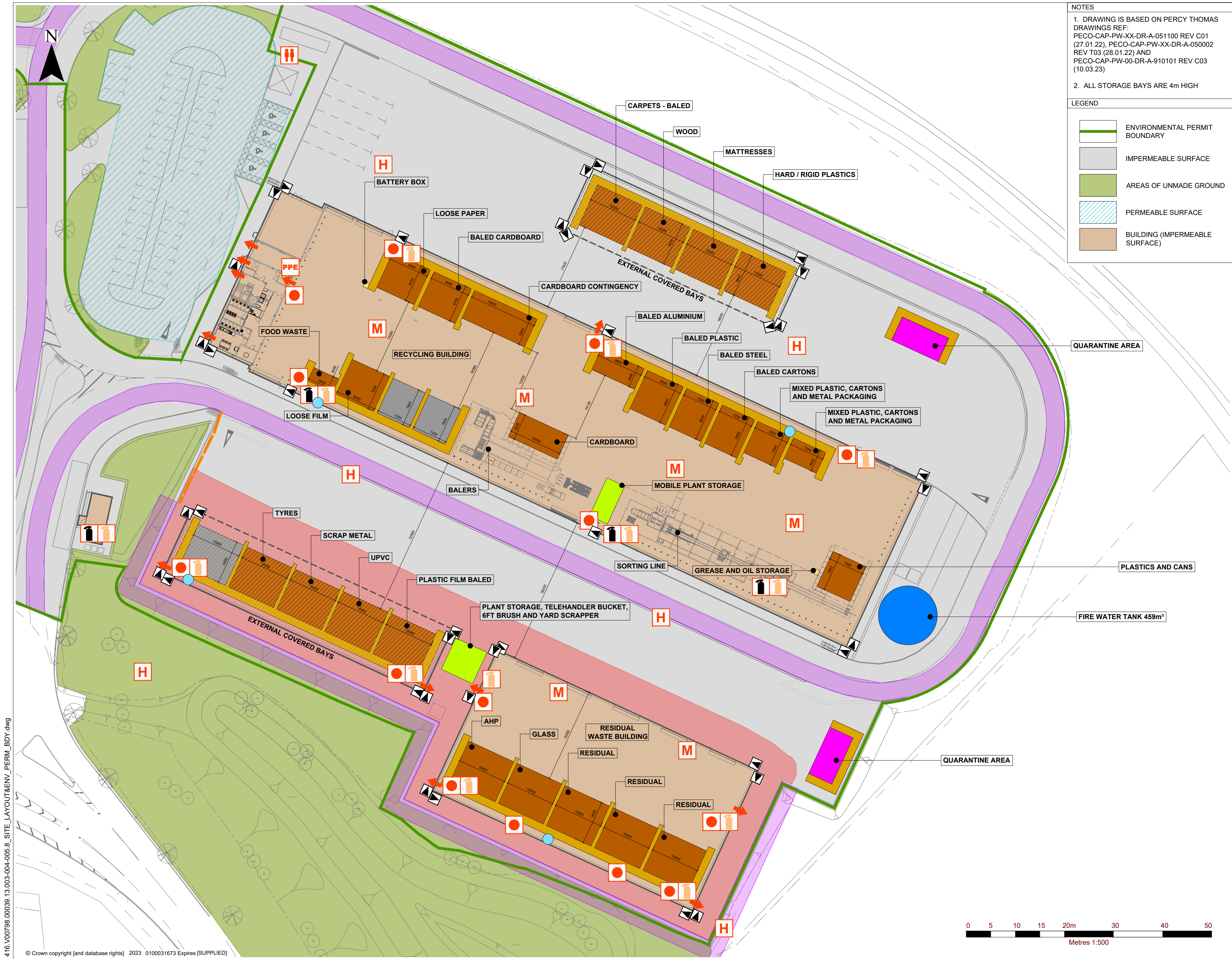
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Date
MAY 2024

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NOTES

1. DRAWING IS BASED ON PERCY THOMAS DRAWINGS REF: PECO-CAP-PW-XX-DR-A-051100 REV C01 (27.01.22), PECO-CAP-PW-XX-DR-A-050002 REV T03 (28.01.22) AND PECO-CAP-PW-00-DR-A-910101 REV C03 (10.03.23)

2. ALL STORAGE BAYS ARE 4m HIGH

LEGEND

ENVIRONMENTAL PERMIT BOUNDARY

IMPERMEABLE SURFACE

AREAS OF UNMADE GROUND

PERMEABLE SURFACE

BUILDING (IMPERMEABLE SURFACE)

LEGEND

EXTERNAL COVERED BAYS

BAY WALL

WASTE STORAGE BAY

SPARE STORAGE BAY

QUARANTINE AREA

MOBILE PLANT STORAGE

CLEAR AREA AROUND PERIMETER OF THE SITE

3m HIGH ACOUSTIC BARRIER

FIRE WATER STORAGE TANK

FIRE WATER AREA

FIRE HOSE

MANUAL CALL POINT

FIRE BLANKET

EMERGENCY PACK

PPE STORAGE

FIRE ASSEMBLY POINT

FIRE EXIT

CO² FIRE EXTINGUISHER

FOAM FIRE EXTINGUISHER

POWDER FIRE EXTINGUISHER

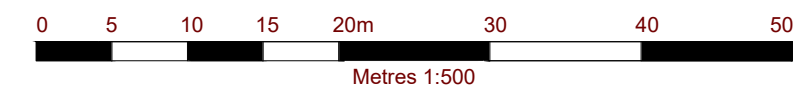
WATER FIRE EXTINGUISHER

FIRE SUPPRESSION MONITOR

FIRE HYDRANT

CCTV CAMERA

INITIAL FLY MONITORING POINT



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ENVIRONMENTAL PERMIT
APPLICATION

SITE LAYOUT AND ENVIRONMENTAL
PERMIT BOUNDARY -
WASTE TRANSFER STATION

DRAWING 005

Scale 1:500 @ A2

Date MAY 2024

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PEMBROKESHIRE C.C. LOCAL AUTHORITY LICENCE No LA 100023344


0 4 8 12 16 20m
SCALE 1:200



- Notes:
- General:
- All dimensions and levels are in metres.
 - Do not scale from this drawing. Use figured dimensions only.
 - All existing assets to be protected during construction.
 - SuDS maintenance regime to be implemented in accordance with the recommendations in the SuDS Manual (CIRIA C753) and manufacturers instructions.
 - Backfill requirements to specification for highway works MCHW Vol. 1.
 - Pervious pavements designed to a CBR value of 2.5%. Contractor to proof roll subgrade prior to construction, any identified soft spots are to be excavated and replaced with compacted Type 1 granular material to MCHW Vol. 1 Cl. 803.
- Concrete:
- Blinding and infill concrete to be grade ST2 to BS 8500.
 - Mass concrete surround to pipes, access chambers, gullies and kerbs etc. to be grade ST4 to BS 8500.
 - Concrete to benching to be formed with a rough key to receive a 20mm thick granolithic render trowelled hard with a steel trowel to provide a dense, durable smooth surface.
 - Burned concrete AC-2 and DS-2.
- Granular Material:
- Type 1 granular material to MCHW Vol.1 Cl. 803.
 - 4/20 clean open graded stone to BS EN 12342:2000.
 - 6F2 material to Table 6.1 of MCHW Vol.1 Series 600.
- Pipework:
- All pipework & fittings to be OSMA drain or OSMA ultra rib, or similar approved.
 - The length of pipework between access covers to include for any short length pipes as necessary to achieve the configuration of rocker pipes and standard short length pipes at fixed access chamber positions.
 - All pipework built into access chambers to be either standard short lengths or cut lengths as appropriate.
 - Rocker pipes to be a maximum of 600mm long.
 - All 'Y' connections to be formed utilising proprietary junction sections.
- Brickwork:
- Where required, brickwork to access chambers and gullies to be Class B engineering brickwork to BS 771 laid in English bond 225mm thick with Class M6 (Class 2) mortar, flush pointed.
- Access Covers and Gratings:
- All access covers in trafficked areas to be non-rocking type, single sealed, locking and load class D400.
 - All access covers in non-trafficked areas to be non-rocking type, single sealed, locking and load class B125.
 - All internal foul access covers are to be pre-fabricated type, hung from suspended floor slab.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDOUS RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

 Location of the existing statutory services on this drawing have been interpreted from information received from the statutory providers. The site team should anticipate additional services such as street lighting and associated cabling, overhead telecoms or power and storm water sewers (not shown on DCWW plans). The utilities are shown diagrammatically on this drawing and are not definitive. Location of utilities should be confirmed on site prior to construction.

- Working in or near a watercourse
- Working in or near a highway

For further details on risks refer to the designers risk assessments

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

Rev	Drawn	Checked	App'd	Description	Date
C05	WT	SM	SM	Drainage amended to suit revised drawing	27/11/2023
C04	EB	AC	SM	Drainage amended to suit revised road alignment	18/09/2023
C03	AC	JC	SM	Drainage amended to suit Welsh Water Diversion	14/06/2023
C02	SL	SM	BW	Drainage amended to suit updated level information	16/02/2023
C01	SL	SM	BW	Construction Issue	08/02/2023
T01	JH	PM	KF	Issued for Tender	27/06/2022
P04	SG	PM	KF	Issued for Information	20/05/2022
P03	SG	PM	KF	Issued for Information	20/04/2022
P02	SG	PM	KF	Issued for Information	14/03/2022
P01	SG	PM	KF	First Issue	02/02/2022

Purpose of Issue

A - Suitable for Construction

Classification

Confidential

Client



Project

Pembrokeshire County Council
Eco Park

Drawing

Drainage Layout
Surface and Foul Water Sewers
Sheet 2 of 7

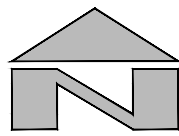
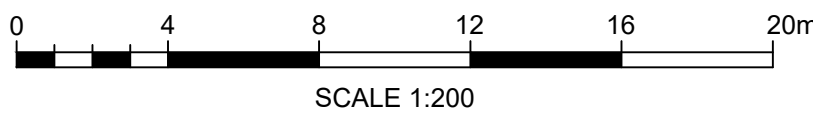
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Drawing Identifier	BS1192 Compliant
Project - Originator - Zone - Level - File Type - Role - Number	revision
PECO-CAP-PW-XX-DR-D-000503	C05



Quest House, St Mellons Business Park, Fortran Road,
St Mellons, Cardiff, CF3 0EY, UK
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Key of Proposed Drainage Network

Site Boundary

Existing Features

Existing Filter Strip

Existing Swale

Surface Water

Surface Water Sewer

Surface Water Access Chamber

Surface Water Catch Pit

Surface Water Flow Control Access Chamber

Surface Water Chamber With Fire Water Shut Off Valve

Surface Water Filter Drain

Surface Water Linear Collector (ACO Channel Drain or Similar Approved)

Surface Water Combine Kerb Drainage Channel (ACO Kerb Drain or Similar Approved)

Surface Water Road Gully With Gully Lead

Rain Water Pipe

Threshold Drain - ACO M100D unless noted otherwise

Surface Water Headwall

Attenuation Storage Tanks (Alderburgh Pluvial Cube Cellular Storage or Similar Approved)

Bioretention Systems

Permeable sub-base (30% voids)

Pervious Pavement (permeable paving blocks)

Detention Basin

Pond

Petrol/Oil Interceptor

Rainwater Harvesting

RWH Sewer

RWH Access Chamber

RWH Headwall

RWH Tank

Foul Water

Foul Water Sewer

Foul Water Access Chamber

Waste Water Treatment Works (WWTW)

Combined Water

Combined Water Sewer

Combined Access Chamber

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PEMBROKESHIRE C.C. LOCAL AUTHORITY LICENCE No LA 100023344

Notes:

General:

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- Do not scale from this drawing. Use figured dimensions only.
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- Backfill requirements to specification for highway works MCHW Vol. 1.
- Pervious pavements designed to a CBR value of 2.5%. Contractor to proof roll subgrade prior to construction, any identified soft spots are to be excavated and replaced with compacted Type 1 granular material to MCHW Vol. 1 Cl. 803.
- Concrete:
 - Blinding and infill concrete to be grade ST2 to BS 8500.
 - Mass concrete surround to pipes, access chambers, gullies and kerbs etc. to be grade ST4 to BS 8500.
 - Concrete to benching to be formed with a rough key to receive a 20mm thick granolithic render trowelled hard with a steel trowel to provide a dense, durable smooth surface.
- Buried concrete AC-2 and DS-2.
- Granular Material:
 - Type 1 granular material to MCHW Vol.1 Cl. 803.
 - 4/20 clean open graded stone to BS EN 12424:2000.
 - 6F2 material to Table 6.1 of MCHW Vol.1 Series 600.
- Pipework:
 - All pipework & fittings to be OSMa drain or OSMa ultra rib, or similar approved.
 - The length of pipework between access covers to include for any short length pipes as necessary to achieve the configuration of rocker pipes and standard short length pipes at fixed access chamber positions.
 - All pipework built into access chambers to be either standard short lengths or cut lengths as appropriate.
 - Rocker pipes to be a maximum of 600mm long.
 - All 'y' connections to be formed utilising proprietary junction sections.
- Brickwork:
 - Where required, brickwork to access chambers and gullies to be Class B engineering brickwork to BS 771 laid in English bond 225mm thick with Class M6 (Class 2) mortar, flush pointed.
- Access Covers and Gratings:
 - All access covers in trafficked areas to be non-rocking type, single sealed, locking and load class D400.
 - All access covers in non-trafficked areas to be non-rocking type, single sealed, locking and load class B125.
 - All internal foul access covers are to be pre-fabricated type, hung from suspended floor slab.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDOUS RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING:



Location of the existing statutory services on this drawing have been interpreted from information received from the statutory providers. The site team should anticipate additional services such as street lighting and associated cabling, overhead telephones or power and storm water sewers (not shown on DCWW plans). The utilities are shown diagrammatically on this drawing and are not definitive. Location of utilities should be confirmed on site prior to construction.

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- Working in or near a highway

For further details on risks refer to the designers risk assessments

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

C03	AC	JC	SM	Drainage amended to suit Welsh Water Diversion.	14/06/2023
C02	SL	SM	BW	Drainage amended to suit updated level information.	16/02/2023
C01	SL	SM	BW	Construction Issue	08/02/2023
T01	JH	PM	KF	Issued for Tender	27/06/2022
P04	SG	PM	KF	Issued for Information	20/05/2022
P03	SG	PM	KF	Issued for Information	20/04/2022
P02	SG	PM	KF	Issued for Information	14/03/2022
P01	SG	PM	KF	First Issue	02/02/2022

Rev	Drawn	Checked	Approved	Description	Date
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Purpose of Issue

A - Suitable for Construction

Classification

Confidential

Client



Project

Pembrokeshire County Council
Eco Park

Drawing

Drainage Layout
Surface and Foul Water Sewers
Sheet 3 of 7

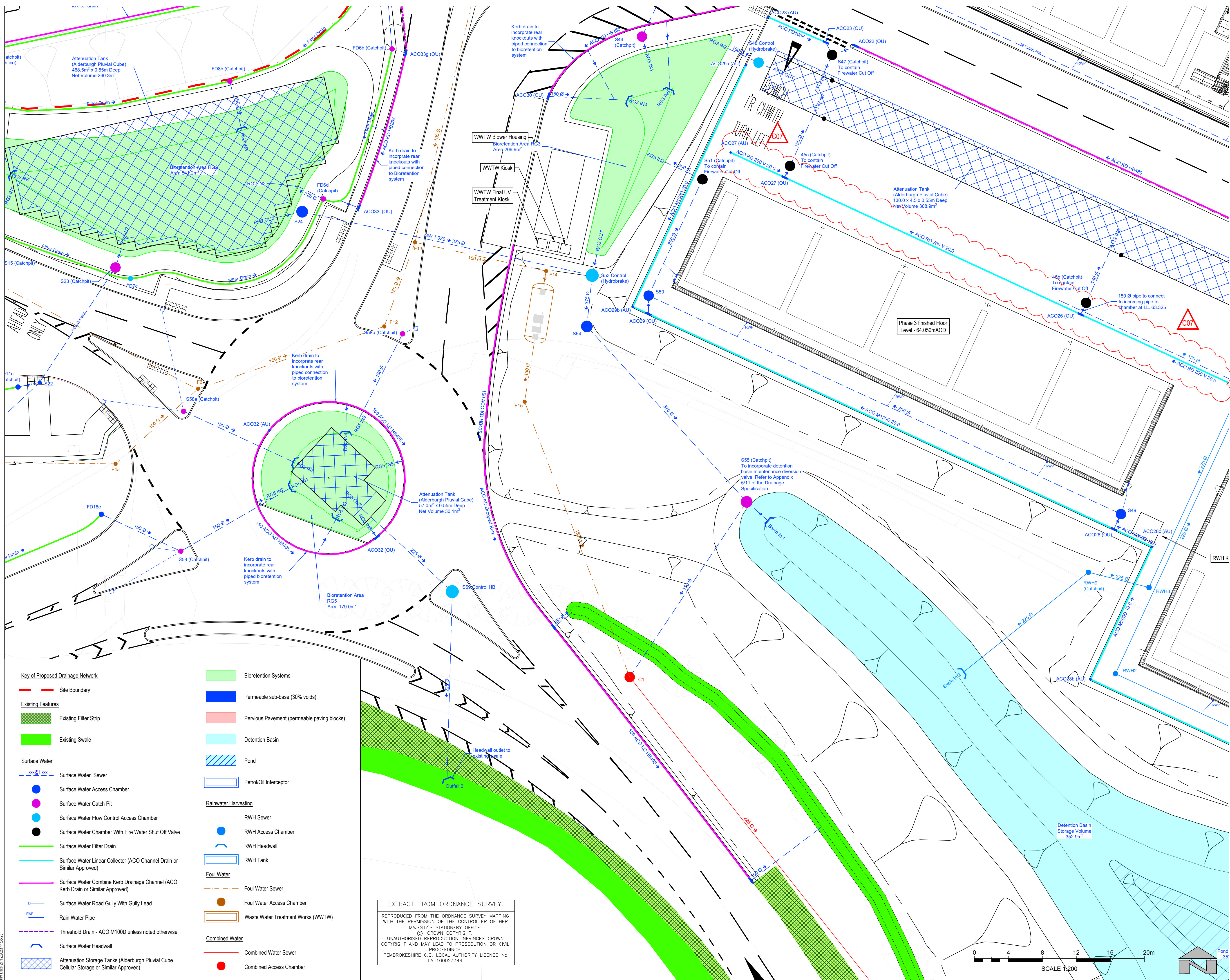
Scale @ A1	Drawn	Checked	Approved
1:200	SG	PM	KF

Project No.	Date
CS/101992	19-OCT-21

Drawing Identifier	BS1192 Compliant
Project - Originator - Zone - Level - File Type - Role - Number	revision
PECO-CAP-PW-XX-DR-D-000504	C03



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Key of Proposed Drainage Network

Site Boundary

Existing Features

- Existing Filter Strip
- Existing Swale

Surface Water

- Surface Water Sewer
- Surface Water Access Chamber
- Surface Water Catch Pit
- Surface Water Flow Control Access Chamber
- Surface Water Chamber With Fire Water Shut Off Valve
- Surface Water Filter Drain
- Surface Water Linear Collector (ACO Channel Drain or Similar Approved)
- Surface Water Combine Kerb Drainage Channel (ACO Kerb Drain or Similar Approved)
- Surface Water Road Gully With Gully Lead
- Rain Water Pipe
- Threshold Drain - ACO M1000 unless noted otherwise
- Surface Water Headwall
- Attenuation Storage Tanks (Alderburgh Pluvial Cube Cellular Storage or Similar Approved)

Rainwater Harvesting

- RWH Sewer
- RWH Access Chamber
- RWH Headwall
- RWH Tank

Foul Water

- Foul Water Sewer
- Foul Water Access Chamber
- Waste Water Treatment Works (WWTW)

Combined Water

- Combined Water Sewer
- Combined Access Chamber

Bioretention Systems

- Permeable sub-base (30% voids)
- Pervious Pavement (permeable paving blocks)
- Detention Basin
- Pond
- Petrol/Oil Interceptor

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PEMBROKESHIRE C.C. LOCAL AUTHORITY LICENCE No LA 100023344

Notes:

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- Pervious pavements designed to a CBR value of 2.5%. Contractor to proof roll subgrade prior to construction, any identified soft spots are to be excavated and replaced with compacted Type 1 granular material to MCHW Vol. 1 Cl. 803.

Concrete:

- Blinding and infill concrete to be grade ST2 to BS 8500.
- Mass concrete surround to pipes, access chambers, gullies and kerbs etc. to be grade ST4 to BS 8500.
- Concrete to benching to be formed with a rough key to receive a 20mm thick granolithic render trowelled hard with a steel trowel to provide a dense, durable smooth surface.
- Burfed concrete AC-2 and DS-2.

Granular Material:

- Type 1 granular material to MCHW Vol.1 Cl. 803.
- 4/20 clean open graded stone to BS EN 13242:2000.
- 6F2 material to Table 6.1 of MCHW Vol.1 Series 600.

Pipework:

- All pipework & fittings to be OSMA drain or OSMA ultra rib, or similar approved.
- The length of pipework between access covers to include for any short length pipes as necessary to achieve the configuration of rocker pipes and standard short length pipes at fixed access chamber positions.
- All pipework built into access chambers to be either standard short lengths or cut lengths as appropriate.
- Rocker pipes to be a maximum of 600mm long.
- All V connections to be formed utilising proprietary junction sections.

Brickwork:

- Where required, brickwork to access chambers and gullies to be Class B engineering brickwork to BS 771 laid in English bond 225mm thick with Class M6 (Class 2) mortar, flush pointed.

Access Covers and Gratings:

- All access covers in trafficked areas to be non-rocking type, single sealed, locking and load class D400.
- All access covers in non-trafficked areas to be non-rocking type, single sealed, locking and load class B125.
- All internal foul access covers are to be pre-fabricated type, hung from suspended floor slab.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

Location of the existing statutory services on this drawing have been interpreted from information received from the statutory providers. The site team should anticipate additional services such as street lighting and associated cabling, overhead telecoms or power and storm water sewers (not shown on DCWW plans). The utilities are shown diagrammatically on this drawing and are not definitive. Location of utilities should be confirmed on site prior to construction.

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For further details on risks refer to the designers risk assessments

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

C07	SL	SM	SM	ACO drain in Phase 3 amended from 300mm to 200mm	21/12/2023
C06	TAL	SM	SM	Drainage amended	11/12/2023
C05	AC	JC	SM	Bioretention areas updated	28/07/2023
C04	AC	JC	SM	Manhole reference and diversion valve note amended	26/06/2023
C03	AC	JC	SM	Drainage amended to suit Welsh Water Diversion.	14/05/2023
C02	SL	SM	BW	Drainage amended to suit updated level information.	16/02/2023
C01	SL	SM	BW	Construction Issue	08/02/2023
T01	JH	PM	KF	Issued for Tender	27/06/2022
P04	SG	PM	KF	Issued for Information	20/05/2022
P03	SG	PM	KF	Issued for Information	20/04/2022
P02	SG	PM	KF	Issued for Information	14/03/2022
P01	SG	PM	KF	First Issue	02/02/2022

Rev	Drawn	Checked	App'd	Description	Date

Purpose of Issue

A - Suitable for Construction

Classification

Confidential

Client

Project

**Pembrokeshire County Council
Eco Park**

Drawing

**Drainage Layout
Surface and Foul Water Sewers
Sheet 5 of 7**

Scale @ A1	Drawn	Checked	Approved
1:200	SG	PM	KF

Project No.

CS/101992

Date

19-OCT-21

Drawing Identifier

Project - Originator - Zone - Level - File Type - Role - Number

PECO-CAP-PW-XX-DR-D-000506

BS1192 Compliant revision


C07

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St Mellons, Cardiff, CF3 0EY, UK
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- Notes:
- General:
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 3. All existing assets to be protected during construction.
 4. SuDS maintenance regime to be implemented in accordance with the recommendations in 'the SuDS Manual (CIRIA C753) and manufacturers instructions.
 5. Backfill requirements to specification for highway works MCHW Vol. 1.
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- Concrete:
7. Blinding and infill concrete to be grade ST2 to BS 8500.
 8. Mass concrete surround to pipes, access chambers, gullies and kerbs etc. to be grade ST4 to BS 8500.
 9. Concrete to benching to be formed with a rough key to receive a 20mm thick granolithic render trowelled hard with a steel trowel to provide a dense, durable smooth surface.
- Granular Material:
10. Buried concrete AC-2 and DS-2.
 11. Type 1 granular material to MCHW Vol.1 Cl. 803.
 12. 4/20 clean open graded stone to BS EN 13242:2000.
 13. 6F2 material to Table 6.1 of MCHW Vol.1 Series 600.
- Pipework:
14. All pipework & fittings to be OSMA drain or OSMA ultra rib, or similar approved.
 15. The length of pipework between access covers to include for any short length pipes as necessary to achieve the configuration of rocker pipes and standard short length pipes at fixed access chamber positions.
 16. All pipework built into access chambers to be either standard short lengths or cut lengths as appropriate.
 17. Rocker pipes to be a maximum of 600mm long.
 18. All 'Y' connections to be formed utilising proprietary junction sections.
- Brickwork:
19. Where required, brickwork to access chambers and gullies to be Class B engineering brickwork to BS 771 laid in English bond 225mm thick with Class M6 (Class 2) mortar, flush pointed.
- Access Covers and Gratings:
20. All access covers in trafficked areas to be non-rocking type, single sealed, locking and load class D400.
 21. All access covers in non-trafficked areas to be non-rocking type, single sealed, locking and load class B125.
 22. All internal foul access covers are to be pre-fabricated type, hung from suspended floor slab.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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C05	SL	SM	SM	ACO drain in Phase 3 amended from 300mm to 200mm	21/12/2023
C04	TAJ	SM	SM	Drainage amended	11/12/2023
C03	AC	JC	SM	Drainage amended to suit Welsh Water Diversion.	14/05/2023
C02	SL	SM	BW	Drainage amended to suit updated level information.	16/02/2023
C01	SL	SM	BW	Construction Issue	08/02/2023
T01	JH	PM	KF	Issued for Tender	27/06/2022
P04	SG	PM	KF	Issued for Information	20/05/2022
P03	SG	PM	KF	Issued for Information	20/04/2022
P02	SG	PM	KF	Issued for Information	14/03/2022
P01	SG	PM	KF	First Issue	02/02/2022

Rev	Drawn	Checked	App'd	Description	Date
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Purpose of Issue

A - Suitable for Construction

Classification

Confidential

Client



Project

Pembrokeshire County Council
Eco Park

Drawing

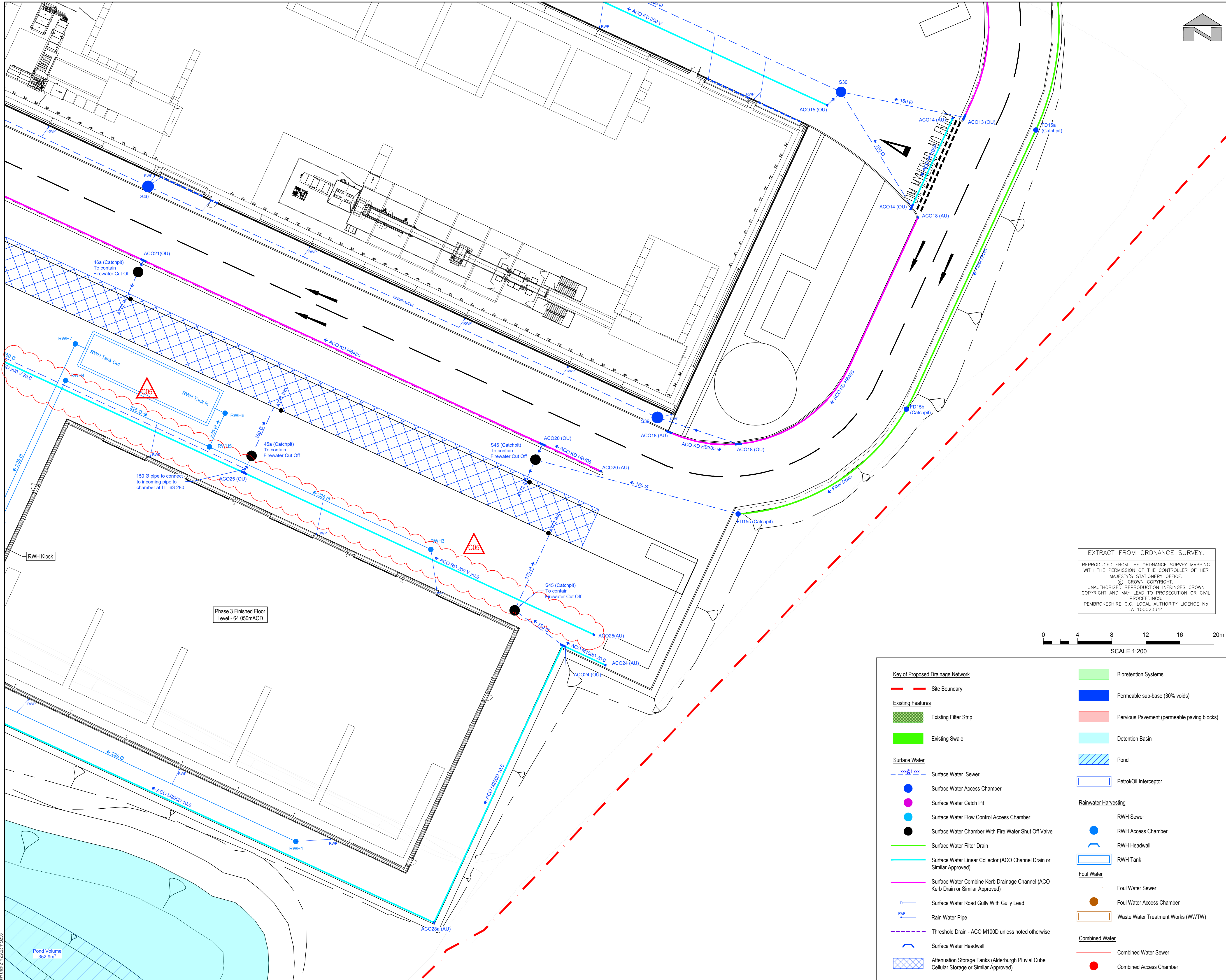
Drainage Layout
Surface and Foul Water Sewers
Sheet 6 of 7

Scale @ A1	Drawn	Checked	Approved
1:200	SG	PM	KF
Project No.	Date		
CS/101992	19-OCT-21		

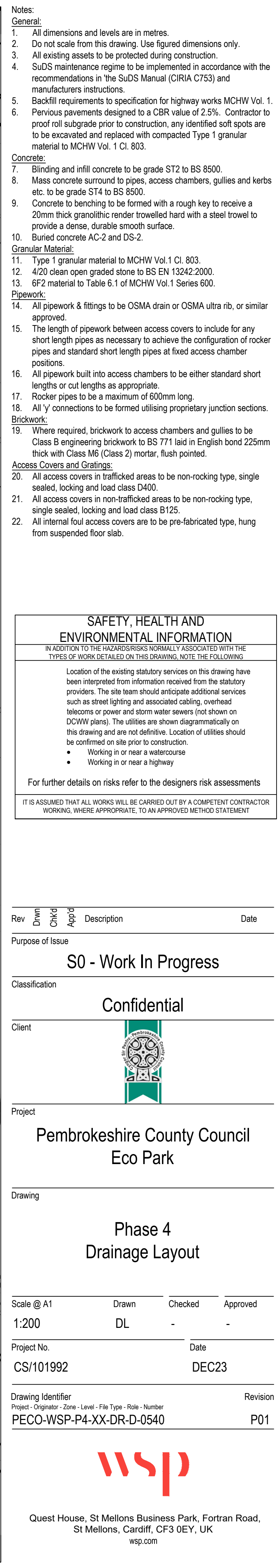
Drawing Identifier	BS1192 Compliant
Project - Originator - Zone - Level - File Type - Role - Number	revision
PECO-CAP-PW-XX-DR-D-000507	C05



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Rev Date: 21/12/2023 11:32:08



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Appendix 3: WTS Main Recycling Building Fire Strategy

GENERAL NOTES

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DO NOT SCALE this drawing (printed or electronic version). Contractors must check all dimensions from site. This drawing has been printed to the correct scale if the following accords with real measurements:

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All other design team elements, where indicated, have been imported from the consultant's drawings and reference should be made to the individual consultant's drawings for exact setting out, size and type of component.

Discrepancies and / or ambiguities within this drawing, between it and information given elsewhere, must be reported immediately to the architect for clarification before proceeding.

All works are to be carried out in accordance with the latest British Standards and Codes of Practice unless specifically directed otherwise in the specification.

Responsibility for the reproduction of this drawing in paper form, or if issued in electronic format, lies with the recipient to check that all information has been replicated in full and is correct when compared to the original paper or electronic image. Graphical representations of equipment on this drawing have been co-ordinated, but are approximations only. Please refer to the Specifications and / or Details for actual sizes and / or specific contractor construction information.

This original document is issued for the purpose indicated below and contains information of confidential nature. Further copies and circulation will be strictly in accordance with the confidentiality agreement under the contract. This original must be destroyed or returned to the contractor.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

Refer to the relevant Construction (Design and Management) documentation where applicable.

It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

Fire Strategy Legend:

Required Fire Resistance:

60 minute Fire Resistance

30 minute Fire Resistance

Glazing to be fixed units with 60 minute Fire Resistance

30 minute Fire Barrier to ceiling voids (where distance < 20m)
Note: All partitions to terminate at underside of floor planks / roof deck

60 minute fire rated door with smoke seal and self closing device

30 minute fire rated door with smoke seal and self closing device (unless marked FDKL)

30 minute FR Fire Roller Shutter linked to fire alarm. Fail safe. TBC

Fire Engine Access Points

Direction of Travel

Point of Origin

60 Minute vertical fire stop

30 Minute vertical fire stop

Manual Call Point

Fire Alarm Panel

Illuminated Fire Escape Signage

Notes

For durability all non fire designated doors to be min. FD30 construction.

60 minutes minimum period of fire protection to steel column and beams supporting floors and roofs (with plant maintenance).

Provide fire & smoke dampers to any ducts passing through Compartment Walls and Fire Resisting structures.

All fire stopping products to be from 1 manufacturer and to be installed to their standard details.

30 min cavity closers to all jambs & cills to openings.

30min / 60min vertical cavity barriers at junctions of external wall with internal fire rated walls as shown and 30min cavity barriers where distance exceeds 20m centres.

30 minute Fire Barrier to ceiling voids (where distance < 20m). All partitions to terminate at underside of roof deck and fire stopped as required.

Emergency Lighting System designed in accordance with BS 5266 Pt1.

Emergency Exit Sign with Running Man Pictogram & Directional Arrow to comply with Part B of the Building Regulations.

For details of wheelchair refuge location refer to outline fire strategy report.

For further details please refer to Fire Engineer's Fire Report and the MEP Engineer's design intent drawings and performance specifications:

- Fire Alarm System
- Emergency Lighting Layout.

Note:

It has been assumed that the warehouse space has a risk profile of A2 under BS-9999. Travel distances are therefore 22m one way travel and 55m two way travel.

C01 Construction Issue 27.01.23

Rev Description (CHK'd / App'd) Date

Status

A - Issue for Construction

Classification

Confidential

Client



Project

Pembrokeshire County Council Eco Park

Drawing

Phase 1 Fire Strategy Office First Floor Plan

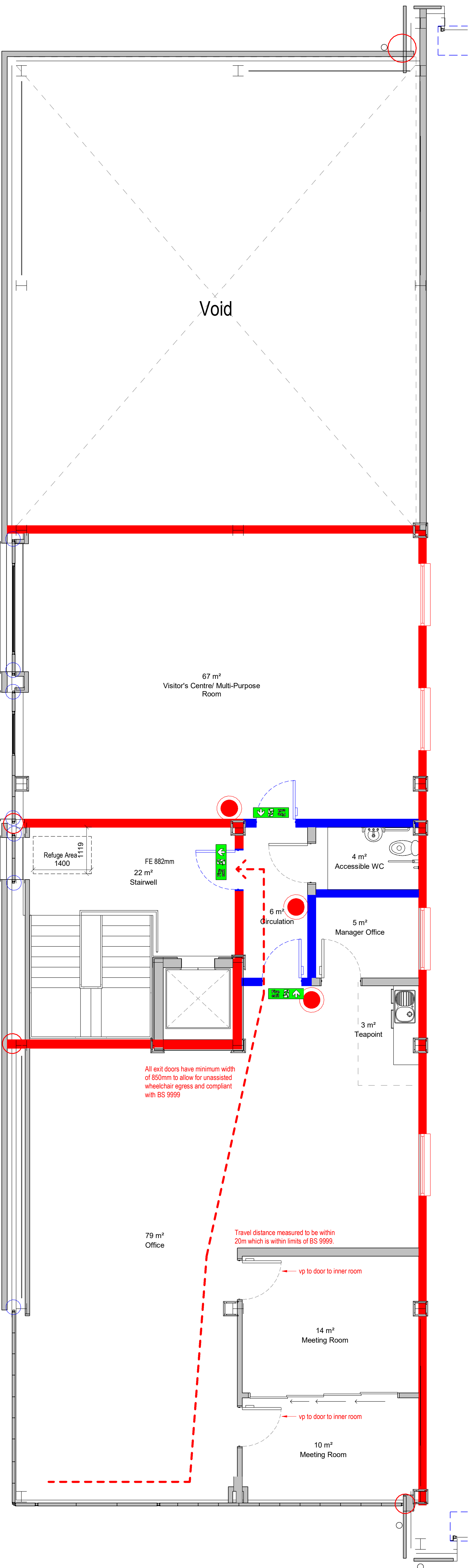
Scale @ A1 Drawn EC Checked DS Approved DS

Project No. Date ED/101992 10.09.21

Drawing Identifier project origin zone level file type role number revision PECO-CAP - P1 - 01 - DR - A - 051002 _rev C01

PERCY THOMAS ARCHITECTS member of WSP REDSTART Kings Orchard, 1 Queen St, Bristol BS2 0HQ - 0117 930 6200

Percy Thomas Architects are a brand of WSP (Real Estate & Infrastructure) Limited



1 Phase 1 Office First Floor Plan Fire Strategy 1 : 50



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climate change is no longer a problem.**

Our mission is to make the world a more
sustainable place. We bring people together,
we act on the facts, and we drive change.

Find out more at
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wrapcymru.org.uk
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