Telford & Wrekin Co-operative Council

Protect, care and invest to create a better borough

Pollution Prevention Control Act 1999

Environmental Permitting (England and Wales) Regulations 2016

Operator	**Fornacis UK Ltd**
Installation Address	(Trading as) PAM Building Telford Works Holyhead Road Telford TF1 5AD
Permit Reference	103/210322
Grid Reference	SJ672108
Registered Office	Fornacis UK Ltd Holyhead Road Ketley Telford TF1 5AD
Registered Number	15728236

Fornacis UK Ltd ("The Operator") is hereby permitted by Telford & Wrekin Council ("The Regulator") to carry out the following activities and their associated activities:

1. The casting ferrous metal at a foundry with a production capacity of more than 20 tonnes per day. as defined under Schedule 1, Part 2, Section 2.1, A2(d) of The Environmental Permitting (England and Wales) Regulations 2016 ("The Regulations").

2. The coating and curing of a powder coating with an annual usage of more than 20 tonnes per annum as defined under Schedule 1, Part 2, Section 6.4, Part B (a)(i) of The Regulations.

   To the extent authorised by and subject to the conditions of this Permit and within the installation boundary outlined in red within Appendix 1 of this permit.

Signed:

Name: Clair Travis **Date: 23 September 2024**
Title: Environmental Health Officer

Authorised by the Borough of Telford and Wrekin to sign in that behalf

Contact Details

The contact address, telephone number and email address for all correspondence in terms of the permit is as follows:

Public Protection
Telford and Wrekin Council
Darby House
Lawn Central
Telford
TF3 4JA

Telephone: 01952 381818

Email: environmentalprotectionteam@telford.gov.uk

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Introductory Note

This Introductory note provides relevant information related to this Permit

The following permit is granted to Fornacis UK Ltd as required under Regulation 13 of the environmental Permitting (England and Wales) Regulations 2016 ("the Regulations") to operate an installation to carry out the activities described in Schedule 1, Part 2 of the Regulations and any directly associated activities as described within this permit.

The permit is issued on the basis that the information provided by the applicant in support of the application for a permit was neither false nor misleading. Any change affecting the accuracy of such information shall be promptly notified, in writing, to Telford and Wrekin Council at the contact address.

The permit includes conditions that have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by specific conditions are subject to the 'Best Available Techniques' condition placed within the permit. Fornacis UK Ltd shall use best available techniques for preventing or, where that is not practicable, reducing emissions from the installation. Please note that techniques include both technology used and the way in which the installation is designed, built, maintained and operated.

Publications

The following Statutory publications are relevant to the installation:

a) The Environmental Permitting (England and Wales) Regulations 2016 SI 2016 No1154 (as amended),(and subsequent regulations)
b) The Pollution Prevention and Control Act 1999
c) Council Directive 2010/75.EU of the European Parliament and of the Council on 24 November 2010 on Industrial emissions (integrated pollution prevention and control) known as the Industrial Emissions Directive.
d) Council Directive 2008/98/EC of the European Parliament and of the Council on 19 November 2008 on waste.
e) Council Directive 2000/60/EC of the European Parliament and of the council on 23 October 2000 on establishing a framework for community action in the field of water policy (water framework directive)
f) Sector Guidance note SG3 Secretary of State's guidance for ferrous foundries.
g) Process Guidance note PG6/31 Secretary of State's guidance for powder coating.

Confidentiality

The permit requires the Operator to provide information to the Regulator. The Regulator will place the information onto the public register in accordance with the Regulations. If the Operator considers that any information provided is commercially confidential, they may apply to the Regulator to have such information withheld from the register as provided in the Regulations. To enable the Regulator to determine

whether the information is commercially confidential, the Operator must clearly identify the information in question and must specify clear and precise reasons.

Inspections and risk rating
Under the Regulations, the Regulator is required to undertake appropriate periodic inspections of regulated facilities. Inspections will be undertaken in accordance with the LA-IPPC risk method risk assessment and following on from any complaints or applications.

Procedures and records shall be examined during inspections and will be referred to during the DEFRA annual risk rating of the permitted site. The site will be determined as either a LOW, MEDIUM or HIGH risk. This will determine the annual subsistence fee and the frequency of inspection.

Annual subsistence fee
An annual subsistence fee is payable to operate the permitted installation. An invoice will be issued annually. Failure to pay the subsistence fee may result in a late payment fee and/or revocation of the permit. You are reminded that the operation of an installation without a permit is an offence upon summary conviction to a fine and/or imprisonment.

Responsibility under other statutory requirements.
This permit is given in relation to the requirements of the Environmental Permitting (England and Wales) Regulations 2016 (as amended). It must not be taken to replace any responsibilities you may have under workplace health and safety legislation. Neither does it detract from any statutory requirement such as the need to obtain Planning Permission and/or building Regulations approval.

For the prevention of accidents, the methods employed and the equipment used to ensure the correct handling, storage and use of flammable materials needs to be determined by trained personnel in accordance with HSE guidance and the Dangerous Substances and Explosive Atmosphere Regulations (DSEAR).

Appeals
The Operator can appeal against regulatory action by the regulator to the Secretary of State for Environment, Food & Rural Affairs. Appeals must be made in accordance with Regulation 31 and sent to the Secretary of State for Environment Food and Rural Affairs. The appeal guidance can be found at:
Environmental permit - Guidance on the Appeal procedure - GOV.UK (www.gov.uk)

The time limit for making an appeal is:

- in relation to a variation notice, a suspension notice, an enforcement notice or a landfill closure notice, not later than 2 months from the date of the notification or notice.

Please note:
An appeal brought under Regulation 32(2)(b) and Schedule 6, in relation to the conditions of a permit will note suspend the effect of the conditions appealed against.

The conditions must still be complied with. In determining an appeal against one or more conditions, the Regulations allows the Secretary of State in addition to quash any other conditions not subject to the appeal and direct the local authority either to vary any of these, or other conditions, or add new ones.

Review of Conditions
Under the Regulations the legislation requires permits to be 'reviewed' periodically but does not specify the frequency. It is considered that a frequency of once every eight years shall be adequate. Where significant pollution is encountered or where there are changes to BAT, or where the operational safety of the activity requires other techniques to be used, an immediate review shall be undertaken.

Variation of the permit or part of the permit
If the operator proposes to make a change in the operation of the installation, they must, at least 14 days before making the change, notify the regulator on the appropriate form. The notification must contain a description of the proposed change in operation. A 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

The operator may be liable to prosecution if they operate otherwise than in accordance with the conditions and plant described in this permit.

Transfer of the permit or part of the permit
Before the permit can be wholly or partially transferred to another person, an application to transfer the permit has to be made jointly by the existing and proposed operators. A transfer will be allowed unless the regulator considers the proposed operator will not be the person who will have control over the operation of the installation, or will not comply with the conditions of the transferred permit.

Surrender of the permit or part of the permit
Where the operator intends to cease the operation of an installation (in whole or in part). For A2 permits, the Operator must apply for a surrender, using the appropriate for and in accordance with Regulation 25 and part 1 of Schedule 5 of the Regulations.

Status Log

Detail	Dates
Date Application Made	31/07/2003
Date Permit First Issued	15/08/2003
Date of Variations	09/03/2016
	03/11/2020
	21/03/2022
Date of Latest Variation Notice number 335/24	23/09/2024
Transfer of Permit from Saint-Gobain Construction Products UK Ltd, company reference 00734396 To Fornacis UK Ltd, company reference 1578236	19/11/2024

Notes:

Activities and fees.
This document permit is for 2 regulated activities. The conditions for each permit have been consolidated into one document.

The activities are not deemed combined activities under either The Local Authority Permits for Part A (2) Installations and Small Waste Incineration Plant (Fees And Charges) (England) Scheme 2017, or The Local Authority Permits for Part B Installations and Mobile Plant and Solvent Emission Activities (Fees And Charges) (England) Scheme 2017. Therefore, an annual subsistence fee for each activity will be required.

Reduction of emission monitoring.
Monitoring for amines was carried out in 2020 on the following stacks 17/3, 17/5, 17/6. 19/2. 19/3 and 19/4 (some stacks have been removed since testing). The results demonstrated that the emissions were significantly below the emission limit of 5ppm (<0.02ppm) and therefore the requirement to monitor for amines has been removed.

End of Introductory Note

Permit Conditions

Description of the installation

1. The Operator shall only carry out the permitted activities detailed within table 3 of this permit and as described within this condition.

The installation produces cast iron soil and drain fittings. The main foundry processes are iron melting, casting, knockout, core and mould making, pattern making, dressing, fettling, machining, and sand recovery. There is an additional element involving sub assembly, spray and dip painting of castings.

Delivery, storage and handling of raw materials
Raw materials for the installation are stored in varying locations around the site, as marked on the plan in appendix 4 and the permitted materials are listed within table 1 below.

Table 1 - Permitted raw materials		
Code	**Product Name**	**Raw Material**
R9100004	Steel Punchings Disa	Scrap Metal Grade D12
20055085	Cast Products	Cast Products / Broken cast Scrap
R9002031	Pig Iron	Pig Iron
R9100006	Sulfex	Ferro -Sulphide
R9100007	Phosphorous	Ferro - Phosphorous
R9100009	Manganese Fines	Ferro- Manganese Fines (less than 2mm)
R9100011	Silicon Fines	Ferro Silicon Silicon Fines (less than 2mm)
20012821	Zircinoc Inoculant	Ferro-Silicon with Zirconium, Calcium and Aluminium
R9100014	Superseed	Ferro-Silicon with Zirconium, Calcium and Aluminium
R9100015	Graphite	Graphite
R9100016	Elmag	Magnesium ferro Silicon (5% magnesium)
R9100017	Premco / DAC Recarb	Graphite (Carbon)
20034842	Elgraph	Graphite (Carbon)
R9100026	Resin Coated Sand	Resin Coated Sand
R9100028	Dry Silica Sand	Dry Silica Sand
R9100033	PS2 Trough Slurry Blacking	Graphite / Water mix
R9100039	Koag 6X Coagulent	Mixed Silica, Alumina, Iron oxide, Calcia and Magnesia
R9100056	Kaltek	Insulation powder for ladle
	Phenolic binder catalyst	Phenolic Resin
R9100068	LKAB 1 shot clay /carbon	Mixed powdered Coal, Bentonite and Lustrous Carbon
	Phenolic binder part 1	Phenolic Resin
	Phenolic binder part 2	Phenolic Resin
R8409405	Parting Fluid	Parting Fluid

Table 1 continued. Permitted raw materials		
Code	**Product Name**	**Raw Material**
20036211	Steel Shot	Steel shot
20035620	DURACRETE RBG (LPA00043B0025)	Phosphate bonded plastic
20035622	SILCOR 308 25KG BAGS (LPG10062B0025)	Silica / Boric Acid mix
	Loctite Part A	Epoxy glue
	Loctite Part B	Epoxy glue
N/A	Tenosil	Mould/core coating
N/A	Korspray	Mould/core coating
20035623	X9 PLASTER (LPA00058K0025)	Alumina based plaster
20038175	Black Water-Based primer	Black Water-Based primer
R8401224	Matt black stencil spray	Black spray paint
R8401130	Powder paint	Powder paint
20036852	Powder paint	Powder paint
	Grey touch up paint	paint
20011732	Red touch up paint	Paint
R8401122	Corefix	Mould glue
R8408897	Trigel	Mould release agent
	Grout	Casting Filler
	Core putty	Core filler
	Silicon Lubricant	Mould release agent
	Resin to act as a sand binder	Resin
	Hexamine	Hexamine powder
	Calcium stearate	Calcium stearate powder

Raw materials for production comprise of the vast bulk of purchased material. Selection of scrap is based on grades as specified by the Scrap Metals Federation Classification Index and shall meet the following criteria:

- Production alloy specification requirements
- The need to minimise residual contaminants, e.g., phosphorus and sulphur
- Price and availability
- Freedom from dirt, non-ferrous metals or foreign material of any kind, excessive oil, grease, rust & corrosion, as is practicably achievable for the grade involved.
- All grades shall exclude pressurised gas, fuel or other sealed containers

The receipt and inspection of incoming materials includes:

- Visual inspection of loads during off-loading

- Rejection of any loads containing excessive contamination or non-compliance with purchase specification.

Water

Table 2a– effluent discharge to pool		
Process / plant	**Supply source**	**Release routes**
DISA Furnaces	Closed System – mains top up (Pool as emergency backup)	Return to pool
DISA Furnaces	Adiabatic systems - mains	Evaporation and return to pool
DLP Casting Cooling	Pool	Return to pool
Shell core making	Pool	Return to pool
Resin sand mixer plant cooler	Closed system – mains to up Adiabatic system - mains	Evaporation and return to pool
DISA moulding m/c	Pool	Return to pool

Table 2b – other water usage		
Process/ plant	**Supply source**	**Release routes**
DISA sand plant	mains	Evaporation
Special Products Adiabatic System	Closed System – mains top up Adiabatic System -mains	Evaporation
DLP Burn Off Oven	mains	Evaporation
Thermal reclamation plant cooler	Closed system – mains top up	
Resin sand mixer plant	mains	Evaporation

Effluent waters are released to Ketley Brook.

Adiabatic system
Dry/wet systems, sometimes referred to as hybrid or adiabatic coolers, are able to operate in dry air-cooled mode and wet evaporative cooling mode. They are essentially dry air coolers or condensers that use evaporative cooling to pre-cool the air when demand requires. At low ambient air temperatures or cooling load the unit runs dry without any secondary water flow. As the air temperature or load increases, the unit is switched to wet mode. When running in wet mode, these systems may present an equivalent risk as a conventional cooling tower or evaporative condenser and may require similar control measures. They only use water for evaporative cooling when the ambient air temperature or cooling load is high.

Sinclair pool
Pool water is abstracted from the Sinclair pool to a water tower. Abstraction occurs only when the water tower level drops below the control levels from the water tower. There is a booster pump pushing the water around the site.

Rainwater Furnaces - At present this system has been drained off. The pool water supply is isolated under normal circumstances and would only be opened in emergency situations, e.g. Rapid loss of water from the furnace cooling system or power failure of the hot furnace.

Core Machine - 6 off machines - Water is used to keep the components of the machines cool to prevent raw material curing.

Disa Machine DMM - Pool water is used to keep the hydraulic oil cool via a heat exchanger. Water flow rate is proportional to the oils temperature.

Disa Machine AMC - Pool water is used to keep the hydraulic oil cool via a heat exchanger. Water flow rate is proportional to the oils temperature.

Disa Furnaces - The pool water supply is isolated under normal circumstances and would only be opened in emergency situations, e.g. Rapid loss of water from the furnace cooling system or power failure of the hot furnace.

DLP Water bosch - Water is run into a bath into which the hot castings pass through reducing the temperature of the castings so that they can be handled. The operator manually controls the water flow with a valve to achieve the desired flow rate.

All water (except the steam from the cooling of the castings) returns to the Sinclair pool via the site's storm water system.

Melting
All metal melting is undertaken in electric induction furnaces. There are 2 x 4 tonne medium frequency coreless induction furnaces serving the site.

The electric furnaces are charged with scrap, pig iron and returns along with additions for adjusting the metal specification. These materials are loaded into a furnace vibratory feeder by an overhead magnetic crane fitted with a crane weigher, which measures the amount of charge material being added. The vibratory feeder travels to the furnace to be charged and the charge is vibrated in. Once the full charge has melted, the metal specification is checked and adjusted if required before it is supplied to user departments.

Two local extraction units are employed on the Disa furnaces: –

1. Reverse jet bag filter arrestment plant LEV 50/8 that extracts emissions from purpose built lip hoods around the top of the furnaces.

2. Reverse jet bag filter arrestment plant LEV 50/7 that extracts fugitive emission from a framework over the top of the furnaces and where the ladles are filled.

The furnaces produce both grey iron and Spheroidal Graphite (S.G) iron. S.G molten iron is poured from the furnace through a “Sigmat” treatment vessel, which contains a measured amount of inoculants to produce S.G iron. This generates additional fume, which is collected and arrested by LEV 50/7.

S.G iron accounts for approximately 30% of the iron produced by these furnaces. Inoculating molten iron to produce SG iron is carried out approximately 10 times per hour.

Both arrestment LEV units discharge to atmosphere. The emissions are continuously monitored using a quantitative monitor fitted with visual and audible alarms. Levels of particulate emissions are recorded daily on record sheets when plant is operating.

Carbon monoxide, carbon dioxide, metallurgical fume (silica and iron oxide), and dust are emitted during the melting process. Dust emissions are abated by means of the above bag filtration systems. Particulates collected from the filtration systems are collected in sealed containers.

Mould manufacture

A pattern is used within one of the mould making processes to produce a core or a mould ready for casting. Patterns are principally made of wood, resin or metal which may be manufactured on-site but are also prepared and maintained on site within the Pattern Shop. Emissions from the pattern shop are both internal and external with particulate captured at source and adhesive vapours and welding fume dispersed through natural ventilation or direct to atmosphere.

Sand utilised for the moulding plants is “returned sand” from the process or new sand delivered to site in suitable storage containers or by tanker and stored in sealed silos, which are vented via filters. Sand is transferred to and from the casting plant on internal conveyor systems.

Moulds are generally made in two halves, which are located together after the insertion of the cores (if required). Cores are used to create any hollow sections required within the casting. Once mould and cores are together, the whole is then ready for the iron casting process.

The setting or curing technique used for the moulding process is important. Typically, the sands are coated with a binding agent to aid cohesion and maintain mould integrity during casting.

These binding agents are responsible for the majority of pollutant emissions from the mould making process and contribute significantly to the pollutant emissions during casting. There are currently 3 air set moulding plants, 1 greensand moulding plant and 8 hot box core machines used within the installation.

Moulding is primarily undertaken in 4 areas of the plant with core making carried out in 2 areas (Some cores are purchased in). These are as follows:

DISA
Moulding is undertaken using a Disa 2013 LP machine (a vertical flaskless moulding machine). A sand plant prepares greensand for the Disa machine. During greensand preparation, sand is transported on a conveyor belt to the sand-mixing mill along with measured additions of a bentonite (clay) and coal dust mix. A calculated amount of water is added and thorough mixing takes place with the resulting mix being discharged onto a conveyor belt for transfer to the Disa machine.

In order to prepare a mould, a pattern is located within a pattern frame inside the Disa machine. Sand is pneumatically blown in and mechanically compacted around it. If required, an automatic core setter (CSE) inserts cores or cores are manually placed into the previously made mould. The current mould is then pushed out of the Disa machine to make contact with the previous mould which then index along an automatic mould conveyor (AMC) in a single line as each subsequent mould is produced. The cores are secured between the two halves of the mould, which is then ready for casting.

All extraction points on the sand plant pass through a dry bag arrestment plant LEV52/5, and emissions are monitored on a quantitative monitor.

Floor foundry fast loop moulding
Moulds are produced using sand that is automatically fed from a ribbon mixer where catalysts and resins have been added. The sand is a mix of mechanically reclaimed sand and new sand. The mix is discharged into a mould box where it is distributed by hand, vibrated and strickled flat with the top of the box. Filled boxes automatically move around a track, curing as they move to the stripping station where they are inverted and vibrated to release the mould. The mould automatically moves to the closing area where cores are added and the top half located. Once moulds are closed, they are positioned on trolleys, clamped and sealed before moving to the casting area.

Air set jobbing moulding
This is an area where low volume and large castings are produced, using an identical sand system to the fast loop moulding. However, after the moulding box has been filled with sand and the top of the box strickled flat, it is left for the sand to cure. The moulds are then removed from the mould box by hand (and/or with the assistance of an overhead crane). The bottom half mould is laid on the floor, cores added where necessary and the top half mould closed onto the bottom half. The moulds are clamped and sealed ready for casting.

This area is also utilised to fill shell cores with sand for use on the fast loop moulding. The cores are filled with the sand from the mixer by hand and then stored ready for later use.

Air set carousel moulding
This is an area where small and very low volume castings are produced, using an identical sand system as the Fast Loop moulding and the Air Set Jobbing moulding. (Usually this plant is utilised in the manufacture of cores for the moulds). The mould box is filled with sand, the top of the box strickled flat and then placed on a rotating carousel. By the time the mould reaches the unloading point the sand has cured. Either the core produced is stored for later use or the mould would then be assembled and clamped and sealed ready for casting.

Core shop
The machines within the main core shop produce a hard shell core with a thin wall thickness from resin coated sand on any of 8 Croning Process hot box core making machines. The site can both produce and purchase-in the resin coated sand. Internally a sand mixing plant prepares resin coated sand by mixing together raw heated sand (a mixture of thermically reclaimed sand and purchased virgin sand) with a resin, hexamine solution and calcium stearate. This coated sand is then sieved back to grain size and cooled ready for use on the croning process hot box core machines. All extractions from the resin sand mixing plant pass through the reverse jet filter LEV24/3.

On the croning process hot box core machines, the cores are produced when two halves of a core box are closed, the assembly rotated 180^{o}, resin-coated sand blown into the cavity and heat applied to the outside surfaces of the core box. The sand is allowed to cure, and the assembly rotated back and rocked to allow residual sand to fall back into the tank. The core box is opened to allow access to the shell core that is then removed either manually or mechanically.

The core is inspected for damage; good cores are dressed along the joint line and placed into a storage container. Defective cores are disposed of into a scrap container and sent off site for recycling.

All extraction points on the 8 Croning Process hot box core machines pass through a dry bag arrestment plant LEV24/1.

Casting and cooling
Casting of molten metal in the foundry occurs in the separate areas listed below:

- DISA
- Special products fast loop
- Special products air set

Molten iron is transported in ladles from the electric furnaces and manually poured into the moulds. In each case the molten metal is allowed to solidify before the castings are removed at a knockout station. On the DISA plant, forced air extraction is employed to promote cooling and the resulting emissions are discharged through a reverse jet bag filter unit and then through LEV 52/6. The emissions will be continuously monitored with a quantitative monitor.

The ladles used to transport the iron have to have their refractory linings replaced; a dry bag filter extraction unit LEV 52/9 is employed to control the dust generated, with the cleaned air being discharged back into the workshop.

In the Special products fast loop area, moulds are cast on a conveyor track in the open workshop. They are then transferred to one of two conveyor tracks, each fitted with an extraction hood. Fume removed from the workshop is discharged directly to atmosphere via extraction systems LEV17/5 and LEV17/6

In the special products air set jobbing area the small number of moulds produced are cast in the workshop or transferred to the Disa plant for casting.

Knockout process

DISA Plant

Moulds move down the moulding line and fall off onto a knockout where sand is separated from the castings. The sand is returned to the sand plant for recycling and the castings continue along a vibrating conveyor and discharge into a rotary media cleaning drum. These are fully enclosed with extraction points linked to LEV 52/4. The emissions pass through a reverse jet bag filter and are continuously monitored with a quantitative monitor fitted with visual and audible alarms. Levels of particulate emissions are recorded daily on record sheets when plant is operating.

Special Products Fast Loop

Mould and trolley are conveyed up to the knock-out, lifted and the mould pushed onto a vibratory screen where the moulds are broken up allowing the casting to be removed and the sand to be returned into the sand system. Emissions from knockout and sand reclamation are extracted through the reverse jet bag filters LEV 17/3 and LEV 17/9. The emissions are continuously monitored with a quantitative monitors fitted with visual and audible alarms. Levels of particulate emissions are recorded daily on record sheets when plant is operating.

Air Set Jobbing

After casting, the castings are broken out of their casting boxes and the moulding sand recycled to the process where required. Sand that is not recovered is placed in skips for transfer off site for recycling.

Sand Reclamation

Sand introduced into the mould making processes is recycled after casting to reduce waste. There are three separate sand recovery processes on the site.

DISA Plant

The sand is returned to the sand plant for recycling. Sand either passes through the knock-out grids or continues along a vibrating conveyor into a rotary media drum where it is screened with the sand and small pieces of metal all being discharged onto a conveyor belt. The sand is cooled by spraying water on the sand, then passed beneath magnet belts (to remove any metal) and a screen to remove any remaining lumps of sand. Finally, the sand is returned to the 150 tonne capacity storage silos for re-use or removal from the system (in sealed bags due to surplus sand). The sand system's transfer points are enclosed with extraction points linked to LEV 52/5. The emissions are continuously monitored with a quantitative monitor fitted with visual and audible alarms. Levels of particulate emissions are recorded daily on record sheets when plant is operating.

Floor Foundry

This system comprises a knockout, an attrition unit, a fluidised bed cooler and a dense phase blower conveyor.

On the knockout sand is broken down into small lumps which are then elevated, passing over a magnetic drum to remove metallic particles before entering the attrition unit, which abrades it down to a granular size. The sand is then fed into a fluidised bed cooler. The cooled sand is passed through a dense phase blower conveyor unit, which transports it to the bulk storage silos. Emissions from the knockout is extracted through a reverse jet bag filter LEV 17/9. Emission from the cooler are extracted through a reverse jet bag filter LEV 17/3. The emissions are continuously monitored with quantitative monitors fitted with visual and audible alarms. Levels of particulate emissions are recorded daily on record sheets when plant is operating.

Thermal reclamation

Following the mechanical reclamation of the sand, a proportion of the sand is further processed to remove any resin or organic binder from the sand. The mechanically reclaimed sand is transferred to the thermal reclamation plant where it is controlled fed into a fluidized bed of thermally heated sand.

The fluidized bed of sand is heated to in excess of 700°C by natural gas burners. The sand is fluidized by warmed air (heat reclaimed from the process) and an air and natural gas mixture. The process is designed to retain the sand for at least 15 minutes, after which it is discharged and the sand is cooled (reclaimed heat utilized to pre-heat the fluidizing air.

To minimize VOC emissions, the thermal unit is designed to promote 'freeboard' temperature of in excess of 900°C to achieve full combustion of the gases. The cooled sand is then blown into a hopper for continued use, treated as a virgin sand.

Emissions from the thermal reclamation process are extracted through a reverse jet bag filter LEV24/2. The particulate emissions are continuously monitored by a quantitative monitor fitted with visual and audible alarms. Levels of particulate emissions are recorded daily on record sheets when the plant is operating. The VOC emissions are monitored annually.

Finishing of Castings

After castings pass through the knockout, they undergo cleaning and dressing. There are three areas where fettling and dressing take place.

DISA

Castings are transferred from the knockout plant through to the fettling shop (DLP), via a rotary media drum. This tumbles the castings through a bed of cast iron lumps, cleaning adhered sand from the castings. After discharge from the rotary media drum, they are cooled in water (if required) and conveyed along a belt conveyor, where they are collected in cages. They are then transported to a tumble shot blast machine for casting cleaning. If required after discharge from the tumble shotblast machine, the castings are conveyed along a shuffle conveyor where they are picked off and the joint line and ends of each casting are ground by hand on grinding machines or linishers. If any casting has rough patches on the inside faces, it is also ground using handheld tools.

Once fettled, the castings are conveyed by hand or conveyor system into cages in preparation for painting or sent directly to the warehouse. There is extraction from all shot blast and grinding machines, as well as from grinding booths. All extracted air is passed through the dry bag filter plant numbers; LEV32/1 or LEV 32/10. All emissions are continuously monitored by a quantitative emission monitor fitted with visual and audible alarms. Levels of particulate emissions are recorded daily on record sheets when plant is operating.

Special Products

The majority of castings are transferred to the special products fettling shop from the special products area where they are initially shot blasted in the cabinet blast machine. This removes adhered sand in preparation for fettling. The larger castings are fettled using a variety of electric handheld tools, such as angle grinders and pencil grinders within large grinding booths. Some castings may require welding. Some small castings are fettled on a pedestal grinding machine within special products or transferred to the DLP.

Extracted air from the special products cabinet blast machine is extracted to a small arrestment plant LEV 1/4 which discharges cleaned air back into the workshop.

Extracted air from the large grinding booths is either passed through a dry bag arrestment plant LEV1/3 where cleaned air is monitored by a quantitative emissions monitor fitted with visual and audible alarms (Levels of particulate emissions are recorded daily on record sheets when plant is operating) or through 4 off ceramic filter arrestment units (2 each booth) discharging cleaned air back into the workshop.

Extracted air from welding is removed by a portable extraction system, with clean air returned to the workshop.

Specials Area
A specials area within the warehouse can produce casting to meet customer demand, by cutting or grinding existing castings to size and shape and then welded together as required. Extracted air from the grinding process is passed through a small dry-bag dust arrestment plant. Welding fume is extracted and discharged directly to atmosphere.

Rainwater plant
Pipes are brought into the site as a product to be processed in one of two alternative operations:

- A cast iron socket is glued onto one end of the pipe using a 2-pack epoxy glue. (Emissions are fugitive - no forced extraction is employed), or
- the pipe is conveyed to a plasma cutting machine where it is cut lengthways. Cutting fume is extracted to a small dry bag arrestment plant discharging cleaned air back into the workshop.

Cast iron gutters produced by plasma cutting rainwater pipes are cleaned on the edges using a pedestal grinder and passed through a shot blast machine, to clean off scale from the surfaces of the product. Extracted air from the shot blasting operation is passed through a dry-bag dust arrestment plant. Cleaned air is discharged back into the workshop. All dressing for the rainwater goods is carried out in preparation for subsequent coating.

Pre-assembly
Within the Pre-assembly area stacks of pipework can be produced ready for installation on site. This involves cutting of pipe to specified lengths and the assembly of pipe fittings to the lengths of pipework. These pre-assembled stacks of pipework are then pressure tested with compressed air ready for delivery to the customer's site.

Coating and curing
Many of the cast iron products are coated after dressing and fettling. There are a number of different coating activities carried out within the installation falling into two main areas.

DISA
There are 2 separate coating operations and plants in this area:

1. Black dip coating
This is carried out where castings are hung on a suspended chain conveyor and passed through a pre-heat oven. The preheat oven uses spill heat from the main oven in order to save energy. Castings pass through a tank of water based black water based primer. The paint is kept circulating by a propeller type stirrer to prevent solid deposition. As coated castings leave the dip tank, they pass through a gas fired curing oven. After exiting this oven, they are off-loaded by hand into cages, prior to

transport to the Warehouse. There are no forced air discharges to atmosphere, except for products of combustion which discharge from the pre-heat oven to atmosphere outside the building.

2. Powder coating
Powder coating consists of a suspended conveyor onto which castings are hung. The castings initially pass through a pre-heat oven prior to receiving the coating. The castings either move through the powder-coating booth and are spray coated, or they are hand dipped. For the manual hand dipping operation, the castings are removed from the track and hand dipped in an aerated bath of epoxy/polyester powder, after which the casting is placed back on the track. The booth consists of both automatic and manual electrostatic powder spray of epoxy / polyester powder. The powder adheres to the warm casting and the coated product then continues to a final curing oven. After exiting the curing oven castings are off-loaded by hand into cages prior to transporting to the Warehouse area.

There is a cartridge filter connected to the powder booth, which discharges cleaned air back into the workshop. Unused powder is collected and reused, powder fines are unsuitable for further use and are placed in waste receptacles for disposal/re-use off site. A further extraction unit is connected to the powder supply unit, where the powder is aerated, the filter unit discharges cleaned air back into the workshop. There are discharges of products of combustion, from both ovens, direct to atmosphere.

Rainwater
Gutters and pipes are hung on a suspended chain conveyor and passed through a pre-heat oven. The preheat oven uses spill heat energy from the main oven to avoid waste. Castings then pass through a tank of back water-based primer. The paint is kept circulating by a propeller type stirrer to prevent solid deposition. As castings leave the dip tank, they pass through a gas fired curing oven. After exiting this oven, they are off-loaded by hand into cages, prior to transport to the Warehouse. There are no forced air discharges to atmosphere, except for products of combustion, which discharge from the pre-heat oven direct to atmosphere.

Periodically the jigs used to hang parts for painting require cleaning, this is carried out by placing them in a pyrolysis plant, where heat breaks down the coating of paint, sprayed water is utilised to control temperature within the oven. The pyrolysis oven operates at a temperature of 430^{o}C and the resulting emissions pass through a secondary burner at 930^{0}C (The pyrolysis plant is also utilised to remove coating from castings).

A “Specials Area” within the warehouse can coat castings to meet customer demand, this can be done through brush coating or aerosol spraying.

Storage of finished goods
Once goods have been finished and coated to their specification they are transferred and booked into the warehouse, these are then stored in a designated area until required. When required, the goods will be picked (assembled if required) and prepared for dispatch.

Waste
All wastes from the installation are stored in dedicated containers/locations fit for purpose for the type of waste. All wastes are transferred from site for disposal by approved waste carrier.

Wastes from the installation are stored in varying locations around the site, as marked on the plan in Appendix 3.

Permitted activities

2. The Operator shall only carry out the permitted activities and directly associated activities described in Table 3 within the installation described in condition 1.

Table 3 – Permitted activities	
Activities listed in Environmental Permitting (England and Wales) Regulations 2016	**Description of specified activity**
section 2.1, A(2)(d)	casting ferrous metal at a foundry with a production capacity of more than 20 tonnes per day within the following three areas: - DISA - Special products fast loop - Special products air set
Section 6.4, Part B (a)(i)	Unless falling within Part A(1) or Part A(2) of this Section or Part A(2)(c) of Section 2.1,any process (other than for the re-painting or re-spraying of, or of parts of, aircraft or road or railway vehicles) for applying to a substrate, or drying or curing after such application, printing ink or paint or any other coating material as, or in the course of, a manufacturing activity, where the process may result in the release into the air of particulate matter or of any volatile organic compound and is likely to involve the use in any 12-month period of— (i) 20 or more tonnes of printing ink, paint or other coating material which is applied in solid form

Table 3 continued – Permitted activities	
Directly associated activities	
The delivery, storage and handling of materials, including waste.	From receipt of raw materials, the handling of materials, through to the handling, storage and disposal of waste materials.
Melting ferrous metals	Melting of ferrous metals within 2x4 tonne electric induction furnaces
Mould making	The manufacture of moulds from reclaimed and new greensand for use within the casting activity using 3 air set moulding plants, 1 greensand moulding plant, 1 resin sand mixing plant and 8 hot box core machines.
Knockout	The removal of the casting from the moulds.
Sand reclamation	The reclamation of greensand from casted moulds and cores. Including the use of attrition units, fluidised bed and thermal reclamation. The storage of reclaimed sand within silos
Finishing and fettling	The cutting, grinding, sanding, shotblasting, dressing, welding, assembly and finishing of castings
Coating and curing	The coating of castings by dipping in water-based coatings and coatings containing solvents. This includes materials used cleaning, coating, and thinning. Also, the curing of powdered coatings within the powder coating ovens.
Jig cleaning	Within a pyrolysis plant.
Discharge of effluent	trade effluent consisting of cooling water, wet cyclone dust arrestor, casting cooling water and site drainage

Permitted plant and equipment

3. The operator shall only carry out permitted activities within the plant and equipment described in Table 4.

Table 4 - Plant and equipment				
Plant and equipment which emit to atmosphere				
Plant & Equipment	**Type of Abatement**	**location on appendix 2**	**Testing required and pollutants to be tested**	**Min final efflux velocity (based on last dispersion modelling)**
Special Products Dressing	Dry Bag Filter Unit	LEV 1/3	Yes TPM	
Band saw and circular saw	Dry Bag Filter Unit	LEV 8/3	No	
Wadkin disc & bobbin sand	Dry Filter Bag	LEV 8/24	No	

Table 4 continued

Plant which emit to atmosphere continued

Plant & Equipment	Type of Abatement	location on appendix 2	Testing required and pollutants to be tested	Min final efflux velocity (based on last dispersion modelling)
Resin shop	Extraction	LEV 8/25	No	
Resin shop air circulation	Extraction	LEV 8/26	No	
Pattern Shop Mynx CNC	Dry filter cartridge	LEV 8/33	No	
Special Products KO Sand Reclamation	Dry Bag Filter Unit	LEV 17/3	Yes TPM	7.0m/s
Special Products Mixers Feed	Dry Filter Extraction – silo 3			
Special Products FL Mixer Feed	Extraction – silo 5			
Special Products Casting Line	Extraction	LEV 17/5 LEV 17/6	Yes TPM	13.6m/s 12.6m/s
Special Products Knock Out	Dry Bag Filter unit	LEV 17/9	Yes TPM	9.7m/s
Special Products Mixer 2	Extraction	LEV 19/3	No	19.7m/s
Special Products Mixer 3	Extraction	LEV 19/4	No	4.7m/s
Core Shop Machines	Dry Bag Filter Unit	LEV 24/1	No	10m/s
Thermal Reclamation Plant	Dry Bag Filer Unit	LEV 24/2	Yes TPM and VOC	
Resing sand mixer	Dry Bag Filter Unit	LEV 24/3	No	
DLP Dressing	Dry Bag Filter Unit	LEV 32/1	Yes TPM	
DLP Dressing	Dry Bag Filter Unit	LEV 32/10	Yes TPM	
Specials Area (Warehouse)	Dry Bag Filter Unit	LEV 35/1	No	12.9m/s
Specials Area (Warehouse)	Extraction	LEV 35/3	No	15.1m/s
Maintenance Welding	Extraction	LEV 38/8	No	
DISA Furnace	Dry Bag Filter Unit	LEV 50/7 LEV 50/8	Yes - TPM, Cu, Ni, Co, Cr, Cd, As and Pb,	10m/s 10m/s
DISA Knockout	Dry Bag Filter Unit	LEV 52/4	Yes TPM	15.6m/s
DISA Sand Plant	Dry Bag Filter Unit	LEV 52/5	Yes TPM	10m/s
DISA Casting	Dry Bag Filter Unit	LEV 52/6	Yes TPM	
DLP Pyrolysis Burn Off Oven	Extraction	BOO 001	No. Oven has a thermal input of less than 0.2MW	

Table 4 continued				
Plant which emit to atmosphere continued				
Plant & Equipment	**Type of Abatement**	**location on appendix 2**	**Testing required and pollutants to be tested**	**Min final efflux velocity (based on last dispersion modelling)**
DLP Painting (Ballard)	Extraction	BPP 001	VOC in coating is negligible no monitoring is required unless specifically requested in writing by the regulator	
Rainwater Painting	Extraction	RPP 001	VOC in coating is negligible no monitoring is required unless specifically requested in writing by the regulator	
Powder coating curing oven	Extraction	PPP001	Yes TPM if it has an air flow greater than 50m^3/min	
Powder coating pre-heat oven exit	Extraction	PPP002	No TPM air flow is less than 50m^3/min	
Powder Coating pre-heat oven entrance	Extraction	PPP003	Yes TPM if it has an air flow greater than 50m^3/min	
Special Products Mixers Feed	Dry filter, with vent. Silo with high level and overfill alarm with auto shut off – silo 2	Silo 2	No	
Special Products FL Mixer Feed	Dry filter, with vent. Silo with high level and overfill alarm with auto shut off – silo 4	Silo 4	No	

Table 4 continued		
Plant and equipment with internal abatement		
Plant and equipment	**Type of abatement**	**Internal location on Appendix 2**
Special Products Dressing	Dry Filter Unit	LEV 1/4
Wadkin disc & bobbin sand	Dry Filter Sock	LEV 8/1
Falder planer / thicknesser	Dry Filter Sock	LEV 8/5
Wadkin cross cut saw	Dry Filter Sock	LEV 8/6
Bead blaster	Dry Filter Cartridge	LEV 8/27
Pattern Shop Welding	Dry Filter	LEV 8/28
Pattern Shop Solvent bench	Dry Filter	LEV 8/29
Pattern shop CNC	Centrifugal filter	LEV 8/31
Pattern shop (Mynx) CNC	Centrifugal filter	LEV 8/32
Rainwater Shot Blast and Grinding Wheel	Dry Filter Cartridge	LEV 26/5
Rainwater Plasma Cutter	Dry Ceramic Filter	LEV 26/6
Special Products Dressing Booth	Dry Ceramic Filter	LEV 32/3
Special Products Dressing Booth	Dry Ceramic Filter	LEV 32/4
Special Products Dressing Booth	Dry Ceramic Filter	LEV 32/5
Special Products Dressing Booth	Dry Ceramic Filter	LEV 32/6
Powder Coat Booth	Dry Filter Cartridge	LEV 32/7
Powder Coat Gun Powder Supply Bath	Dry Filter Cartridge	LEV 32/8
Maintenance Grinding	Dry Bag Filter Unit	LEV 38/9
DISA Ladle Maintenance	Dry Filter Unit	LEV 52/9
Disa Sand Plant Mill feed	Dry cartridge filter	Silo – Volcarb 1
Disa Sand Plant Mill Feed	Dry cartridge filter	Silo – Volcarb 2
Disa Sand Plant Mill Feed	Dry bag filter	Day Hopper – Volcarb 1
Disa Sand Plant Mill Feed	Dry bag filter	Day Hopper – Volcarb 2
Plant and equipment not in use		
Plant and equipment	**Type of abatement**	**Location on Appendix 2**
Disa Sand Plant Not in use	Dry bag filter	Silo – New Sand
Disa Sand Plant Not in use	Dry bag filter	Day Hopper – New Sand
Special Products Not in use	Dry filter	Silo 1
Not in use	Dry Bag Filter Unit	LEV 5/1
Not in use	Dry Bag Filter Unit	LEV 26/2

Emissions- air

4. The operator shall not exceed the emission limits specified in Table 5.

5. The operator shall carry out the monitoring requirements specified in Table 5.

Table 5 – Emission limits and monitoring requirements				
Substance	**Emission Limit**	**Stacks to be tested**	**Type of monitoring**	**Frequency of monitoring**
Total particulate matter	20mg/m^3	LEVs 1/3, 17/3, 17/5, 17/6, 17/9, 24/2 32/1, 32/10, 50/7, 50/8, 52/4, 52/5 and 52/6	Continuous indicative monitoring	Continuous
			Manual extractive test	Annual
Total particulate matter	20mg/m^3	LEV 24/3 – airflow below 150m^3/min	Manual extractive test	Annual
Total particulate matter	10mg/m^3	PPP001 and PPP003 – where the airflow is greater than 50m^3/min	Manual extractive test	Annual
VOC	30mg/m^3	LEV 24/2	Manual extractive test	annual
Copper	5mg/m^3	LEV 50/7 and 50/8	Manual extractive test	Annual
Lead	1mg/m^3	LEV 50/7 and 50/8	Manual extractive test	Annual
Nickel, cobalt chromium, cadmium, arsenic and their compounds	Total emission in combination 2mg/m^3	LEV 50/7 and 50/8	Manual extractive test	Annual

6. The introduction of dilution air to stack emissions to achieve concentration limits is not permitted.

7. The final efflux velocity of all emissions from the final point of discharge listed in Table 5 shall be a minimum of 15m/s except where the minimum efflux velocity is indicated on table 4, with the exception of the wet abatement stacks where the maximum exit velocity shall be 9m/s.

8. Emissions, other than steam or condensed water vapour, from the stacks listed in Table 4, shall be free from persistent visible emissions.

9. There shall be no persistent visible emissions from the installation.

10. The operator shall conduct daily visual assessments to determine whether emissions result in persistent visible emissions at or beyond the installation boundary. A record of the assessments shall be made available for inspection by the regulator.

Emissions - odour

11. All emissions from the installation shall be free from offensive odour beyond the installation boundary identified in the site map detailed in Appendix 1, as perceived by the Regulator.

12. The operator shall develop and maintain an odour management plan. The plan shall be agreed with the Regulator.

13. As part of the odour management plan, the operator shall conduct daily odour assessments to determine whether emissions result in offensive odours at or beyond the installation boundary. A record of the assessments shall be made available for inspection by the regulator.

14. The operator shall continue to review the use of phenolic resin binders and substitute with less odorous materials where possible, having regard to product quality specification.

Emissions – Noise and vibration

15. The installation, the activities and processes carried out, shall be free from noise and/or vibration that is likely to cause nuisance as perceived by the Regulator.

16. Where it has been found by the Regulator that activities are causing noise and vibration beyond the installation boundary, the Operator shall:

a. Submit for approval a noise and vibration management plan which includes an appropriate noise or vibration assessment based on current Standards, within a timeframe specified by the Regulator.
b. Implement the approved noise and vibration management plan within a timeframe specified by the regulator.

17. Where a significant change to the installation is proposed, a noise and vibration assessment shall be undertaken and submitted to the Regulator prior to the completion of the significant change. The purpose of the assessment shall be to identify the potential noise and vibration impact and detail methods of reducing the identified noise and vibration emissions where required.

Emissions - beyond the boundary

18. In the event of abnormal or adverse visible, odorous or audible emissions at or beyond the boundary, the Operator shall:

a. Investigate immediately and undertake remedial action as soon as practicable;
b. Promptly record the events, investigation and corrective actions taken;
c. Notify the Regulator as soon as practicable as and no later than 10.00 hours on the next working day following the event.

19. Where abnormal or adverse emissions as described in condition 18 have been found in opinion of the Regulator, the Regulator may request that monitoring is carried out to demonstrate that the remedial action has resolved the incident. The type of monitoring and the timescale to submit the results shall be determined by the Regulator.

Emissions – effluent discharges

20. The discharge to Ketley Brook (former discharge consent S/04/55223/T) at National Grid reference SJ 6695 1106 shall consist solely of trade effluent, namely cooling water, wet cyclone dust arrester effluent, cast cooling water and site drainage.

21. Discharge of process effluent to surface drainage shall not be permitted.

22. Facilities shall be provided so as to enable samples of the effluent to be conveniently obtained at the sample point marked on the map as 'discharge test point' in Appendix 2.

23. The operator shall ensure that all constituents of the discharge pass through the sampling point at all times.

24. The nature and composition of the effluent shall be such that:

a. The discharge shall not contain more than 45mg/l of suspended solids (measured after drying at 105^{O}C).
b. The discharge shall not exceed 25mg/l of biochemical oxygen demand (BOD). (Determined in the presence of 0.5mg/l of allyl-thiourea after 5 days at 20^{O}C).
c. As far as reasonably practicable, the site shall be operated so as to prevent discharge containing any significant trace of visible oil or grease.
d. The rate of discharge shall not exceed 50 cubic meters in any consecutive 24 hour period as dry weather flow.
e. The pH value shall not be less than 5 nor greater than 9.
f. The temperature shall not exceed 25^{O}C.
g. Chromium shall not exceed 100µg/l.
h. Copper shall not exceed 100 µg/l.
i. Lead shall not exceed 100 µg/l.
j. Nickel shall not exceed 1000 µg/l.
k. Zinc shall not exceed 500 µg/l.
l. Mineral oils and hydrocarbons shall not exceed 5mg/l.

25. The operator shall carry out regular monitoring of the discharge and the abstracted water as described below:
   a. 12 samples shall be taken each year.
   b. All samples shall be analysed for the requirements of condition 24.
   c. All samples shall be analysed at a NAMAS accredited laboratory.
   d. A record shall be made of any visible oil in the discharge at the time of sampling.
   e. The operator shall submit the monitoring results within 60 days of the sample being taken.

26. Discharges of process effluent to land from the installation are not permitted.

Emissions – Land and groundwater

27. There shall be no emissions of hazardous substances or non-hazardous pollutants to groundwater as described in The Groundwater (England and Wales) Regulations 2009 (and subsequent regulations).

28. The external floor of the installation identified as hard standing within Appendix 5, shall have an impervious surface and this shall be maintained to prevent emissions to the land and/or groundwater.

29. The Operator shall have a clear diagrammatic record of the routing of all installation surface drainage system, subsurface structures, interceptors, pipework, drainage system and/ or storage vessels, including the type and location of receiving environment.

30. The operator shall carry out a risk assessment of the surface and subsurface drainage system and devise an inspection and maintenance programme. The programme must be agreed by the regulator and all records to demonstrate compliance with this condition shall be made available for inspection.

31. All interceptors:
   a. Shall be impermeable.
   b. Shall be subject to at least weekly visual inspections.
   c. Shall have contamination removed to ensure continuous function.
   d. Shall have an annual maintenance inspection after all contents have been removed.

32. Run off from the installation shall be managed and controlled to prevent emissions to land or groundwater or entering surface water drains.

33. The operator shall ensure that all operational areas are equipped with an impervious surface, spill containment kerbs, sealed construction joints and connected to a sealed drainage system.

34. All chemical containers, including connection points, shall be stored within an impervious bund with a volume of 110% of the material stored within it.

35. Waste and waste containers shall be stored on an impervious surface. They shall be stored in a manner that prevents the release of pollutants and incompatible wastes are kept separate.

Emission monitoring

36. Monitoring to determine compliance with emission limit values in Table 5 shall be corrected to the following standard reference conditions: temperature, 273.15 K (0°C), pressures 101.3 kPa (1 atmosphere) and measured wet, no correction for water vapour.

37. The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.

38. MCERTS (Monitoring Certification Scheme, Environment Agency) standards shall be applicable to all annual extractive monitoring requirements. Monitoring shall be undertaken by suitably qualified and competent consultants.

39. Emissions monitoring shall be carried out in accordance with the methods described in the latest versions of Monitoring Stack Emissions Technical Guidance Notes published by the Environment Agency, or by another method agreed in writing by the Regulator.

40. Where continuous monitoring is required by the permit, instruments shall be fitted with audible and visual alarms, situated appropriately to warn the operator of arrestment plant failure or malfunction. The activation of alarms shall be automatically recorded and readings shall be on display to appropriately trained operating staff.

41. All continuous monitors shall be operated, maintained and calibrated (or referenced) in accordance with the appropriate standards and manufacturers' instructions, which shall be made available for inspection by the regulator.

42. Continuous monitors shall be designed for less than 5% downtime over any 3-month period and all relevant maintenance and calibration (or referencing) shall be recorded.

43. The results of non-continuous emission testing shall be forwarded to the regulator within 8 weeks of the completion of the sampling.

44. Results from continuous monitoring systems shall be recorded and be made available for inspection by the regulator.

45. All results submitted to the regulator shall include details of process conditions at the time of monitoring, monitoring uncertainty, any deviations from the procedural requirements of standard reference methods and the error invoked from such deviations.

46. Results exceeding the emission limits from any monitoring or sampling activity (both continuous and non-continuous), the operator;

a. shall investigate and take corrective action as soon as practicably possible,
b. record as much detail of the cause and the action taken,
c. notify the Regulator within 1 working day from receiving the results,
d. undertake as soon as possible, re-testing of the monitoring to demonstrate compliance of the emission limit exceeded.

Soil and groundwater monitoring

47. From the date of issue of the Permit, periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

48. Any periodic testing method shall be submitted to the regulator for approval at least 28 days before the proposed monitoring is carried out.

49. The results of the monitoring shall be included within the site closure plan within 8 weeks from receiving the results and shall be made available for inspection by the regulator.

Solvent Usage

50. The operator shall maintain an inventory of solvent use for the coating activity within the installation during 1 January to 31 December of each year (known as the accounting period). The solvent inventory shall detail:

a. The name of all the materials used within the installation containing solvents and the amount of solvent in Kg contained per litre for each of those materials.
b. The amount of materials in litres and the amount of solvent in Kg/l in the stock at the start of the accounting period. This will be known as initial stock (IS).
c. The amount of materials in litres and the amount of solvent in Kg/l purchased annually. This will be known as purchased stock (PS).
d. The total solvent input (I_1). This shall be calculated using the equation: $I_1 = IS + PS – FS$.
e. The amount of solvents in Kg/l contained in mixtures recovered for reuse but not as input into the activity (removed from site for recycling), for the accounting period. This will be known as O_8
f. The annual solvent consumption (C) for the accounting period. This shall be demonstrated by using the equation $C = I_1 – O_8$

51. The solvent inventory shall be made available upon request by the regulator.

52. The annual solvent consumption from the coating activity, shall not exceed 5 tonnes. Where the limit is exceeded, the operator shall apply within 20 working days for a permit to operate a coating activity as defined within the Regulations.

Waste

53. Waste shall only be stored in the areas identified in Appendix 3.

54. The operator shall monitor and record the waste produced by the activities on site. This shall include:

a. the quantity, nature and origin of the waste.
b. The physical description and composition of the waste,
c. If applicable, any hazardous properties of the waste including hazard and risk phrases.
d. The European Waste Code (EWC)
e. Handling precautions and substances with which it cannot be mixed.
f. Disposal routes and waste categories.

55. All necessary measures shall be taken to ensure that;

a. The waste hierarchy referred to in Article 4 of Directive 2008/98/EC on waste (the "Waste Framework Directive") is applied to the waste generated by the permitted installation; and
b. Any waste generated by the permitted installation is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
c. Where further treatment or disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

Accidents and incidents

56. There shall be written procedures, known as an incident and accident management plan. The plan shall identify hazards and assess the risks associated with the activities.

57. The incident and accident management plan shall include procedures for investigating accidents and incidents, including identification and implementation of suitable corrective action and any follow up.

58. The incident management plan shall be made available for inspection by the regulator and reviewed every 4 years.

59. In the case of abnormal emissions from any accident or incident, the operator as a minimum shall:

a. Investigate immediately and undertake remedial action as soon as practicable;
b. Promptly record the events and actions taken;
c. Inform the regulator without delay.

60. Where any incident, accident or non-compliance of any conditions within this permit may lead to immediate danger to human health, operation of the activity shall be suspended.

General Requirements

61. The best available techniques shall be used to prevent, or where that is not practicable, reduce the emissions from the installation in relation to any aspect of the activity which is not specifically regulated by any condition of this permit.

62. An appropriate person (and deputy) shall be appointed as the primary point of contact with the regulator. The regulator shall be informed in writing of the appointed person (and deputy). In the event of a different person being appointed, the regulator shall be informed without delay.

63. A copy of this permit shall be kept at the installation. All relevant staff shall be made aware of its content and shall be told where it is kept.

64. If the operator proposes to make a change in the operation of the installation, they must, at least 14 days before making the change, notify the regulator on the appropriate form. The notification must contain a description of the proposed change in operation. A 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

65. The Operator shall notify the Regulator in writing and within 14 days of their occurrence if they make:

a. Any change to the installation name, registered company name or company registered address.
b. A change to any particulars of the holding company (including details of any ultimate holding company where the Operator has become a subsidiary).

66. The Operator must respond to any Request for Information Notice served for the purposes of complying with their obligation to report their pollutant releases and off-site waste transfers pursuant to the directly applicable EU duty in accordance with Article 5 of EC Regulation No 166/2006 concerning the establishment of a European Pollutant Release and Transfer Register (E-PRTR). Failure to respond in accordance with such annual E-PRTR request for information notice will hereby constitute a breach of this permit condition.

Records

67. All records required to demonstrate compliance with any conditions of this Permit shall be kept in an organised manner. The records shall be kept electronically or in paper form. Records:

a. Must be legible and any amendment entered into a record shall be made in such a way as to leave the original clear and legible. A valid reason for such an amendment shall be included.
b. Records shall be kept for a period of 5 years, unless otherwise stated.
c. Records shall be kept on-site for a minimum of 12 months and made available for inspection by the Regulator. Records kept off-site, must be made available within 7 days of any request by the Regulator.

68. All documentation required to be submitted to the regulator to demonstrate compliance with relevant conditions, shall be submitted in an electronic format and include the permit number and the Operator name. Submissions shall be sent to: environmentalprotectionteam@telford.gov.uk

Written Environmental Management Systems

69. The regulated activity shall be managed and operated in accordance with a written environmental management system. The environmental management system shall be submitted to the Regulator for approval no later than 12 months from the date of issue of this permit.

70. The environmental management system required in condition 69 shall include:

a. Environmental policy
b. All site and operational procedures for the activities and directly associated activities. This shall incorporate current Best Available Techniques.
c. Defined responsibilities and site infrastructure plan
d. Environmental audits.
e. Record keeping.
f. Pollution and emission monitoring.
g. Preventative maintenance procedures.
h. Training, staff competence management and training records.
i. Pollution control and accident/incident/ non-conformance management.
j. Contingency plans.
k. Environmental impact and resource control.
l. Energy audits.
m. Waste minimisation.
n. Complaint procedures.

71. The environmental management system procedures shall include systems and procedures setting out the necessary steps to be taken;

a. To ensure that all staff engaged in carrying out operations at the permitted installation, are provided with adequate professional and technical development and training, and written operating instructions to enable them to carry on their duties. This shall include the maintenance of a record of the skills and training requirement for each job, and of all relevant training undertaken by staff.
b. To monitor the condition of, and to maintain the permitted installations, included as a minimum; plant, equipment, instrumentation, building, drains, and underground structures which it relies on for the prevention, or limitation, of pollution from the permitted installation.
c. To carry out effective maintenance and servicing on all aspects of the installation whose failure has the potential to impact on the environment.
d. To investigate and rectify any non-compliance with the conditions of this permit, and/or any incident or pollution identified by the Operator or drawn to the attention of the Regulator, or by complaint by another person.
e. In the event of an incident, accident, spillage, malfunction, breakdown, momentary stoppage or other defect of the installation.

72. The environmental management system required by condition 69 shall be reviewed and updated:

a. Prior to the completion of a significant change within the installation.
b. Where any type of change is made to any plant and equipment listed within condition 3.
c. At least every 4 years in any other circumstance.

73. Any review required by condition 72 shall be recorded, the results incorporated into the environmental management system and implemented within 3 months from the end of the review. The review shall be made available for inspection by the Regulator.

Resource audits

74. At least every 4 years, a systematic assessment of the following shall be undertaken:

a. Raw materials
b. Electrical and gas consumption
c. Emissions
d. Waste
e. Water usage

The purpose of the assessment shall be to identify methods of optimising or reducing raw materials, energy, fuel consumption, emissions, waste and water usage. The assessment shall include the identification of methods avoiding or reducing the impact on the environment and those methods to be adopted, including timescales. Each assessment shall be recorded and submitted to the Regulator. The next assessment shall be submitted no later than 1 May 2025~~1~~.

75. The Operator shall produce and submit an annual report on the energy consumption of the installation to the Regulator no later than 1 May of each year.

Cessation of Activities

76. The operator shall maintain a site closure plan for the final cessation of the permitted installation and its activities. The site closure plan shall include:

a. Site details; and
b. Full list of raw materials; and
c. Details of the condition of the land at permit issue; and
d. Details of permitted activities; and
e. Outline proposals for decommissioning.

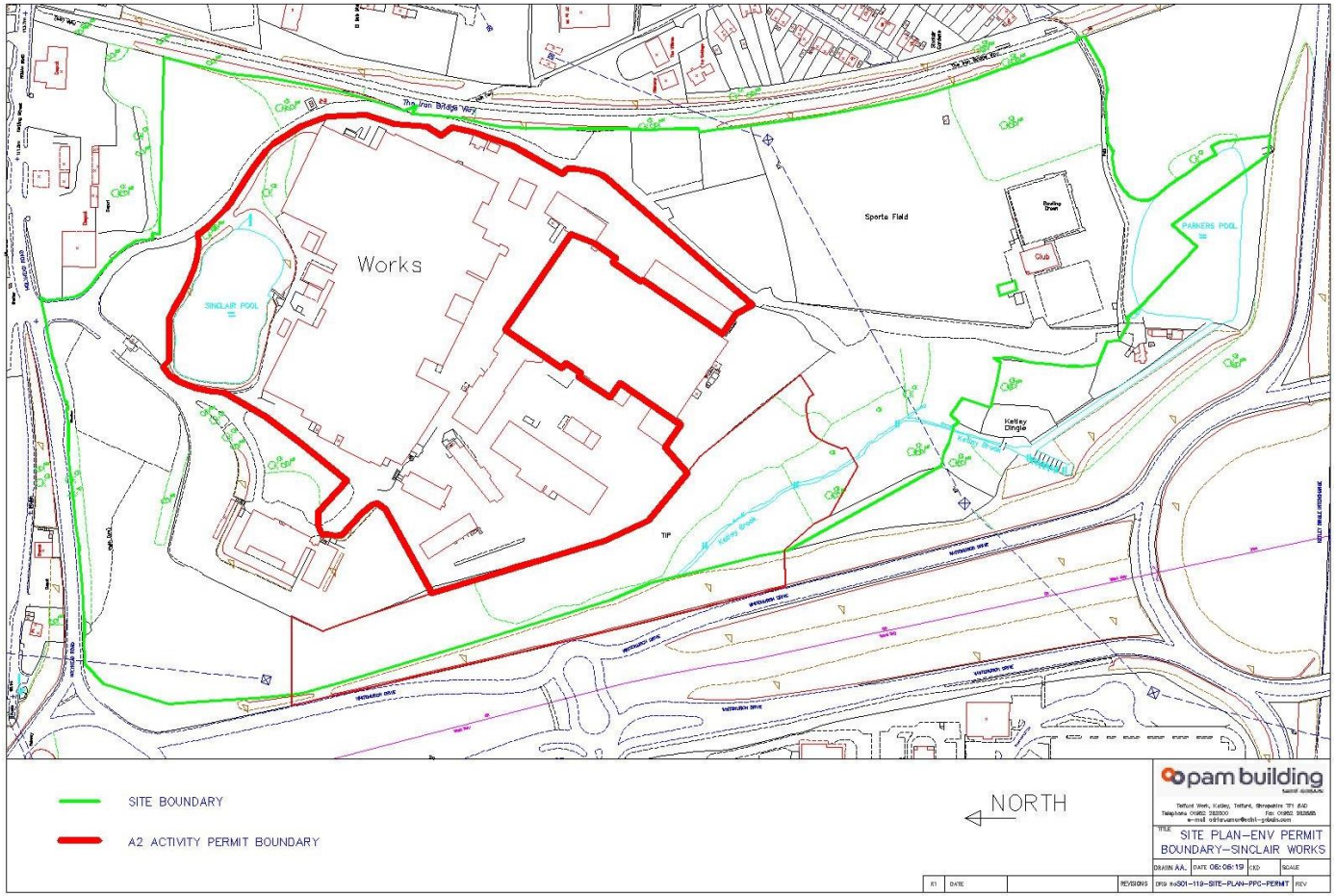
77. The site closure plan shall be kept up to date as changes occur to the installation and its activities. Once updated, the regulator shall be provided with an amended copy within 8 weeks of the completed changes.

78. A review of the site closure plan shall be carried out every 4 years and an updated plan shall be submitted to the regulator. The next submission is due 1 June 2025.

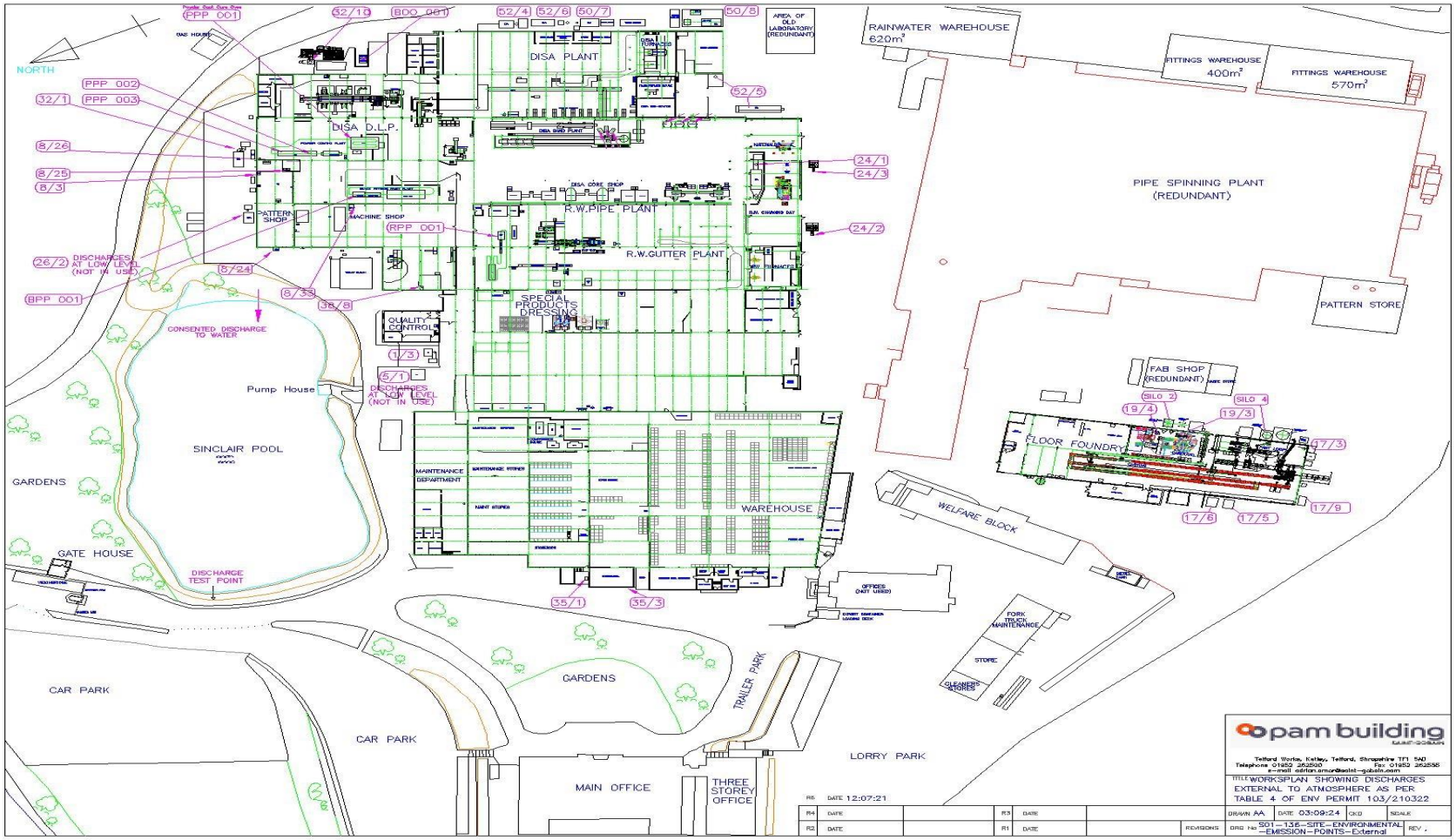
Upgrade plan

79. Before being brought back into service abatement plant LEV 5/1 and 26/2, their stacks shall be vertical, at a sufficient height to ensure pollutants are dispersed and diluted in the atmosphere to ensure that ground level pollution thresholds are not exceeded, to prevent offensive odour beyond the boundary, and national and transboundary pollutants impacts are limited.

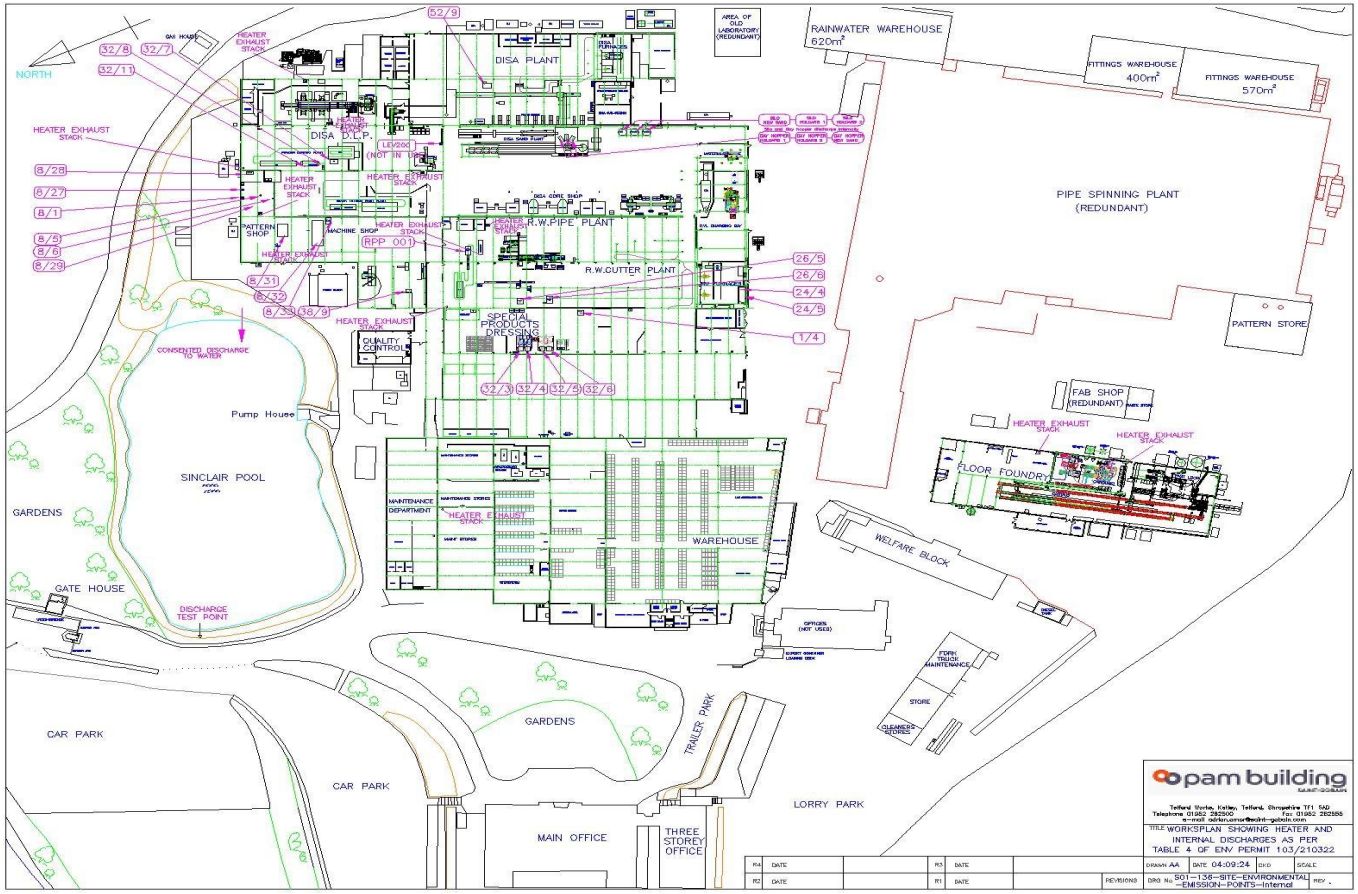
Appendix 1. Location of site and installation boundary



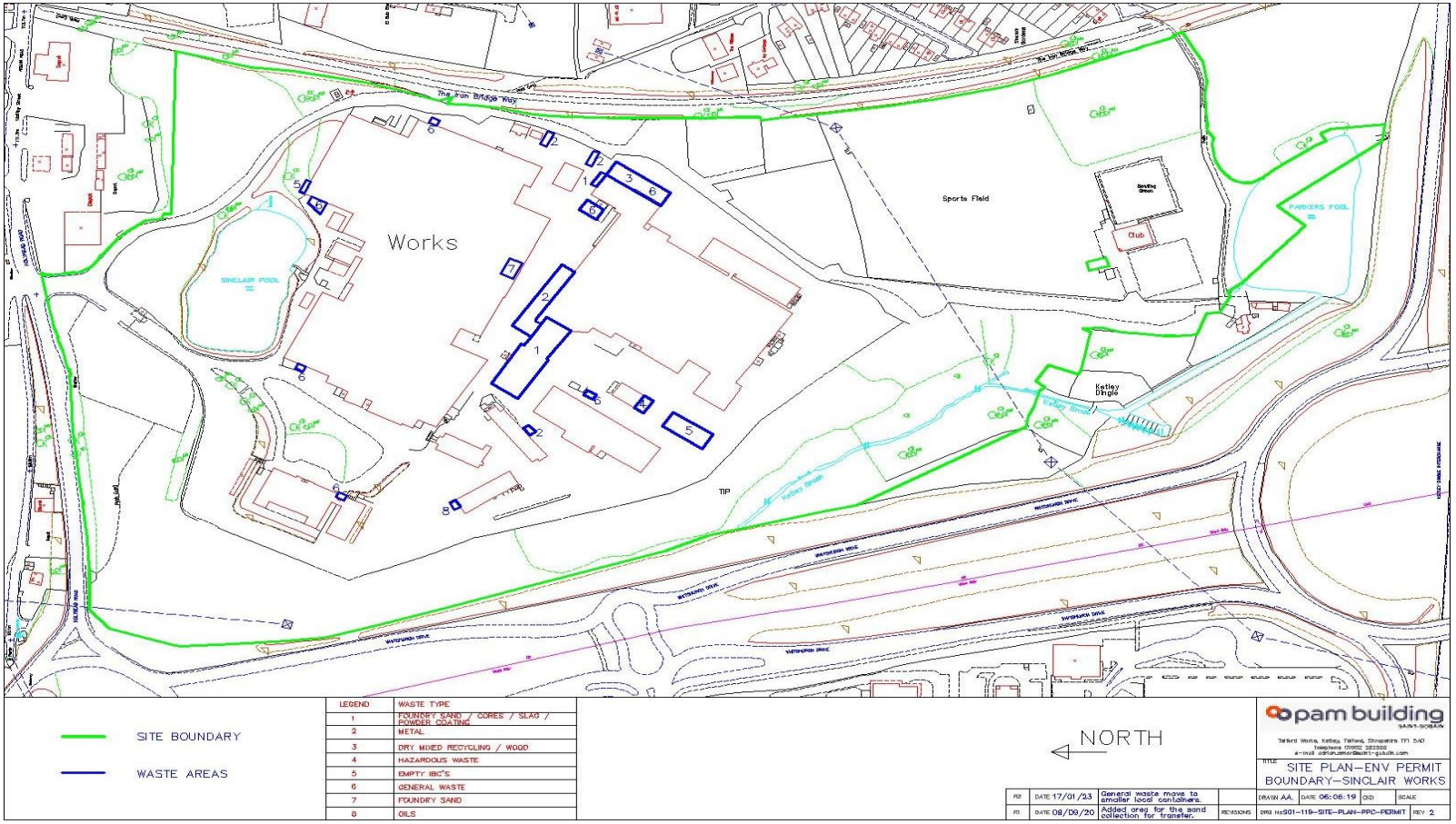
Appendix 2a. Location of external stacks.



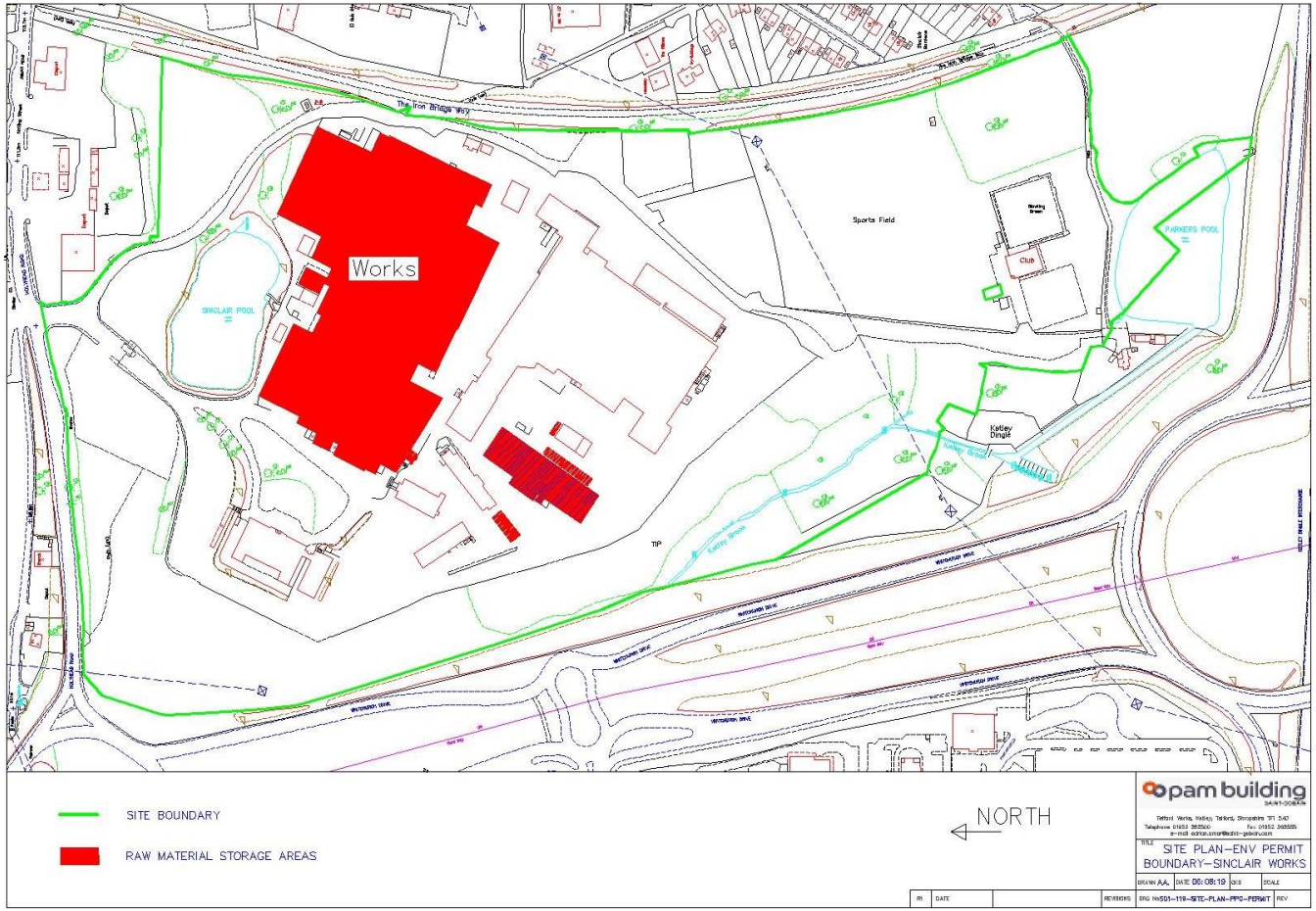
Appendix 2b: Location of Internal abatement plant



Appendix 3 Waste storage



Appendix 4. Raw material storage areas



Appendix 5 – Hard standing map

Interpretation of Terms

For the purposes of this Permit as its conditions, the following interpretation of terms shall apply:

Activity and permitted activity
Means any activity listed within the Environmental Permitting (England and Wales) Regulations 2016 (and any subsequent amendments).

BAT (Best Available Techniques)
means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent, and where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.

“best” shall mean most effective in achieving a high general level of protection if the environment as a whole.

“available” techniques shall mean those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator.

“techniques” includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Suitable BAT techniques for the purposes of this permit are located within Sector Guidance Note SG3 and Process Guidance note 6/31.

Change in operation
Means a change in the nature or functioning, or an extension of the installation, which may have consequences for the environment, or the implementation of any part of the site closure plan.

Directly associated activities
Means an operation which has a technical connection with the activity, is carried out on the same site as the activity and could have an effect on pollution for the installation.

General meanings
Except where specified otherwise in the Permit:

- Day means any period of 24 consecutive hours
- Week means any period of 7 consecutive days
- Month means a calendar month
- Quarter means a calendar quarter
- Annual means the period between 1 April to 31 March of each year.

Incident
Means any of the following situations:

- Where an accident occurs which has caused or may have the potential to cause pollution
- Where any malfunction, breakdown or failure of plant or techniques is detected has caused or may have the potential to cause pollution
- A breach of any condition of this Permit.
- Where any substance, vibration, heat or noise specified in any condition of this permit, is detected in an emission from a source not authorised by a condition and is in a quantity that may cause pollution.
- Where an emission of any pollutant not authorised to be released under any condition of this permit is detected.

Installation and permitted installation
Means a stationary technical unit where one or more activities are carried on, and any other location on the same site where any other directly associated activities are carried on, and references to an installation include references to part of an installation.

Inspection by the regulator
Means a person who is authorised in writing to carry out the duties on behalf of Telford and Wrekin Council.

Reasonable practicable
Means where the operator has followed all relevant regulatory guidance relating to effluent discharge.

Satisfactory state
Means the same as defined in Schedule 5, Part 1, paragraph 14(1)(b), which sates to return the site of the regulated facility to a satisfactory state, having regard to the state of the site before the facility was put into operation.

Stationary technical unit
Means a technical unit where one or more activities listed in Schedule 1, Part 2 of the Regulations (listed activities) are carried out; and the technical unit must be stationary.

The operator
Means the person(s) or corporate body who has control over the operation of the permit.

End of Permit Conditions