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DUST EMISSIONS MANAGEMENT PLAN
for
AGECROFT RECYCLING
OVERMAN WAY, SWINTON

Report No 109/2C

September 2024

For

A1 Services (Manchester) Limited
part of Heidelberg Materials UK
Mayo House, 4 Overman Way,
Agecroft Commerce Park,
Swinton, Manchester,
M27 8BA

DOCUMENT CONTROL

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1. INTRODUCTION

1.1 Report Context

1.1.1 Starling Environmental Limited (SEL) has been commissioned by A1 Services (Manchester) Limited (the operator) to prepare a Dust Emissions Management Plan (DEMP) to accompany an environmental permit variation application for the waste transfer station located at Overman Way, Agecroft Commerce Park, Swinton, Manchester, M27 8BQ.

1.1.2 The site is regulated under environmental permit EPR/JB3701XB which is a bespoke waste transfer station permit. The permit allows acceptance of a wide range of non-hazardous waste and a limited range of hazardous waste, however only a limited range of construction, demolition and excavation waste is accepted. The core business of A1 Services is dealing with construction, demolition and excavation waste to produce recycled aggregate products.

1.1.3 The proposed changes include expansion of the permit boundary, increase in the annual throughput and addition of soil washing as a new activity.

1.1.4 Currently, construction, demolition and excavation waste is imported and treated to produce soil, soil substitutes and aggregate products. Recycled aggregate products are produced in accordance with the WRAP End of Waste Criteria for the production of aggregates from inert waste[1].

1.1.5 The aim of the DEMP is to identify the potential risks of fugitive dust emissions from operations at the site, consider the impact to identified receptors and set out the required mitigation measures for the management of any dust or other emissions arising.

1.1.6 The treatment and movement of waste, storage of wastes and aggregate products, and associated HGV movements have the potential to generate dust emissions which may pose a risk of dust soiling impacts, ecological impacts or risks to human health.

1.1.7 The use of treatment plant and HGVs also have the potential to generate exhaust emissions which may pose a health risk to surrounding receptors.

1.1.8 The DEMP is part of the Environmental Management System (EMS) for the site and is for use by management and site operators. A copy will be located within the site office.

1.1.9 The DEMP has been prepared using the following guidance:

- Environment Agency Risk Assessment for Environmental Permits[2]
- Institute of Air Quality Management (IAQM)[3]

[1] https://www.gov.uk/government/publications/quality-protocol-production-of-aggregates-from-inert-waste
[2] https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit

- Control & Monitor Emissions for your Environmental Permit[4]

1.2 Site Location and Surrounding Area

1.2.1 The site is situated off Overman Way, within Agecroft Commerce Park, Swinton, Manchester. The site location is shown on Drawing No 109/01. The national grid reference for the centre of the site is NGR SD 80489 00866.

1.2.2 The site was formerly part of Agecroft Colliery which was developed and operated between circa 1840 and 1991. The colliery was originally established to the north of the site but was extended to cover the site in the 1950s. The colliery closed in 1991 and was restored. The commerce park was developed between the late 1990s and early 2000's.

1.2.3 Agecroft Commerce Park extends to the north and west. To the east is the Manchester to Bolton railway line and beyond that the disused Manchester, Bolton and Bury Canal. Further industrial properties are located beyond the canal around Langley Road and the Langley Business Park. These include the Tarmac concrete batching and asphalt plant. Further west are some residential properties and the River Irwell.

1.2.4 To the south and south-west of the site is Brindle Heath woodland, which is classed as a site of biological importance (SBI) by Salford City Council. Beyond the woodland to the west and south are the suburbs of Brindle Heath and Irlams o' the Heights.

1.2.5 The closest residential properties are approximately 120 m from the site boundary.

1.3 Layout

1.3.1 Access to the site is from Overman Way via a set of palisade security gates. The site is bound by palisade fencing on all sides. The gates are locked outside working hours and the site is covered by 24 hour CCTV.

1.3.2 The site comprises a rectangular shaped parcel of industrial land covering approximately 3.7 hectares. The northern area houses an office building, garage/workshop, weighbridge and truck parking. The southern portion of the site is used for waste processing and storage. All waste operations are conducted in the yard. The existing site layout is shown on Drawing No 109/02B and the proposed site layout is shown on Drawing No 109/05A.

[3] IAQM Guidance on the assessment of dust from demolition and construction, January 2014. Whilst this guidance is specifically for 'construction dust', in the absence of separate guidance for dust from waste or mineral sites, the IAQM guidance can be used as a starting point for waste dust assessment with appropriate modification or minor adjustments.

[4] https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit

1.3.3 The site is surfaced with a mixture of concrete and hardstanding, The concrete surfaced areas drain via interceptor to sewer. Surfacing is shown on Drawing No 109/02B Site Layout Plan.

1.3.4 The permit boundary includes a strip of land to the north of the site entrance which has not been used for waste activities, just for car parking and storage.

1.4 Background Air Quality

1.4.1 Reference to the interactive DEFRA Air Quality Management Area (AQMA) mapping tool[5] identifies that the site is not located within an AQMA.

1.4.2 The UK Ambient Air Quality Interactive Map[6] shows background concentrations of pollutants for the area and is presented in Table 1 along with air quality standards. Background concentrations of all pollutants are below the limit values for protection of human health.

Pollutant	**2022 Background concentration** µg/m^3	**Air Quality Standard Limit value / objective** µg/m^3
Nitrogen Dioxide (NO_2)	11 - 20	40*
Fine Particulate Matter (PM_{10})	< 13	40*
Very Fine Particulate Matter ($PM_{2.5}$)	6 - 8	10**

Table 1: Background Air Quality for Swinton 2022
Notes
***** The Air Quality Standards Regulations 2010 (amended in 2016)
****** The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023.

1.5 Climate Details

1.5.1 Figure 1 shows a wind rose for data collected at Manchester Airport which is the closest recording station at approximately 15 km south of the site. This shows the wind direction to be predominantly from the south, west and south-west.

[5] https://uk-air.defra.gov.uk/aqma/maps
[6] Data obtained using interactive background maps https://uk-air.defra.gov.uk/data/gis-mapping.

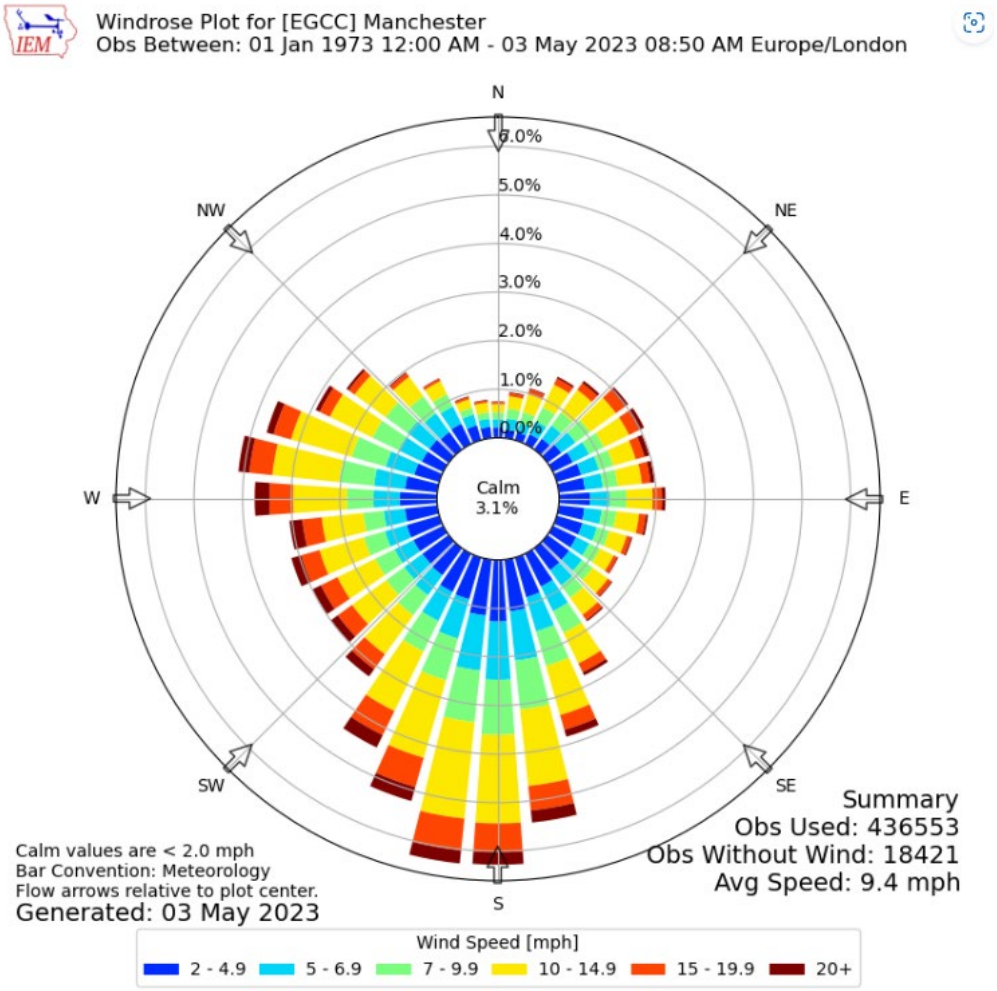


Figure 1: Wind Rose

Rainfall

1.5.2 Reference has been made to Met Office data for Woodford in Greater Manchester available on the met office website[7], This is the nearest climate recording station to the site at approximately 20 km south. Total average annual rainfall during the period 1991 to 2020 was 868 mm. The number of days of rainfall greater than or equal to 1 mm was 156 days, providing natural dampening for 42% of the year.

[7] https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcqrqyr80

2. ASSESSMENT OF RECEPTORS

2.1 Receptors

2.1.1 EA Guidance requires that receptors within 1 km of the site that may be impacted by dust are identified, and that a further assessment is made to identify which of these are sensitive. Drawing No 109/03 in Appendix A shows the site and surrounding area setting.

2.1.2 Table 2 lists the receptors located within 1 km of the site and their distance and direction from the site, along with the reference as per Drawing No 109/03.

2.2 Receptor Sensitivity Assessment

2.2.1 The sensitivity assessment follows the IAQM guidance and is based on number of receptors and distance from the source. For example, residential properties are considered to be highly sensitive to dust but the sensitivity reduces with distance from site. The assessment method is contained in Appendix B.

2.2.2 The sensitivity of each receptor to dust soiling effects, human health effects and the ecological effects of dust deposition has been assessed using the IAQM guidance[3].

2.2.3 The sensitivity of surrounding receptors to human health effects has been assessed based on 2022 background annual mean PM_{10} concentration at <13.0 µg/m^3 which is well below the annual mean Air Quality Objective of 40 µg/m^3.

Ref	Receptor	Direction from	Approximate Distance from site boundary (m) to closest point	No of Receptors	Receptor Sensitivity		
					Dust Soiling	Human Health Impacts	Ecological Impacts
Residential							
1	Properties in Brindle Heath	SW	120	>100	Low	Low	-
	Properties off Langley Road	E, NE	200	10-100	Low	Low	-
	Virginia Drive (new development)	E	280	>100	Low[1]	Low	
	Properties in Agecroft Suburb	NW	635	>100	Low	Low	
	Properties in Pendleton Suburb	SE	320	>100	Low	Low	
	Properties in Kersal Suburb	NE, E	645	>100	Low	Low	
	Properties in Irlams O'th'height Suburb	SW	675	>100	Low	Low	
Industrial/Commercial							
2	A1 Hazardous Waste Transfer Station	E	Adjacent	1-10	Medium	Low	-
	Foxhall Waste Asbestos Waste Transfer Station	N	50	1-10	Medium	Low	-
	Manchester Tippers & Aggregates (Waste Soil Treatment)	E	60	10-100	Low	Low	-
	Churchill Enviro Ltd (Waste Soil Treatment)	E	140	10-100	Low	Low	-
	Industrial premises off Lamplight Way	W	30[1]	>100	Low	Low	-
	Industrial premises on Overman Way	W	Adjacent	10-100	Medium	Low	-
	Industrial premises on Langley Mill Business Park & Orchard Trading Estate	E	35[2]	10-100	Low	Low	-
	HMP Forest Bank (Prison)	N	930	>100	Low	Low	-
Major Roads/ Transport Links							
3	Bolton to Manchester Rail Line	E	Adjacent	-	Low	Low	-
	Broad Street (A6)	SW	565	-	Low	Low	-
Public Rights of Way							
4	Swinton & Pendlebury Definitive Footpath 23	E	Adjacent	>10	Low	Low	-
	Swinton & Pendlebury Definitive Footpath 21	E	390	>10	Low	Low	-

Table 2 (continued over): Potential Receptors Within 1 km

Ref	Receptor	Direction from	Approximate Distance from site (m)	No of Receptors	Receptor Sensitivity		
Amenity/Recreation							
5	Northern Cemetery	E	270	10-100	Low	Low	-
	Salford Sports Village	E	400	10-100	Low	Low	-
	Playing fields off Duchy Road	SW	225	10-100	Low	Low	-
	Playing field off Agecroft Road	N	580	10-100	Low	Low	-
	Caravan Park	S	510	10-100	Low	Low	-
Waterways							
6	Manchester/Bolton/Bury Canal	E	40	-	-	-	Low
	River Irwell	E	330	-	-	-	Low
Ecological Sites							
7	Manchester/Bolton/Bury Canal Site of Biological Interest	E	40	-	-	-	Low
	Brindle Heath Junction Site of Biological Interest	S, SW	Adjacent	-	-	-	Low
Educational Institutions							
8	Summerville Primary School	SW	635	>100	Low	Low	-
	Pendleton Sixth Form College	SW	815	>100	Low	Low	-
	St George's C of E Primary School	SE	700	>100	Low	Low	-
	St Sebastians RC Primary School	SE	850	>100	Low	Low	-
Hospitals/ Health Care Institutions							
9	Priory Healthcare	S	800	>100	Low	Low	-

Table 2 continued: Potential Receptors Within 1 km

Notes: Receptor sensitivity has been determined using the IAQM guidance 'Define the Sensitivity of the Area'.
Measurements have been taken from the operational site boundary, omitting the unused permit area to the north which is to be surrendered.
1. Industrial premises off Lamplight Way are 30 m from permit boundary but over 200 m from operational area
2. Industrial premises on Langley Mill estate are 30 m from site boundary but over 100 m from the operational area

Residential Receptors

2.2.4 The closest residences in the suburb of Brindle heath are located approximately 120 m to the south-west, and the closest residences in the suburb of Pendleton are off Langley Road approximately 200 m to the east. Whilst residential receptors are classified as 'high sensitivity' receptors, due to the distance from source (ie >100 m), these properties are assessed as having low sensitivity to both dust soiling and human health impacts.

2.2.5 In addition, the residential area in the south and west is separated from site by the dense woodland of Brindle Heath. This will act as a barrier to dust emissions. Properties in the east are separated by the railway line and industrial buildings which will also serve as a barrier.

Commercial/Industrial Receptors

2.2.6 The site is located on the Agecroft Commerce Park which is an extensive commercial/industrial area covering over 30 hectares. The surrounding area is also commercial/industrial and includes Langley Mill Business Park & Orchard Trading Estate to the east.

2.2.7 The IAQM consider places of work as being 'medium sensitivity' receptors to both dust soiling and human health effects. The closest places of work to the site are the Restore Records Management warehouse adjacent to the west, Bunzl warehouse further west and Marshalls Truck Bodies to the north. These places of work are assessed as having medium sensitivity to dust soiling and low sensitivity to human health impact due to the low background levels of PM_{10}.

2.2.8 All other places of work in the vicinity of the site are assessed as having low sensitivity to both dust soiling and human health impacts due to their distance from the source.

2.2.9 The A1 Hazardous waste transfer station and asbestos transfer station are listed under commercial receptors. These have been assessed as medium sensitivity to dust soiling as commercial receptors but the nature of the operations would reduce this to low. Neither of these activities are operational.

Water Features

2.2.10 In accordance with the IAQM guidance, the identified water features in the area are classified as having low sensitivity to ecological effects from dust deposition.

Amenity/Recreation

2.2.11 There are two sets of playing fields, a sports village, a caravan site and a cemetery within 1 km of the site. These are considered as having low sensitivity to both dust soiling and human health impacts due to the transient nature of exposure.

Transport Links

2.2.12 Receptors where human exposure is transient (eg. roads) are considered as having low sensitivity to both dust soiling and human health impacts.

Hospitals/Care Homes

2.2.13 Hospitals or care homes are classified as 'high sensitivity' sensitivity to both dust soiling and human health impacts. There are no general hospitals within 1 km of the site. There is a small private hospital, Priory Healthcare, located approximately 800 m to the south of the site.

2.2.14 Due to the distance from source, this 'high sensitivity' receptor is assessed as having low sensitivity to both dust soiling and human health impacts.

Public Rights of Way

2.2.15 There are a number of public footpaths in the area. In accordance with IAQM, receptors where human exposure is transient (eg. footpaths and roads) are considered as having low sensitivity to both dust soiling and human health impacts.

Designated Sites/Ecological Receptors

2.2.16 There are no local nature reserves or nationally designated sites within 1 km of the site. There are two local sites of priority habitat designated by Salford City Council as Sites of Biological Importance. As these are not nationally designated sites, they are classified by the IAQM as having low sensitivity to ecological effects from dust deposition.

Schools/Colleges

2.2.17 There are four identified schools or colleges within 1 km of the site but due to their distance from site these are assessed as having low sensitivity.

3. CONTROL OF EMISSIONS

3.1 Waste Deliveries

3.1.1 HGVs will enter the site via the gated entrance. Haulage operators are instructed that all loads should be covered prior to entering site.

3.1.2 Waste acceptance procedures are detailed in the EMS which include;

- Ensuring that all HGVs transporting waste into or out of the site will be covered;
- If a load is deposited at the site and then found to be dusty, it will be dampened down before and during tipping using the bowser.

3.1.3 Haulage operators removing aggregate products from site are instructed to cover loads on leaving the site.

3.2 Processing

3.2.1 Treatment comprises one or more of: sorting, separation, crushing, screening, washing and blending. Hardcore will be crushed prior to screening. Products are manufactured according to a Quality Protocol and tested in accordance with end of waste requirements. Screened soil is dispatched as waste either for recovery or landfill.

3.2.2 The annual permitted throughput for the site will be 750,000 tonnes per annum. The predominant waste types are concrete, bricks, soil and stones from construction, demolition and excavation works.

3.2.3 Proposed waste types that will be subject to crushing, screening and washing are listed in Table 3 below. This list mirrors the waste types allowed under the end of waste protocol. The predominant waste types will be concrete, bricks, soil and stones from construction, demolition and excavation.

Waste Code	Description
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07 *May include excavation from mineral workings*
01 04 09	Waste sand and clay *Must not include contaminated sand*
10 11 03	Waste glass based fibrous material *Waste without organic binders only*
15 01 07	Glass packaging
17 01 01	Concrete *Must not include concrete slurry*
17 01 02	Bricks

Table 3 (continued over): Waste Types for Washing, Crushing and Screening

Waste Code	Description
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02 02	Clean glass Must not include fibreglass or glass fibre
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01 *Only bituminous mixtures from the repair and refurbishment of the asphalt layers of roads and other paved areas (excluding bituminous mixtures containing coal tar and classified as waste code 17 03 01)* *Must not include coal tar or tarred products* *Must not include freshly mixed bituminous mixtures*
17 05 04	Soil and stones other than those mentioned in 17 05 03 *Must not contain any contaminated soil or stone from contaminated sites*
17 05 06	Dredging spoil other than those mentioned in 17 05 05 *Only inert aggregate from dredgings* *Must not contain contaminated dredgings* *Must not contain fines*
17 05 08	Track ballast, soil and stones other than those mentioned in 17 05 07 *Must not contain soil and stones from contaminated sites*
17 09 04	Mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 *mixed construction and demolition waste, limited to that generated from utilities trenching, consisting of sub base aggregates, and containing only material that would be described as 17 01 01, 17 03 02 and 17 05 04*
19 12 05	Glass *Does not include glass from cathode ray tubes*
19 12 09	Minerals (eg sand, stones) *Must not contain contaminated concrete, bricks, tiles, sand, stone or gypsum from recovered plasterboard*
20 01 02	Glass *Must not include fibreglass*
20 02 02	Garden and park waste (including cemetery waste) – soil and stones *Must not contain contaminated stones from garden and parks waste*

Table 3 continued: Waste Types for Washing, Crushing and Screening

3.2.4 Control of exhaust emissions from plant will be predominantly through use of high tier emissions standard[8] plant/machinery and regular inspection and maintenance of machinery.

3.3 Avoidance and Containment

3.3.1 The site will operate with a number of conveyors. The conveyors carrying material out of the wash plant are used to convey wet products, so the material will not raise dust and the conveyors will not be enclosed. The conveyor feeding the wash plant will not be enclosed but it will be constructed with protective sides to prevent material from falling off or being windblown.

[8] Emissions Standards are set out in the 'Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulations 1999' as amended.

3.3.2 Further conveyors are on the crusher output feed and the dry screening plant. These will not be enclosed as the crusher has a water spray for dust suppression and mobile dust suppression will be used when dry screening is being carried out in dry weather. These measures are considered adequate to control dust emissions without enclosing the conveyors. The site has operated under these controls for a number of years and there is no history of issues with dust emissions.

3.3.3 There are no silos on site for storage of powders or dusty material. Powders and dust will not be accepted, only the waste types listed in Table 1.

3.4 Minimisation of Drop Heights

3.4.1 Drop heights from conveyors will be set to the minimum height necessary for efficient functioning and as low as possible for material to clear the conveyor.

3.5 Wheel Cleaning

3.5.1 A wheel wash will be installed for exiting HGVs and it will be positioned on the concreted surface on the route out. It will be a drive through water bath with rumble strips on the bottom. HGVs will pass through the wheel wash to exit the site. This is the most effective position as vehicles do not have to drive out of their way to go through it.

3.5.2 The area around the wheel wash and the entrance and exit roadways are concrete surfaced so vehicles do not exit the wheel wash onto unpaved, muddy ground. The site roads and access road will be swept using a road sweeper.

3.5.3 The wheel wash will be topped up with fresh water using a water bowser when the water level drops below the recommended fill level, although it will also be topped up naturally by rainfall. The silt at the bottom will be removed monthly.

3.5.4 The access road and site surface will be inspected daily by the site foreman and if staining is observed leaving the site then the wheel wash will be cleaned out and topped up with fresh water.

3.6 Speed Restrictions

3.6.1 A site speed limit of 10 mph is in place to prevent raising dust.

3.7 Material Handling

3.7.1 Movement of material at the site will be conducted by trained operators who are aware of the requirement for careful movement and avoidance of double handling.

3.8 Storage

3.8.1 Stockpiles will be housed in concrete block bays with 0.5 m freeboard to prevent wind whipping.

3.9 Dust Suppression Equipment

3.9.1 The crushing plant includes integrated dust suppression with a water spray bar mounted on the output conveyor.

3.9.2 The water bowser is used to dampen the screening operation in dry conditions.

3.9.3 Moisture content of stockpiles will be manged by damping down on dry days (ie. when not raining). Damping will be carried out using the bowser and recorded in the site diary.

3.9.4 A road sweeper will be used to dampen and clean site roads.

3.9.5 The washing plant provides an inherent dampening effect.

3.10 Water Supply

3.10.1 Water used for dust suppression is harvested surface water and roof water. Roof water is collected from the office and garage/workshop and stored in a 35,000 L tank behind the garage. Surface water is collected in a sub-surface tank with a capacity of 75,000 L. Tanks and drainage is shown on the drainage plan, Drawing No 109/04.

3.10.2 The site has a borehole which is being developed as a water supply for the wash plant.

3.10.3 Mains water is also available on site which can be used to supplement harvested rainwater and borehole water.

3.10.4 In the unlikely scenario that mains water is unavailable and the resulting site conditions gave rise to a high risk of dust emissions waste operations would be temporarily suspended.

3.10.5 If mains water is to be unavailable for an extended period, a water tanker will be brought in so that operations can continue.

3.11 Mobile Plant and Equipment

3.11.1 Waste treatment plant includes mobile crusher, screening and washing plant which operate on diesel engines. Gaseous emissions will be produced by the internal combustion engines.

3.11.2 Mobile plant (eg loader, shovel) will be used at the site. The operator will ensure all mobile plant used at the site will be predominantly high tier[9] emissions ratings plant.

3.11.3 IAQM guidance states that mobile plant are *'unlikely to make a significant impact on local air quality'*, and would not need to be assessed as part of an Air Quality Assessment.

3.11.4 Regular servicing of plant, vehicles and machinery will be carried out according to applicable legislation. If replacement of plant/machine is required then the highest emission standard possible available will be purchased.

3.11.5 Daily checks on vehicles and plant are carried out by operatives before use and these are recorded on a check sheet.

3.11.6 All drivers of mobile plant and operators of stationary plant will be fully trained in the correct and safe use of the relevant machinery to ensure that the operating techniques are undertaken in line with the guidance within the manufacturers' instructions.

3.11.7 Staff will be trained on the use of mobile plant to reduce emissions where possible, including anti-idling.

3.11.8 Plant and machinery will be refuelled from the on-site bunded fuel tank.

3.12 Housekeeping

3.12.1 A road sweeper will be used for the concreted surface in the yard and the off-site road. In addition, the site surfaces will be scraped clean using the loading shovel.

3.12.2 Table 4 below details the housekeeping schedule that is in place.

Frequency	Action
Daily	Visual inspection for mud on road, dust on surfaces and plant – any actions required are recorded in the site diary Shovelling/tidying debris using loading shovel
Weekly	Wheel wash topped up Road sweeper deployed to clean access road
Monthly	Wheel wash cleaned out

Table 4: Housekeeping Schedule

4. DUST AND PARTICULATE MANAGEMENT

4.1 Responsibility for Implementation of Plan

4.1.1 The Appointed Manager (AM) has overall responsibility for the control of the waste operations at the site and is responsible for ensuring that the procedures in the DEMP are followed. The AM will:

- Ensure that the DEMP is effectively communicated, and that staff that may are competent to undertake their roles;
- Ensure that operations and management procedures outlined in this document are implemented and complied with;
- Ensure that the DEMP is reviewed annually, or following:
  - Permit variation
  - Accident, complaint or breach of permit
  - Any major changes to site operations
- Completion and storage of all required records for the DEMP.

4.1.2 The AM may delegate some mitigation tasks to site representatives (eg dust monitoring, use of water bowser for dust suppression, training of other staff).

4.2 Sources and Control of Dust/ Particulates

4.2.1 Potential emissions that may be generated from waste operations at the site include the following:

- Dust from HGV movements,
- Dust from tipping, movement, crushing and screening of imported wastes;
- Dust from stockpiled wastes/aggregates;
- Exhaust emissions from plant
- Exhaust emissions from HGV movements.

4.2.2 Surrounding industrial land use may also be a source of dust/particulates, particularly the land use to the east beyond the railway.

4.2.3 Tables 5 and 6 below detail the sources of emissions at the site and include the pathways to identified receptors. Proposed mitigation and control measures are provided for each source-pathway-receptor linkage, and an assessment of overall risk is provided for each emission source.

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Overall Risk
Mud: HGV movements, or from uncovered vehicles Brought out on wheels of vehicles and deposited off-site	Wheels and vehicles tracking mud on and off-site and dropping off when dry, then resuspension as airborne particles	Local residents Surrounding workplaces Brindle Heath woodland Manchester, Bolton, Bury Canal	Dust deposition soiling surfaces Visible dust plumes Elevated PM_{10} and associated health impacts Ecological impacts	**Avoidance/ Containment:** Wheel washing facility. Limit vehicle speeds to < 10 mph. Haulage operators instructed to use wheel wash on leaving. **Suppression:** Use of bowser to dampen site surfaces. Use of road sweeper to dampen roads. **Management Control (EMS):** Daily monitoring of off-site roads and use of road sweeper when monitoring dictates. Visual dust monitoring during daily checks. All vehicles will be covered before entering and leaving site	**Low**
Dust /particulates: Generated from waste tipping, processing, movement and stockpiles storage	Atmospheric dispersion (wind-blown dust)	Local residents Surrounding workplaces Pedestrian users of footpaths Brindle Heath woodland Manchester, Bolton, Bury Canal	Dust deposition soiling surfaces Visible dust plumes Elevated PM_{10} and associated health impacts Ecological impacts	**Avoidance/ Containment:** Minimise drop heights during tipping and movement of wastes/aggregates. Clean up any spillages that occur during material loading into vehicles. Careful placement of material onto the crusher/screener, into vehicles or stockpiles by trained operatives. **Suppression:** Use of mobile water bowser to dampen stockpiles if dust is being generated. Dust suppression system on crusher. **Management Control (EMS):** Visual dust monitoring during daily checks.	**Low**

Table 5: Assessment of Risks from Dust/Particulates

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Overall Risk
Gaseous pollutants: HGV exhaust emissions	Atmospheric dispersion	Local residents Surrounding workplaces	Increase in airborne particles and in nitrogen dioxide, sulphur dioxide and associated human health impacts	**Avoidance/ Containment:** Regulatory controls and best practice measures are in place. **Management Control (EMS):** Ensure all vehicles switch off engines - no idling vehicles. Regular inspection and maintenance. Use of higher tier emission standard machinery/plant where available.	**Very Low**
Gaseous pollutants: Mobile plant exhaust emissions	Atmospheric dispersion	Local residents Surrounding workplaces	Increase in airborne particles and in nitrogen dioxide, sulphur dioxide and associated human health impacts	**Avoidance/ Containment:** Regulatory controls and best practice measures are in place. Use of higher tier emission standard machinery/ plant where available. **Management Control (EMS):** Ensure all vehicles switch off engines - no idling vehicles. Regular inspection and maintenance.	**Very Low**

Table 6: Assessment of Risks from Gaseous Pollutants

4.3 Monitoring and Inspections

4.3.1 The AM or delegated representative will undertake daily on and offsite inspections for dust soiling of surfaces to monitor effectiveness of the Plan. Inspection results will be recorded in the site diary, and a record kept detailing weather conditions.

4.3.2 The checks will be made at dust monitoring points around the site boundary shown on Drawing No 109/05A.

4.3.3 If visible dust is observed offsite, this will trigger the deployment of the road sweeper and use of dust suppression after review of the likely source of dust. Operatives will be trained to be more aware of dust potential during periods of strong winds and waste processing may be temporarily suspended.

4.3.4 Quantitative monitoring of dust is not proposed at this time due to the avoidance, containment and suppression mitigation measures in place. In addition, the site is not in an AQMA for dust and the background dust concentrations are low.

4.4 Contingency Action Plan

4.4.1 In the event that dust/particulates or excessive vehicle emissions are perceived as a concern following monitoring or as the result of a complaint, the source will be investigated by the AM.

4.4.2 When investigating any such report, the following factors will be considered:

- Location of the source relative to receptors;
- Prevailing wind directions on site; and
- Dust/particulates and vehicle emissions from external source

4.4.3 Remedial actions will be undertaken on an escalating basis and include the following:

- Simple repairs or modifications to plant or machinery or switching off equipment.
- Deployment of road sweeper to clean and dampen site surfaces.
- Use of water suppression on stockpiles.

4.4.4 The AM with the support of a senior manager will co-ordinate more complex responses, which could include: review of customers at the pre-acceptance stage if certain hauliers continue to bring in mainly dusty loads or have excessive exhaust emissions; implementing a local community engagement exercise; or liaising with regulators.

4.4.5 Any incidents, their outcomes and details of any remedial actions taken related to emissions will be recorded in the site diary.

4.4.6 The AM will ensure that the site is equipped with contingency provisions for replacement plant and parts relating to emissions management equipment (eg suppression sprays and road sweeping equipment). The aim will be to repair equipment within 24 hours of breakdown. If key suppression equipment cannot be repaired or replaced within 24 hours, or other failure occurs (eg freezing water), the AM will consider whether to suspend processing operations based on the potential for dust emissions as a result of the breakdown.

Adverse Weather

4.4.7 Approximation of wind strength is by the physical effects on site. A force 6 strong breeze on the Beaufort Scale is described as 'large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty'. This would be the conditions under which external operations would be suspended if dust was being carried across the site.

4.4.8 A force 7 near gale on Beaufort Scale is described as 'whole trees in motion; inconvenience felt when walking against the wind'. Under these conditions all external processing would be suspended.

Out of Hours Arrangements

4.4.9 The site operates Monday to Saturday and is closed on Sundays and Bank Holidays. In dry weather the stockpiles and surfaces will be damped on Saturdays before closing up for the weekend. The site can be viewed remotely by CCTV when not manned.

4.4.10 In prolonged dry spells the duty manager will visit the site and damp down on Sundays or bank holidays.

Failure of Water Supply

4.4.11 If the mains water supply fails then water tankers will be hired in for suppression.

Emergency Procedures

4.4.12 Emergency scenarios and contingency actions are summarised in Table 7 below.

Event	Action
Dust soiling on surfaces within site	- check if surfaces and stockpiles have been damped down, repeat if dry - check drop heights on conveyors are as low as possible - check locations outside of site boundary for off-site dust
Staining or debris along access road	- as determined by site manager during daily inspection - deploy road sweeper
Visible dust plume being carried off site	-temporarily suspend operations to investigate source/cause of dust emission - repeat damping down of surfaces and stockpiles - suspension of treatment during strong winds if dust cannot be adequately contained (see definition of strong winds in paragraphs 4.4.7 and 4.4.8)
Complaints received from neighbours	- investigate the weather conditions on the day of complaint - check plant settings and identify any issues or errors - depending on cause of complaint carry out appropriate action listed above - report back investigation findings and action taken to complainant
Breakdown/malfunction of dust suppression equipment	- Instigate repair immediately - If equipment cannot be repaired within 24 hours then hire in replacement equipment - suspend if conditions are dry and dust is being raised on site
Breakdown of processing plant causing backlog of material and increase in stockpile sizes	- on-site engineer to instigate repairs immediately - if storage area full, divert incoming material to alternative sites to prevent excessive build up of material on site - apply daily dust suppression to existing stockpiles whilst waiting to restart processing
Receipt of extra dusty waste	- damp down before tipping and during tipping - if waste is predominantly dust the load will be rejected and reloaded - contact customer liaison to prevent future import of this material
Generation of more dust than anticipated during processing	- if material generates more dust than anticipated during processing, suspend processing and review. - direct additional dust suppression equipment to the area before recommencing - resume processing in small batches to maximise control of dust, suspend processing if dust cannot be controlled - remove material from site as a backstop option if it cannot be processed without causing pollution off site - contact customer liaison to review future acceptance of such waste
Adverse weather conditions	- suspend processing if dust is being carried across site by strong winds
Failure of water supply	- hire in water tanker - suspend operations in dry conditions and wait for water supply

Table 7: Emergency Measures

5. REPORTING AND COMPLAINTS PROCEDURES

5.1 Reporting of Complaints

5.1.1 Any complaints relating to the site will be recorded in the site diary as detailed in the EMS. This includes complaints relating to dust or air quality.

5.1.2 All complaints received will be recorded and investigated by the AM. A response will be reported back to the complainant.

5.1.3 A record of incidents, accidents or non-conformances will be kept including the following information:

- Date and time of incident
- What happened
- What caused it
- Details of any contamination
- Who was involved
- What action was taken
- Were external agencies involved
- Any changes that have been made to the procedures/ EMS to ensure the incident does not reoccur

5.2 Management Responsibilities

5.2.1 The responsibility of handling complaints is with the AM with support from a senior manager. Incidents are investigated by the AM whereby rectifying action is determined.

5.3 Community Liaison

5.3.1 Liaison with immediate neighbours is undertaken by phone call or by visiting in person.

5.3.2 A community liaison group will be established if liaison with the wider community is required.

6. SUMMARY AND CONCLUSIONS

6.1 Waste operations at the site will consist of processing construction, demolition and excavation wastes to produce recycled aggregate products using a mobile crusher, screening and washing plant.

6.2 The sensitivity of receptors to adverse impacts from dust has been assessed in accordance with IAQM guidance. The majority of identified receptors in the surrounding area were assessed as having low sensitivity to both dust soiling and human health impacts predominantly due to their distance from dust/PM sources at the site.

6.3 The closest places of work are located within 20 m and are assessed as having medium sensitivity for dust soiling. The mitigated risk to these receptors is considered to be low with implementation of dust control measures.

6.4 The closest residential receptors are assessed as having low sensitivity to both dust soiling and human health impacts due to the distance from source (ie >100 m).

6.5 Prevention of emissions will be through: use of a wheel wash, regular inspections of off-site roads, limiting vehicle speeds, and anti-idling policy. Suppression measures include the use of a mobile water bowser to dampen surfaces and stockpiles. The overall risk of emissions following mitigation measures has been determined as low.

6.6 The DEMP will be reviewed annually as part of the annual review of the EMS, following any complaints received relating to emissions or following relevant variations to the waste operations.

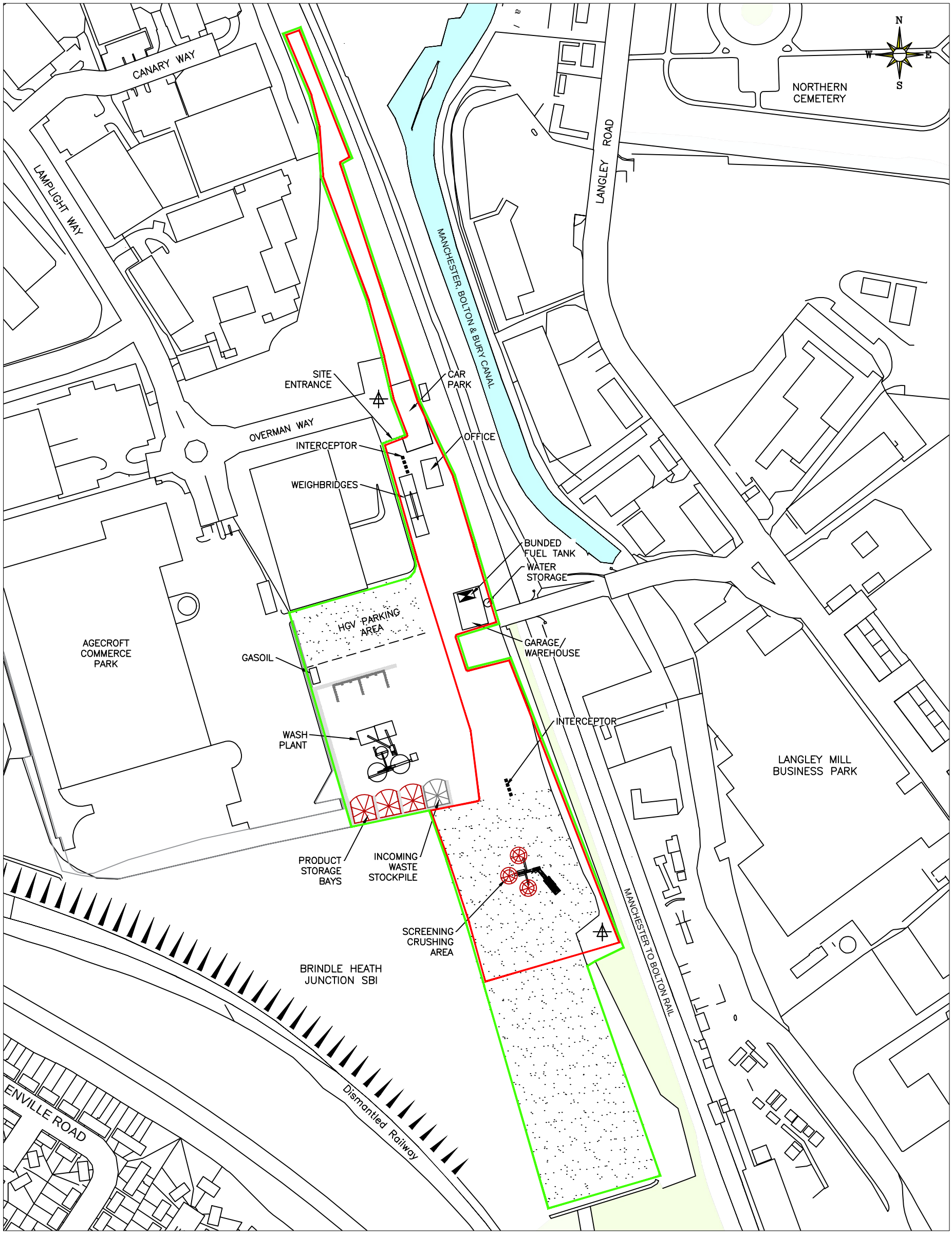
APPENDIX A

Drawings

EXTRACT FROM OS LANDRANGER MAP 109 MANCHESTER, BOLTON & WARRINGTON

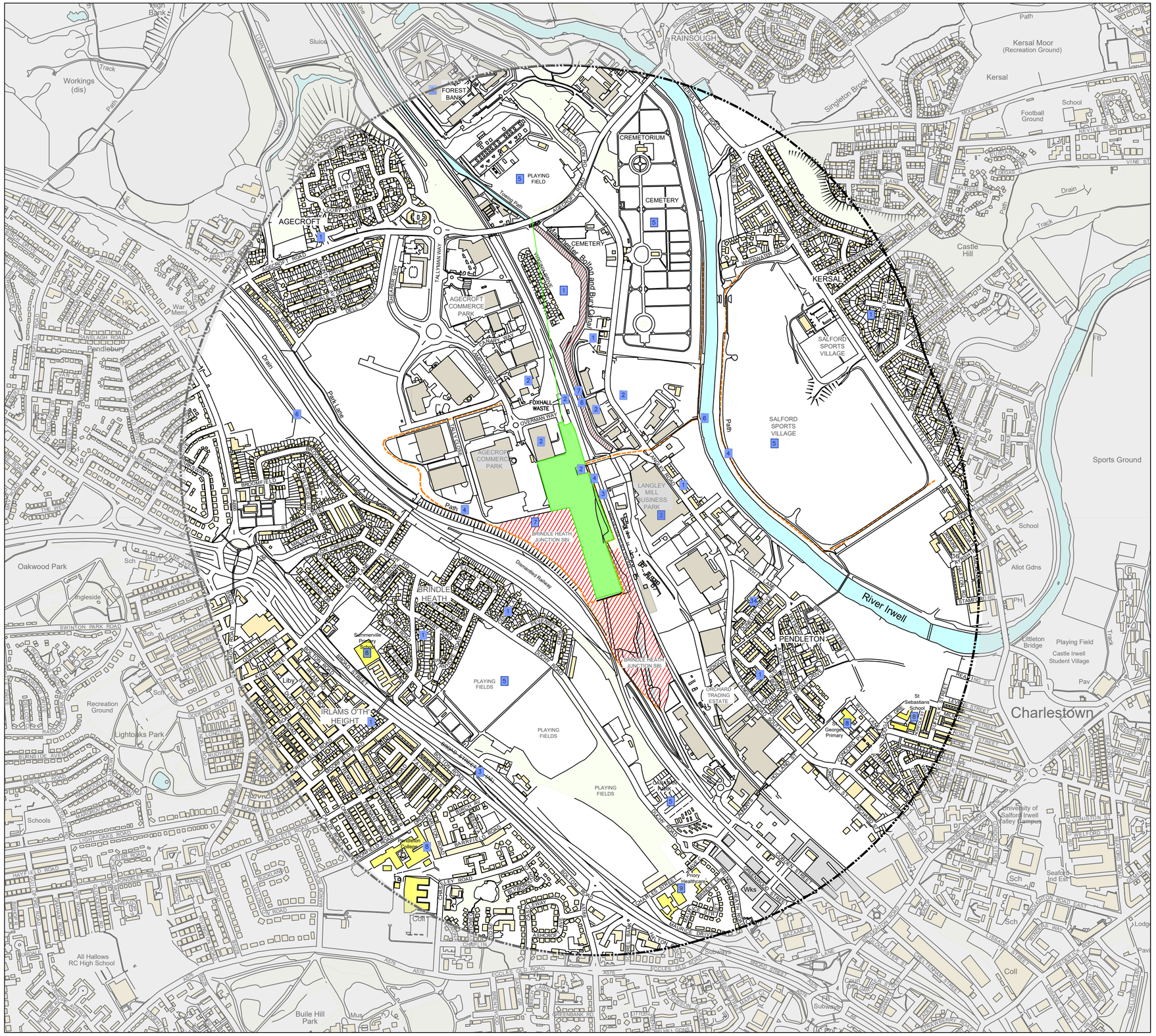
STARLING ENVIRONMENTAL LIMITED
67 Chorley Old Road, Bolton,
Greater Manchester, BL1 3AJ
www: starlingenvironmental.co.uk
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

CLIENT: A1 SERVICES (MANCHESTER) LIMITED		DRAWN BY: M.Y.B	APPROVED BY: C.G
JOB TITLE: A1 WASTE TRANSFER STATION		DATE: 26/10/23	DRAWING No.: 109/02
DRAWING TITLE: SITE LOCATION PLAN		SCALE @ A4.: 1:50,000	



STARLING ENVIRONMENTAL LIMITED
67 Chorley Old Road, Bolton,
Greater Manchester, BL1 3AJ
www: starlingenvironmental.co.uk
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

CLIENT: A1 SERVICES (MANCHESTER) LIMITED		DRAWN BY: M.Y.B	APPROVED BY: C.G
JOB TITLE: A1 WASTE TRANSFER STATION		DATE: 26/10/23	DRAWING No.: 109/02C
DRAWING TITLE: EXISTING SITE LAYOUT PLAN		SCALE @ A3: 1:1,250	



LEGEND

- PERMIT AREA
- SITE OF BIOLOGICAL INTEREST
- RESIDENTIAL
- SCHOOL/CARE FACILITY
- INDUSTRIAL/COMMERCIAL
- PUBLIC RIGHT OF WAY
- 1 KM RECEPTOR BOUNDARY
- 1 RECEPTOR REFERENCE

PREDOMINANT WIND DIRECTION IS FROM THE SOUTH

REV.	DESCRIPTION	DATE	BY

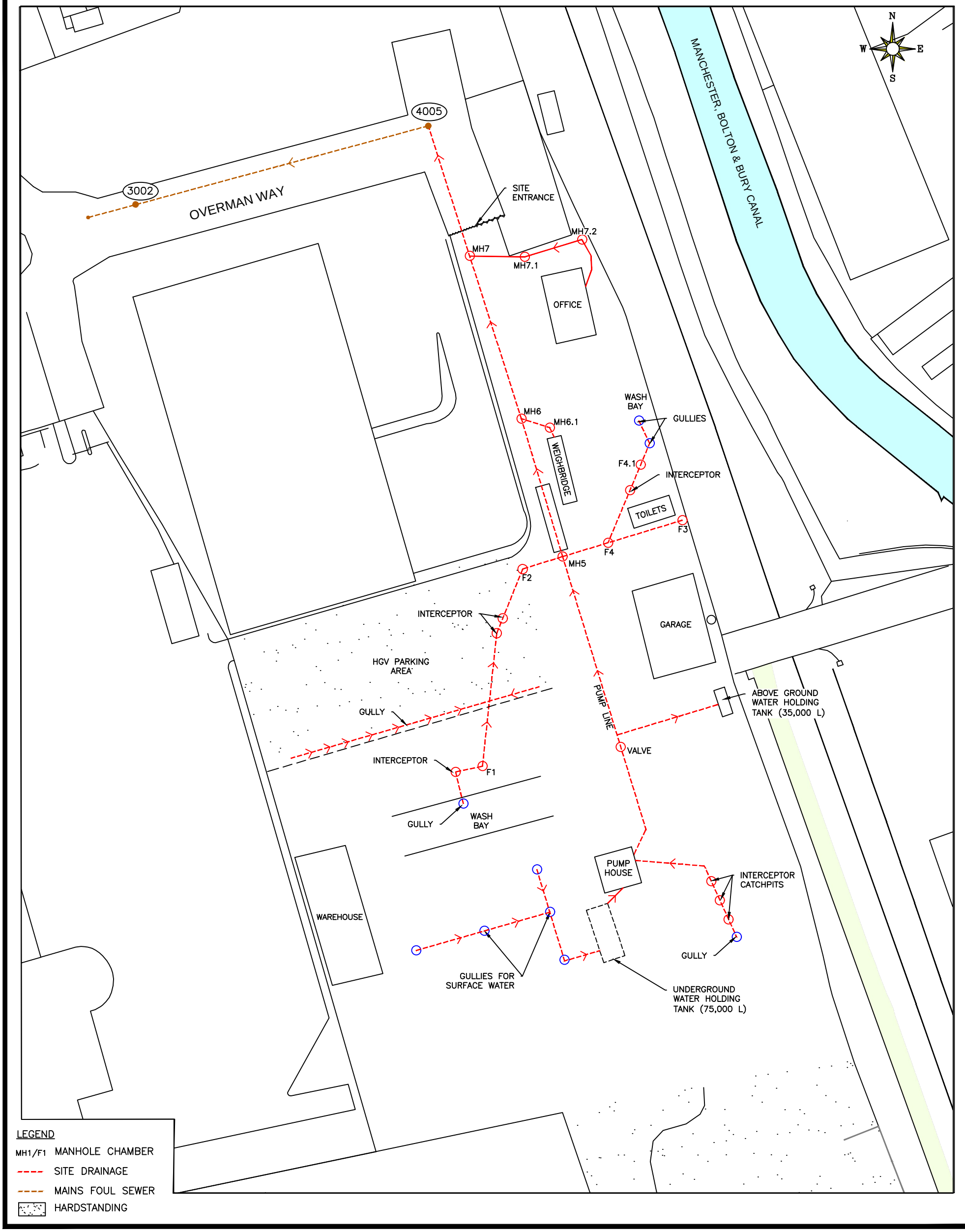
STARLING ENVIRONMENTAL LIMITED
67 Chorley Old Road, Bolton,
Greater Manchester, BL1 3AJ
www: starlingenvironmental.co.uk
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

CLIENT.
A1 SERVICES MANCHESTER (LIMITED)

JOB TITLE.
A1 WASTE TRANSFER STATION

DRAWING TITLE.
RECEPTORS WITHIN 1 KM PLAN

DRAWN BY.	APPROVED BY.	DRAWING No.
M.Y.B	C.G	109/03
DATE. 26/10/23	SCALE @ A2. 1:4000	



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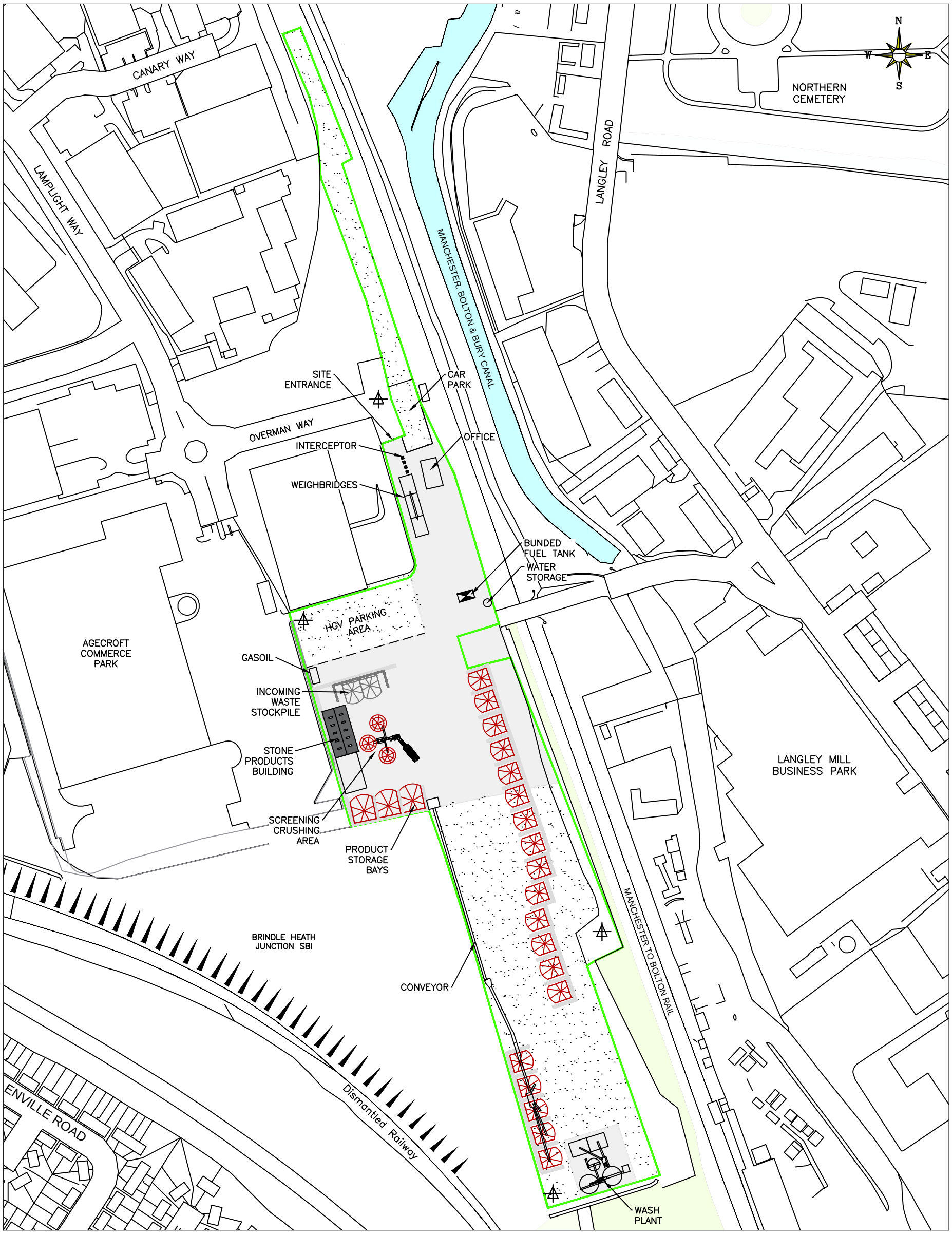
Tel: 07989 673122

CLIENT: A1 SERVICES (MANCHESTER) LIMITED		DRAWN BY.: M.Y.B	APPROVED BY.: C.G
JOB TITLE.: A1 WASTE TRANSFER STATION		DATE.: 05/06/24	DRAWING No.: 109/04
DRAWING TITLE.: DRAINAGE PLAN		SCALE @ A3.: 1:1,000	



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CLIENT: A1 SERVICES (MANCHESTER) LIMITED		DRAWN BY: M.Y.B	APPROVED BY: C.G
JOB TITLE: A1 WASTE TRANSFER STATION		DATE: 03/07/2024	DRAWING No.: 109/05A
DRAWING TITLE: PROPOSED SITE LAYOUT PLAN		SCALE @ A3: 1:1,250	

APPENDIX B

Assessment Method

1 Assessment Method

1.1 The assessment proceeds stepwise as illustrated in Figure 2 below, reproduced from the IAQM Guidance on the assessment of dust from demolition and construction.

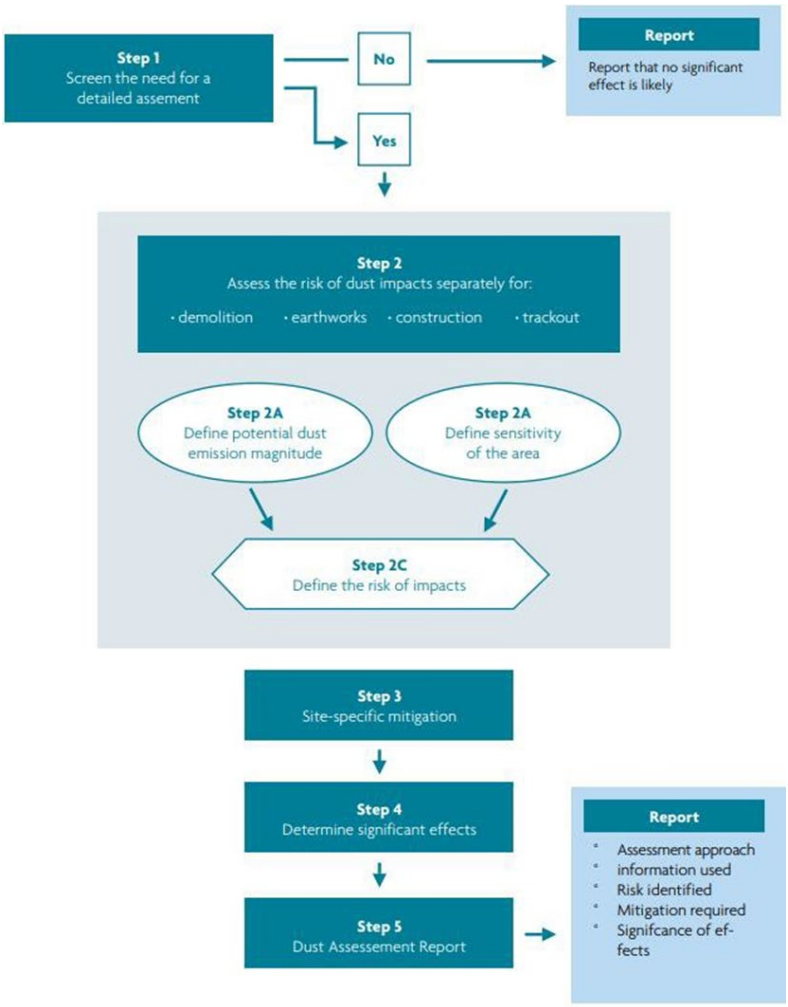

Figure A1: Assessment Procedure

2 Step 1: Screen the Need for a Detailed Assessment

2.1 An assessment is normally required when there is a human receptor within 350 m of the boundary of the site and 50 m of the route used by construction vehicles. This site fits within this location as it is surrounded by commercial operators which are considered human receptors and so will require an assessment.

3 Step 2: Assess the Risk of Dust Impacts

3.1 This step is split into three sections as follows:

- 2A -define the potential dust emission magnitude;
- 2B - define the sensitivity of the area; and
- 2C - define the risk of impacts.

3.2 In Step 2A, each of the dust-generating activities is examined and a dust emission magnitude determined depending on the scale and nature of the works based on the criteria shown in Table 3 below.

Dust emission magnitude		
Small	**Medium**	**Large**
Demolition		
• total building volume <20,000m^3 • construction material with low potential for dust release (e.g. metal cladding or timber) • demolition activities <10m above ground • demolition during wetter months	• total building volume 20,000 - 50,000m^3 • potentially dusty construction material • demolition activities 10 - 20m above ground level	• total building volume >50,000m^3 • potentially dusty construction material (e.g. concrete) • on-site crushing and screening • demolition activities >20m above ground level
Earthworks		
• total site area <2,500m^2 • soil type with large grain size (e.g. sand) • <5 heavy earth moving vehicles active at any one time • formation of bunds <4m in height • total material moved <10,000 tonnes • earthworks during wetter months	• total site area 2,500m^2 - 10,000m^2 • moderately dusty soil type (e.g. silt) • 5 – 10 heavy earth moving vehicles active at any one time • formation of bunds 4 – 8m in height • total material moved 20,000 - 100,000 tonnes	• total site area >10,000m^2 • potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) • >10 heavy earth moving vehicles active at any one time • formation of bunds >8m in height • total material moved >100,000 tonnes

Table A1: Dust Emission Magnitude (continued over)

Construction		
• total building volume <25,000m^3 • construction material with low potential for dust release (e.g. metal cladding or timber)	• total building volume 25,000 - 100,000m^3 • potentially dusty construction material (e.g. concrete) • on-site concrete batching	• total building volume >100,000m^3 • on-site concrete batching • sandblasting
Trackout		
• <10 HDV (>3.5t) outward movements in any one day • surface material with low potential for dust release • unpaved road length <50m	• 10 – 50 HDV (>3.5t) outward movements in any one day • moderately dusty surface material (e.g. high clay content) • unpaved road length 50 – 100m;	• >50 HDV (>3.5t) outward movements in any one day • potentially dusty surface material (e.g. high clay content) • unpaved road length >100m

Table A1 continued: Dust Emission Magnitude

3.7 Step 2B requires the sensitivity of the surrounding area to be determined for each activity, based on the proximity and number of receptors, their sensitivity to dust, the local PM_{10} background concentrations and any other site-specific factors. Tables A2 to A4 show the criteria for defining the sensitivity of the area to different dust effects.

Receptor sensitivity	**Number of receptors**	**Distance from the source (m)**			
		< 20	**< 50**	**< 100**	**< 350**
High	> 100	High	High	Medium	Low
	10 – 100	High	Medium	Low	Low
	< 10	Medium	Low	Low	Low
Medium	> 1	Medium	Low	Low	Low
Low	> 1	Low	Low	Low	Low

Table A2: Sensitivity of the area to dust soiling effects

Background PM_{10} concentrations (annual mean)	Number of receptors	Distance from the source (m)				
		< 20	< 50	< 100	< 200	< 350
High receptor sensitivity						
> 32µg/m^3	> 100	High	High	High	Medium	Low
	10 – 100			Medium	Low	
	< 10		Medium	Low		
28 – 32µg/m^3	> 100	High	High	Medium	Low	Low
	10 – 100		Medium	Low		
	< 10					
24 – 28µg/m^3	> 100	High	Medium	Low	Low	Low
	10 – 100					
	< 10	Medium	Low			
< 24µg/m^3	> 100	Medium	Low	Low	Low	Low
	10 – 100	Low				
	< 10					
Medium receptor sensitivity						
> 32µg/m^3	> 10	High	Medium	Low	Low	Low
	< 10	Medium	Low			
28 – 32µg/m^3	> 10	Medium	Low	Low	Low	Low
	< 10	Low				
24 – 28µg/m^3	> 10	Low	Low	Low	Low	Low
	< 10					
< 24µg/m^3	> 10	Low	Low	Low	Low	Low
	< 10					
Low receptor sensitivity						
–	> 1	Low	Low	Low	Low	Low

Table A3: Sensitivity of the area to human health impacts

Receptor sensitivity	Distance from the source (m)	
	< 20	< 50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Table A4: Sensitivity of the area for ecological impacts

3.8 The overall risk of the impacts for each activity is then determined (step 2C) prior to the application of any mitigation measures and an overall risk for the site derived.

Sensitivity of area	Dust emission magnitude		
	Large	Medium	Small
Demolition			
High	High risk site	Medium risk site	Medium risk site
Medium	High risk site	Medium risk site	Low risk site
Low	Medium risk site	Low risk site	Negligible
Earthworks			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Medium risk site	Low risk site
Low	Low risk site	Low risk site	Negligible
Construction			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Medium risk site	Low risk site
Low	Low risk site	Low risk site	Negligible
Trackout			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Low risk site	Negligible
Low	Low risk site	Low risk site	Negligible

Table A5: Risk of dust impacts

3.9 The receptor sensitivity assessment and determination of impacts includes assessment of receptors within 350 m of the site boundary and within 50 m of the access route up to 500 m from the site.

4 Step 3: Site Specific Mitigation

4.1 Once each of the activities is assigned a risk rating, appropriate mitigation measures are identified based on recommendations in the IAQM guidance. Where the risk is negligible, no mitigation measures beyond those required as best practice are necessary.

5 Step 4: Determine Any Significant Residual Effects

5.1 Once the risk of dust impacts has been determined and the appropriate dust mitigation measures identified, the final step is to determine whether there are any residual significant effects. The IAQM construction dust guidance notes that it is anticipated that with the implementation of effective site-specific mitigation measures, the environmental effect will not be significant in most cases.

6 Step 5: Prepare a Dust Assessment Report

6.1 The last step of the assessment is the preparation of a dust assessment.

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