

**Bath & North East
Somerset Council**

Hereby permits:

Sun Chemical Limited, 3 High View Road, South Normanton, Derbyshire
DE55 2DT

To operate a Part B installation at:

Sun Chemical Limited, Norton Hill, Midsomer Norton, Bath BA3 4RT

Under the provisions of:

POLLUTION PREVENTION AND CONTROL ACT 1999
ENVIRONMENTAL PERMITTING (ENGLAND AND WALES)
REGULATIONS 2016

Permit reference:

EP 034

Signed on behalf of Bath and North East Somerset Council

Signed:  Date: 26th May 2017

Leigh Sanderson

**Senior Public Protection Officer (Environmental Monitoring)
An authorised officer of the Council**

INTRODUCTORY NOTE

This introductory note does not form part of the permit.

This Environmental Permit (the Permit) is issued by Bath and North East Somerset Council (the Council) under Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2016 (S.I. 2016 No.1154), to operate an installation prescribed in Schedule 1, Part 2, Section 6.5, Part B of those regulations to the extent specified in the conditions of this permit.

The requirements of this Permit shall be effective from the date of service unless otherwise specified within the Permit. Where a Variation Notice has been served, the conditions contained within that Variation Notice shall be effective from the date that the Notice is served, unless a specific implementation date is allocated to specific conditions.

For the purpose of this Permit, the legal operator of the installation is **Sun Chemical Ltd, 3 High View Road, South Normanton, Derbyshire DE55 2DT.**

This Permit contains specific conditions that must be complied with. It shall be noted that aspects of the operation of the activity which are not regulated by Permit conditions are subject to the guidance and recommendations detailed within the **Process Guidance Note 6/44 (11) (Revised June 2014) Statutory guidance for manufacture of coating materials.** The Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

DESCRIPTION OF AUTHORISED ACTIVITY

The process of the manufacture of coating materials is prescribed by Section 6.5 of the Environmental Permitting (England and Wales) Regulations 2016, where organic solvent consumption of the coating manufacture activity is 100 tonnes or more in any 12 month period, utilising various tanks and solvents.

Drummed raw materials, solvents, resins and intermediate products are housed in the raw materials store and designated external bunded areas. Inks and varnishes are manufactured by mixing and milling, using static or change pan processes. Local exhaust ventilation is fitted to all mixers, mills and filling machines, and is fitted for all manual additions of powdered ingredients, with extraction to abatement plant. The two pan washers are fitted with a refrigerated solvent control system, and all extracted air containing volatile organic compounds from these systems is passed through activated carbon beds prior to discharge.

STATUS LOG

The status log sets out the permitting history.

STATUS LOG			
DETAIL	REFERENCE	DATE	COMMENTS
Permit Issued	EPA 034	26/03/1996	Permit issued to Coates Brothers PLC
Variation Notice & Consolidated Permit	EPA 034/V1	29/09/2000	
Variation Notice & Consolidated Permit	EPA 034/V2	26/05/2002	Variation notice to new operator Sun Chemical Europe
Variation Notice	EPA 034/V3	15/05/2003	
Environmental Permit	EPA 034	06/04/2008	Transfer to Environmental Permit by virtue of Regulation 69 of the Environmental Permitting (England and Wales) Regulations 2007
Variation Notice & Consolidated Permit	EPA 034/V4 & EPA 034/C1	07/09/2012	Variation to include changes of machinery and new process guidance note
Variation Notice & Consolidated Permit	EPA 034/V5 & EPA 034/C2	20/09/2012	Variation to correct numbering error
Variation Notice & Consolidated Permit	EPA 034/V6 & EPA 034/C3	09/07/2015	Permit review and variation of quarterly monitoring of the carbon beds to annual
Variation Notice & Permit	EP 034	26/05/2017	Permit updated in line with current statutory guidance

End of introductory note

PERMIT CONDITIONS**Emission limits and monitoring**

1. The following emission concentration limits shall apply, as detailed in Table 1 and Table 2 below. Monitoring frequencies shall also follow that stated in Table 1 and Table 2, and annual monitoring data shall be sent to the regulator by the end of April each year.

Table 1 – Non VOC emission limits and monitoring			
Substance	Source	Emission limits	Monitoring frequency
Particulate matter	All ink manufacturing processes	20mg/Nm ³ as 8-hour mean for contained sources	Annual manual extractive testing

Table 2 – VOC emission limits and monitoring for waste gas and fugitive emissions			
Substance	Source	Emission limits	Monitoring frequency
VOC – abated releases	All processes / activities	150mg C/Nm ³	1. Continuous monitoring and recording 2. Annual manual extractive testing
VOC – unabated releases	All processes / activities	150mg C/Nm ³	Annual manual extractive testing
VOC	Fugitive emissions	5% of organic solvent input	Calculated annually as part of the Solvent Management Plan

Solvent management plan

2. The operator shall submit an annual Solvent Management Plan (SMP), as per Appendix II of this permit. The SMP shall include the calculation for fugitive VOC emissions as required by Table 2, and be submitted to the regulator no later than the end of April each year.

Monitoring, investigating and reporting

3. The operator shall keep records of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. Records shall be:

- kept on site;
 - kept by the operator for at least two years; and
 - made available for the regulator to examine.
4. If any records are kept off site they shall be made available for inspection within one working week of any request by the regulator.

Information required by the regulator

5. 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.
6. The results of non-continuous emission testing shall be forwarded to the regulator within 8 weeks of completion of the sampling.
7. Adverse results from any monitoring activity (both continuous and non-continuous) shall be investigated by the operator as soon as the monitoring data has been obtained. The operator shall:
- identify the cause and take corrective action;
 - clearly record as much detail as possible regarding the cause and extent of the problem, and the remedial action taken;
 - re-test to demonstrate compliance as soon as possible; and
 - inform the regulator of the steps taken and the re-test results.

Visible emissions

8. Emissions from combustion processes in normal operation shall be free from visible smoke. During start up and shut down, the emissions shall not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742.
9. All other releases to air, other than condensed water vapour, shall be free from persistent visible emissions.
10. All emissions to air shall be free from droplets.

Inspection of arrestment plant

11. All arrestment plant serving process operations shall be inspected at the following frequencies:

- fitted with reverse jets: at least once a month;
- fitted with mechanical shakers: at least once a week.

12. Reduced inspection frequency of (bag filter or cartridge) arrestment plant may be appropriate as follows:

- where pressure drop sensors or other continuous monitors are used to monitor the arrestment plant; such monitors shall be inspected according to manufacturers' recommendations to ensure their proper operation;
- where continuous camera operation enables observation of all emission points from the arrestment plant and pressure relief valves;
- for filters fitted with reverse jets or with mechanical shakers where operating experience has demonstrated satisfactory operation of the arrestment plant;
- where the process operation is infrequent.

Abnormal events

13. In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions, the operator shall:

- investigate and undertake remedial action immediately;
- adjust the process or activity to minimise those emissions; and
- promptly record the events and actions taken.

14. The regulator shall be informed without delay, whether or not there is related monitoring showing an adverse result:

- if there is an emission that is likely to have an effect on the local community; or
- in the event of the failure of key arrestment plant, for example, bag filtration plant or the activated carbon adsorption plant.

15. The operator shall provide a list of key arrestment plant, and shall have a written procedure for dealing with its failure, in order to minimise any adverse effects.
16. In cases of non-compliance causing immediate danger to human health, or threatening to cause an immediate significant adverse effect upon the environment, operation of the activity shall be suspended. All of the following criteria shall be taken into account:
 - the toxicity of the substances being released;
 - the amount released;
 - the location of the installation; and
 - the sensitivity of the receptors.

Continuous monitoring

17. All continuous monitoring readings shall be on display to appropriately trained operating staff.
18. Instruments shall be fitted with audible and visual alarms, situated appropriately to warn the operator of arrestment plant failure or malfunction.
19. The activation of alarms shall be automatically recorded.
20. All continuous monitors shall be operated, maintained and calibrated (or referenced, in the case of indicative monitors) in accordance with the manufacturers' instructions, which shall be made available for inspection by the regulator.
21. The relevant maintenance and calibration (or referencing, in the case of indicative monitors) shall be recorded.
22. Emission concentrations may be reported as zero when the plant is off and there is no flow from the stack. If required, a competent person shall confirm that zero is more appropriate than the measured stack concentration if there is no flow.
23. Any continuous monitor used shall provide reliable data >95% of the operating time, (i.e. availability >95%). A manual or automatic procedure shall be in place to detect instrument malfunction and to monitor instrument availability.

Compliance monitoring

24. Extractive sampling shall take place over a complete cycle of the activity.

25. For extractive testing, no result of monitoring shall exceed the emission limit concentrations specified.
26. The introduction of dilution air to achieve emission concentration limits shall not be permitted.
27. For periodic measurements of VOC, at least three readings must be obtained during each measurement exercise.
28. VOC emission limit values shall be considered to be complied with if, in one monitoring exercise:
 - the average of all the readings does not exceed the emission limit values; and
 - none of the hourly averages exceeds the emission limit value by more than a factor of 1.5.

Representative sampling

29. Sampling points on new plant shall be designed to comply with the British or equivalent standards.
30. The operator shall ensure that relevant stacks or ducts are fitted with facilities for sampling which allow compliance with the sampling standards.

Start-up and shut-down

31. The number of start-ups and shut-downs shall be kept to the minimum that is reasonably practicable.
32. All appropriate precautions shall be taken to minimise emissions during start-up and shut-down.

Non-VOC releases control techniques

33. All dust filtration units shall be fitted and operational during production runs associated with the relevant extraction plant. The abatement plant shall achieve the particulate matter emissions limit in Table 1.
34. All dust filtration units with final particulate containment bins shall be inspected weekly and emptied as required. Emptying of containment bins shall be recorded.
35. Dusty wastes shall be stored in closed containers and handled in a manner that minimises emissions.
36. Dry sweeping of dusty materials is not permitted.

37. All new or replacement dust filtration units shall be designed to operate to an emission standard of less than 10mg/m^3 for particulate matter.

VOC and odour control - storage

38. Bulk storage tanks for organic solvents and organic solvent-containing liquids shall, wherever practicable, be back-vented to the delivery tank during filling. Where this is impracticable, displaced air vents should be sited in such a way as to prevent the arising of offensive odour beyond the site boundary.

39. All potentially odorous waste materials shall be stored in suitable closed containers or bulk storage vessels, where appropriate vented to suitable abatement plant.

40. The exterior of outdoor bulk storage tanks for organic solvent storage shall be light coloured.

41. If necessary, emissions from fixed organic solvent storage tanks shall be vented to suitable arrestment equipment to meet the emission limits in Tables 1 and 2.

42. All new static bulk organic solvent storage tanks containing organic solvent with a composite vapour pressure that is likely to exceed 0.4kPa at 20°C (293K) shall be fitted with pressure vacuum relief valves.

43. Pressure vacuum relief valves shall be examined at regular intervals for signs of contamination or incorrect seating, and be cleaned and/or corrected as required. The minimum examination frequency shall be once every six months, but less frequent examination may be justified having regard for the tank contents and the potential emissions as a result of valve failure.

44. Delivery connections to bulk storage tanks shall be located within a bunded area.

45. Connections to bulk storage tanks shall be fixed and locked when not in use.

46. All fixed storage tanks shall be fitted with high-level alarms or volume indicators to warn of overfilling. Where practicable, the filling systems shall be interlocked to the alarm system to prevent overfilling.

47. Bunding shall:

- completely surround the bulk liquid storage tanks;
- be impervious and resistant to the liquids in storage; and
- be capable of holding 110% of the capacity of the largest storage tank.

VOC control - handling

48. Raw materials containing VOC shall be stored in closed storage containers.
49. All measures shall be taken to minimise VOC emissions during mixing, i.e. the use of covered or closed mixing vessels.
50. Emissions from the emptying of mixing vessels and transfer of materials shall be adequately contained, preferably by the use of closed transfer systems. This may be achieved by the use of closed mobile containers, containers with close-fitting lids, or, preferably, closed containers with pipeline delivery.
51. The design and working procedures of Fixed and Pan Change processes, dispersion and completion vessels should prevent, or where not practicable due to process characteristics, minimise and render harmless the emission to air of VOC.

VOC control - cleaning

52. Cleaning operations involving organic solvents should be periodically reviewed, at least once every two years, to identify opportunities for reducing VOC emissions (e.g. cleaning steps that can be eliminated or alternative cleaning methods). The regulator shall be provided with a report on the conclusions of the review.
53. Dispensing of cleaning solvents shall be:
- in the case of fixed manufacturing equipment from a contained device or automatic system when applied directly;
 - dispensed by piston-type dispenser or similar contained device, when used on wipes.
54. When organic solvent is used on wipes:
- pre-impregnated wipes shall be held within an enclosed container prior to use;
 - where practicable, no organic solvent cleaning fluids or significantly less volatile organic solvents cleaning fluids shall be used (with or without the addition of mechanical, chemical or thermal enhancements).
55. Where practicable, fixed equipment shall be cleaned in-situ and such equipment shall be kept enclosed whilst cleaning is carried out.
56. Where equipment is cleaned off-line, cleaning shall be carried out using enclosed cleaning systems wherever possible. Enclosed cleaning systems

shall be sealed to prevent emissions whilst in operation, except during purging at the end of the cleaning cycle. If this is not practicable, emissions shall be contained and vented to abatement plant where necessary.

VOC control - waste

57. Minimise the amount of residual organic solvent bearing material left in drums and other containers after use. All organic solvent contaminated waste shall be stored in closed containers.
58. Prior to disposal, empty drums and containers contaminated with organic solvent shall be closed to minimise emissions from residues during storage prior to disposal, and labelled so that all personnel who handle them are aware of their contents and hazardous properties.
59. Nominally empty drums or drums containing waste contaminated with VOC awaiting disposal shall be stored in accordance with the requirements for full or new containers.
60. Prior to disposal, used wipes and other items contaminated with organic solvent shall be placed in a suitably labelled metal bin fitted with a self-closing lid.

Spillage control

61. Suitable organic solvent containment and spillage equipment shall be readily available in all organic solvent handling and storage areas.
62. A high standard of housekeeping shall be maintained.

Stacks, vents and process exhausts

63. Flues and ductwork shall be inspected and cleaned to prevent accumulation of materials, as part of the routine maintenance programme.
64. When dispersion of pollutants discharged from the stack or vent is necessary, the target exit velocity shall be 15m/s under normal operating conditions, however velocities lower than 15m/s are acceptable provided adequate dispersion and dilution is achieved.
65. To ensure dispersion is not impaired by either low exit velocity at the point of discharge, or deflection of the discharge, a cap or other restriction shall not be used at the stack exit. A cone however may be useful to increase the exit velocity to achieve greater dispersion.

Management systems

66. An appropriate environmental management system shall be maintained.

Training

67. All staff whose functions could impact on air emissions from the activity shall receive appropriate training on those functions including:

- awareness of their responsibilities under the permit;
- steps that are necessary to minimise emissions during start-up and shut-down;
- actions to take when there are abnormal conditions, or accidents or spillages that could, if not controlled, result in emissions.

68. The operator shall maintain a statement of training requirements for each post with the above mentioned functions, and keep a record of the training received by each person. These documents shall be made available to the regulator on request.

Maintenance

69. The operator shall have the following available for inspection by the regulator:

- a written maintenance programme for all pollution control equipment; and
- a record of maintenance that has been undertaken.

End of Conditions

FURTHER INFORMATION

Confidentiality

The Permit requires the Operator to provide information to Bath & North East Somerset Council. The information will be placed on a public register in accordance with the requirements of the EP Regulations. If the Operator considers that any information provided is commercially confidential, it may apply to Bath & North East Somerset Council to have such information withheld from the register as provided in the EP Regulations. To enable Bath & North East Somerset Council to determine whether or not the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

Changes to the Operation

If the Operator proposes to make a change in operation of the installation he must, at least 14 days before making the change, notify the Regulator in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. 'Change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

Variations to the Permit

This Permit may be varied in the future. If at any time the activity or any aspect of the activity regulated by the Permit conditions changes such that the conditions no longer reflect the activity and require alteration, then an application form providing these details shall be submitted to the Regulator. Please contact the Regulator for an application to vary the Permit conditions.

Surrender of the Permit

Where an Operator intends to cease the operation of the installation (in whole or in part), then an application form providing these details shall be submitted to the Regulator. Please contact the Regulator for an application to surrender the Permit.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit must be made by both the existing and proposed holders, in accordance with Regulation 21 of the EP Regulations. A transfer will be allowed unless the Local Authority considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit. Please contact the Regulator for an application to transfer the Permit.

Responsibility under workplace health and safety legislation

This Permit is given in relation to the requirements of the EP Regulations. It must not be taken to replace any responsibilities you may have under workplace health and safety legislation.

Appeals

Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for the Environment or the Secretary of State for Wales, as appropriate. Appeals must be received by the appropriate Secretary of State no later than 6 months from the date of the decision (normally the date on the bottom of the Permit).

Appeals relating to processes in England and Wales should be sent to the Planning Inspectorate at the following address:

The Planning Inspectorate
Environmental Pollution Administration
Room 4/19 Eagle Wing
2 The Square
Temple Quay
Bristol
BS1 6PN

Guidance on the appeals procedure is contained in Regulation 31 and Schedule 6 of the EP Regulations.

The appeal must be in the form of a written notice or letter stating that the Operator/person wishes to appeal, and must list the condition(s) which is/are being appealed against. For an appeal to be valid, the following items **must** be included:

- a) a statement of the grounds of appeal
- b) a statement indicating whether the appellant (the person making the appeal) wishes the appeal to be dealt with:
 - by a hearing attended by both parties and conducted by an Inspector appointed by the Secretary of State, or
 - by both parties sending the Secretary of State written statements of their case (and having the opportunity to comment on one another's statements)
- c) a copy of any relevant application
- d) a copy of any relevant permit
- e) a copy of any relevant correspondence between the appellant and the Regulator
- f) a copy of any decision or notice which is the subject matter of the appeal.

At the same time, the Notice of Appeal and documents a) and b) must be sent to the Council, and the appellant should inform the appropriate Secretary of State that this has been done.

Please Note

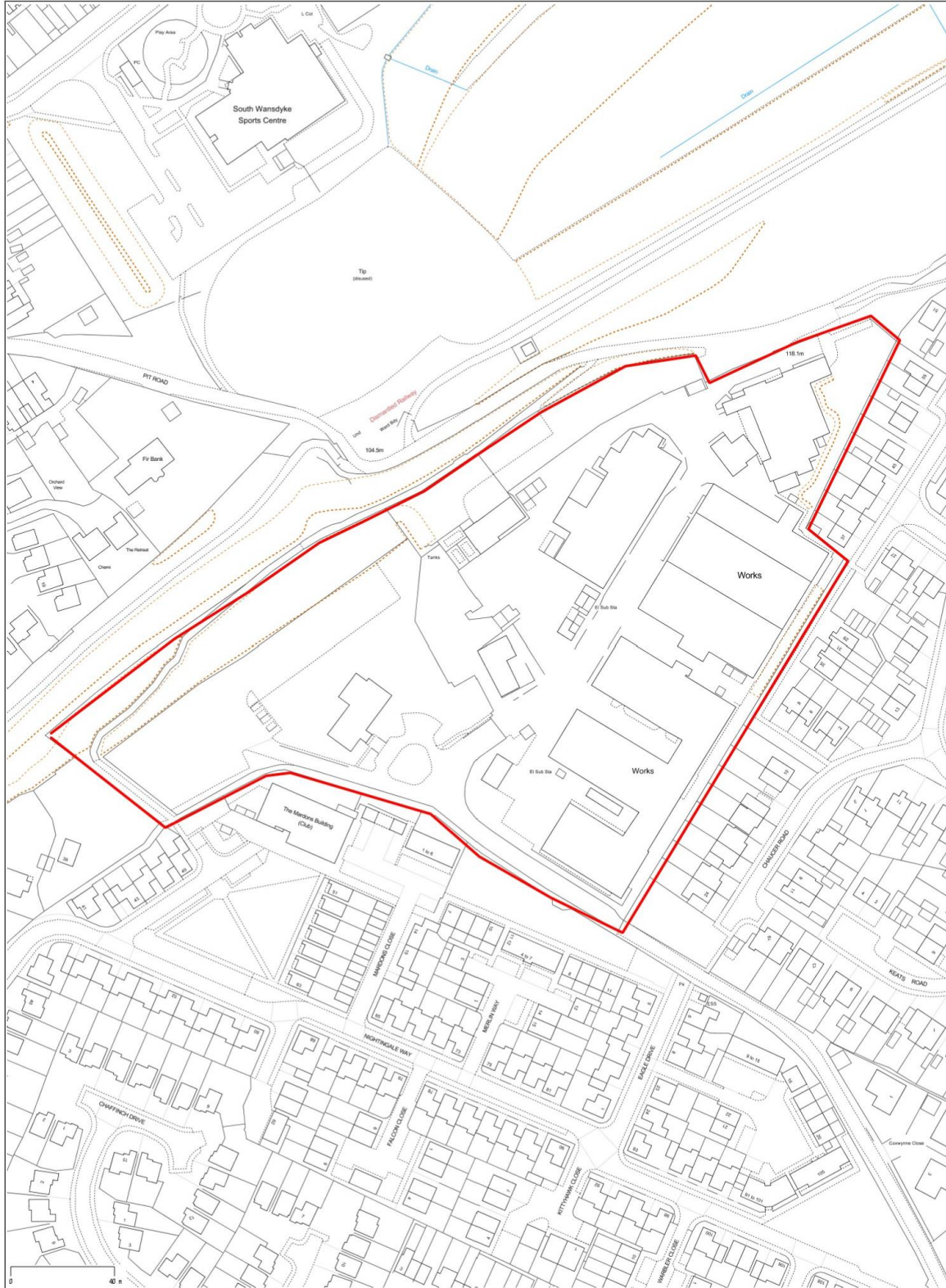
- An appeal will **not** suspend the effect of the conditions appealed against; the conditions must still be complied with.
- In determining an appeal against one or more conditions, the Act allows the Secretary of State in addition to quash any of the other conditions not subject to the appeal and to direct the Local Authority either to vary any of these conditions or to add new conditions.
- You will be liable for prosecution if you fail to comply with the conditions of this Permit. If found guilty, the maximum penalty for each offence if prosecuted in a Magistrates' Court is an unlimited fine and/or 6 months imprisonment. In a Crown Court it is an unlimited fine and/or 5 years imprisonment.

Contact details of the Regulator

Environmental Monitoring
Public Protection & Health Improvement
Bath & North East Somerset Council
Lewis House
Manvers Street
Bath
BA1 1JG

Tel: 01225 396693
Fax: 01225 477596
Email: environmental_monitoring@bathnes.gov.uk
www.bathnes.gov.uk

Appendix I: Location Plan



Date Created: 3-4-2017 | Map Centre (Easting/Northing): 366865 / 154034 | Scale: 1:1919 | © Crown copyright and database right. All rights reserved (100023334) 2017

Appendix II: Solvent Management Plan

Operators buy solvents to replace those lost during the process or included in the product. There are both environmental and cost savings from reducing the losses. The Industrial Emissions Directive requires a Solvent Management Plan to demonstrate compliance fugitive emission limits and give the public access to information about solvent consumption etc.

The Industrial Emissions Directive provides guidance on what constitutes a solvent input and an output. This can be described more simply as needing data on:

Inputs:

How much solvent is:

- bought, whether in pure form or contained in products;
- recycled back into the process.

Outputs:

How much solvent is:

- emitted to air, whether directly or via abatement equipment;
- discharged to water, whether directly or via water treatment;
- sent away in waste;
- lost by spills, leaks etc.;
- leaving the installation in the product.

The definitions in Annex VII Part 7 of the Industrial Emissions Directive are as follows and are shown diagrammatically in **Figure 4.1** on page 29 of Process Guidance Note 6/44(11).

Inputs of organic solvent in the time frame over which the mass balance is being calculated (**I**)

I1 The quantity of organic solvents or their quantity in mixtures purchased which are used as input into the process / activity (including organic solvents used in the cleaning of equipment, but not those used for the cleaning of the products).

I2 The quantity of organic solvents or their quantity in mixtures recovered and reused as solvent input into the process / activity. (The recycled solvent is counted every time it is used to carry out the activity).

Outputs of organic solvents in the time frame over which the mass balance is being calculated (**O**)

O1 Emissions in waste gases.

O2 Organic solvents lost in water, if appropriate taking into account waste water treatment when calculating O5.

O3 The quantity of organic solvents which remains as contamination or residue in products output from the process / activity.

O4 Uncaptured emissions of organic solvents to air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.

O5 Organic solvents and / or organic compounds lost due to chemical or physical reactions (including for example those which are destroyed, e.g. by thermal oxidation or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under O6, O7 or O8).

O6 Organic solvents contained in collected waste.

O7 Organic solvents, or organic solvents contained in mixtures, which are sold or are intended to be sold as a commercially valuable product.

O8 Organic solvents contained in mixtures recovered for reuse but not as input into the process / activity, as long as not counted under O7.

O9 Organic solvents released in other ways.

Consumption = **I1 - O8**

Actual solvent emission = **I1 - O5 - O6 - O7 - O8**

Fugitive emission (F) = **I1 - O1 - O5 - O6 - O7 - O8**

OR

Fugitive emission (F) = **O2 + O3 + O4 + O9**

Fugitive emission value = **F ÷ (I1 + I2) × 100%**

Total emission = **O1 + Fugitive emission (F)**

Appendix III: Site Plan

