MANNS WASTE MANAGMENT LTD

THE OLD BUS DEPOT

CHEQUERS LANE

DAGENHAM

ESSEX

RM9 6QD

DUST & EMISSION MANAGEMENT PLAN

(DEMP)

VERSION NUMBER: 1

DATE: 12TH MARCH 2020

Issue and Revision Record

Revision	Date	Originator	Checker	Company Approver	Description of Changes

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1. Introduction

The specified site is a transfer station located at The Old Bus Depot, Perry Road, Chequers Lane, Dagenham, Essex RM9 6QD and is situated in an Industrial Estate, as outline in red in the picture below.

The site accepts Household, Commercial and Industrial (HCI) waste for processing and storage pending disposal to other appropriately Permitted sites for either recycling or disposal.

It is situated within the London Borough of Barking and Dagenham and located in an Air Quality Management Area with both Nitrogen dioxide NO2 and Particulate Matter PM10 declared.

Without any abatement controls the site has the potential for dust and other emissions to be generated. The main causes are vehicles movement, tipping, processing and loading of waste. However with the controls that are in place at the site this is alleviated. The site was no designed to reduce emissions as it was originally a Bus Depot however it has evolved over a number of years as the business has developed.

The site's planning permission does not require any infrastructure or special controls to prevent dust and other emissions.

Manns Waste Management Ltd are applying to Vary their Standard Rules Permit for a Bespoke Permit which will allow them to store recyclables and waste destined for landfill outside of a building and the Environment Agency have requested this document as part of the application. The purpose of this document to explain all the controls in place that will stop dust firstly being generated and secondly escaping from site.

This DEMP will form part of the management system of the site, and will be available to all Staff, a copies will be kept in the Site Office and Staff Tea Room along with the Management System, Fire Prevention Plan and Odour Management Plan.

1.1 Sensitive Receptors

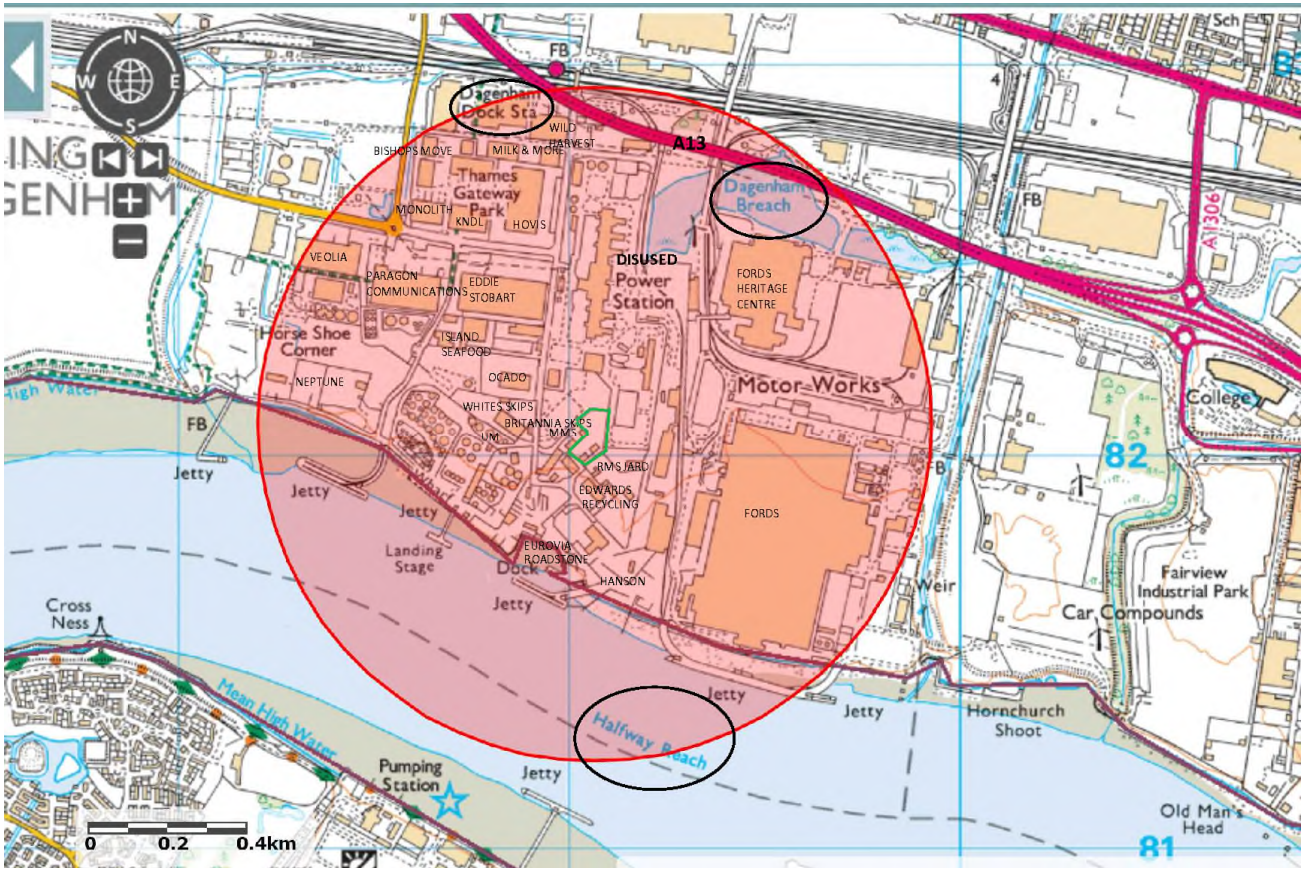


Figure 1.1: Nearby Receptors

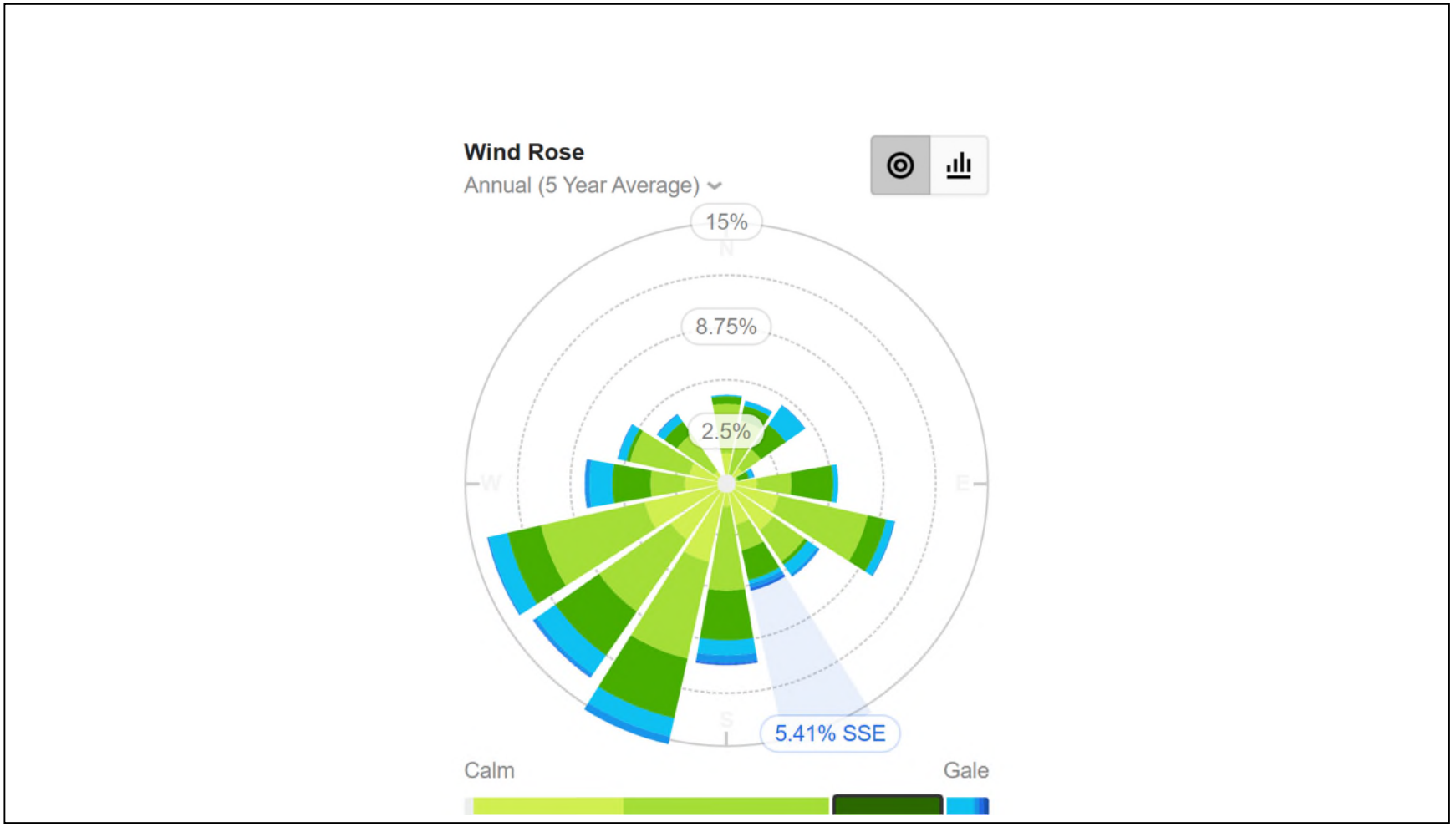


Figure 1.2: Wind rose showing the AVERAGE WIND DIRECTION AND STRENGTH at SITE NAME

Table 1.1 Distances to Selected, Representative Sensitive Locations

There are no sensitive receptors within 1000m of the site, no environmental habitat sites, hospitals, schools, protected species sites, childcare facilities, elderly housing or convalescent facilities. However there are some facilities which need consideration these are listed below.

Boundary	Closest property	Approximate distance to Manns site boundary (m)
West	Kashmir Enterprises	Adjacent
North West	Ocado	167
West	UM	177
South	Halfway Reach (Thames)	261
North West	Island Seafood	383
East	Fords	388
North	Hovis	463
North West	KNDL	542
North West	Monolith	620
North	Wild Harvest	702
North	Milk and More	760
North West	Bishops Move	766
North	A13	802

Table 1.2 Sources of Dust and/or other Emissions

Company	Address	Type of Business	Distance from Manns site boundary (m)
Edwards Recycling	Perry Road	Paper Recycling	50
MMS Supplies Ltd	2 Chequers Lane	Waste Transfer Stn	62
Hanson Quarry Products Europe Ltd	Dagenham Dock	Aggregate Recycling	97
Whites Waste Mgt Ltd	Chequers Lane	Waste Transfer Stn	120
Eurovia Roadstone Ltd	Chequers Lane	Aggregate Recycling	148
Britannia Skips	Chequers Lane	Waste Transfer Stn	160
Recycled Material Supplies Ltd	Perry Road	Aggregate Recycling	180
Van Dalen UK L td	Hunts Wharf Perry Road	Scrap Metal Site	212
Neptune Contract Services Ltd	Thunderer Road	Aggregate Recycling	689

2. Operations at Manns Waste Management Ltd

2.1 Waste Deliveries to Manns Waste

Waste is delivered to the site by road. The waste arrives in skips and lorries and is taken from site in Artic lorries and roll on roll off containers.

Manns Waste own thirteen HGV's one of which is Euro 5 and the remaining 12 are Euro 6.

The skips are covered with netting. The lorries are either enclosed or covered with netting. Mixed HCI waste are delivered in lorries and skips and recyclables and residue to landfill are taken off site in artic lorries.

Waste Transfer Notes are kept of all vehicle movements.

Customers and vehicle drivers are advised that dusty/powder wastes are not accepted at the site. All loads are damped down during tipping and loading.

During each waste delivery, the plant driver will, so far as is practicable, spread the load gently (keeping in mind the dust generation) for a detailed visual inspection to ensure compliance with the permitted waste streams in accordance with the site Permit. The driver and attending staff supervising the waste bay area will have been trained to the required standard.

The waste will be tipped either at the tipping area in front of the building, the dust suppression will be on constantly while waste is tipped and moved. If there is already a stockpile awaiting processing, then the waste will be tipped in the roofed tipping bay. Large items are picked out, including metal, plasterboard, cardboard, wood, UPVC window frames and placed in their respective containers.

The waste from the stockpile in front of the building is then loaded into the hopper and fed into a trommel this area is constantly covered by dust suppression. The waste then is then processed via a picking belt within the building.

The waste is segregated and drops into the four bays below the picking line (cardboard and metal drop into containers and wood and general waste drop into bays). Hardcore drops at the end of the processing line and light waste such as paper gets blown into a cage under the conveyor belt. The waste from this process will then be moved into the appropriate containers or external storage bays to await disposal off site. Soil and hardcore will also be stored in the external bays.

2.2 Overview of Waste Processing, Dust, and Other Emission Controls

The site surface is constructed of an impermeable concrete surface with sealed drainage that falls to a sealed holding tank which holds 40,000 litres.

The site has a 4.5m high concrete and steel boundary wall around the entire perimeter of the site and steel gates at the entrance. Around the operational area the boundary wall is topped with 2m of dust/litter netting.

There is a building that houses the trommel and picking line, beneath the picking line there are four bays that store the cardboard, metal, wood, waste residue and a cage for light material such as paper/plastic.

The stockpile of pre-processed mixed waste is currently stored in the roofed waste bay opposite the processing building, however it is hoped that some tipping can be done in front of the building as two retaining walls will be erected to allow for this. Currently having to tip in the roofed bay does mean that some double handling occurs as it has to be picked up again and transported over to the building for processing. If the Bespoke Permit is granted and some tipping can be carried out in front of the building (covered by dust suppression system) then this will eliminate a lot of double handling of the waste material.

The bays are all constructed of 6 inch thick concrete with steel girders to a height of 4.5m. The pre-processed stockpile bay allows for a freeboard space of 0.5m.

The waste destined for landfill is stored in the adjacent bay and allows for a freeboard space of 1.5m, this waste will be loaded onto a lorry and taken to a Permitted site for disposal.

The wood from mixed skips is stored in the north corner bay and clean wood is stored in a container next to this bay. The remaining bays store hardcore and fines, all of which allow for 0.5m freeboard.

Recyclables (metal, upvc, cardboard and plasterboard) are stored in containers and situated to the east of the site a freeboard space of 0.5m is allowed for in all the containers.

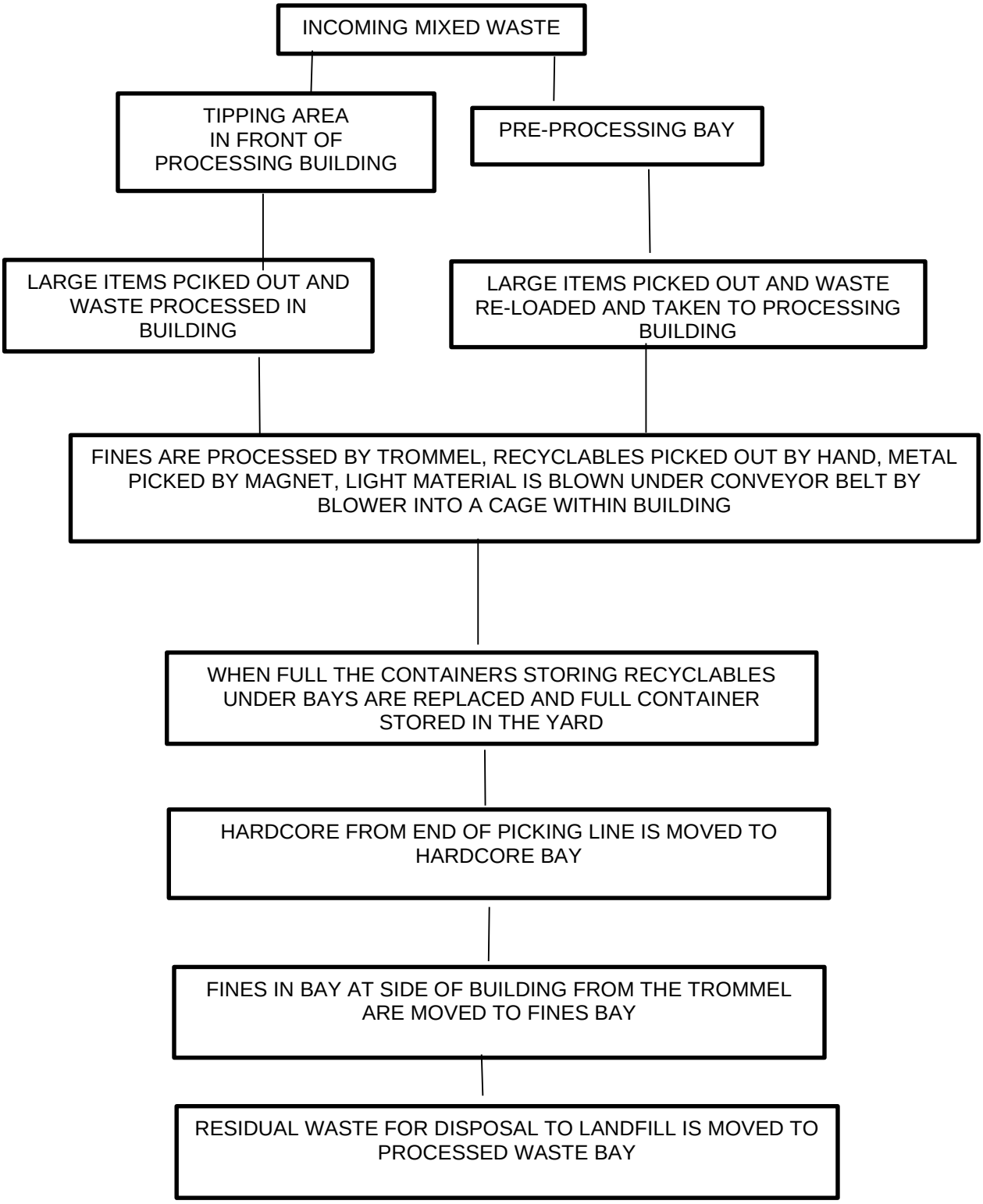

INCOMING MIXED WASTE
TIPPING AREA IN FRONT OF PROCESSING BUILDING
PRE-PROCESSING BAY
LARGE ITEMS PCIKED OUT AND WASTE PROCESSED IN BUILDING
LARGE ITEMS PICKED OUT AND WASTE RE-LOADED AND TAKEN TO PROCESSING BUILDING
FINES ARE PROCESSED BY TROMMEL, RECYCLABLES PICKED OUT BY HAND, METAL PICKED BY MAGNET, LIGHT MATERIAL IS BLOWN UNDER CONVEYOR BELT BY BLOWER INTO A CAGE WITHIN BUILDING
WHEN FULL THE CONTAINERS STORING RECYCLABLES UNDER BAYS ARE REPLACED AND FULL CONTAINER STORED IN THE YARD
HARDCORE FROM END OF PICKING LINE IS MOVED TO HARDCORE BAY
FINES IN BAY AT SIDE OF BUILDING FROM THE TROMMEL ARE MOVED TO FINES BAY
RESIDUAL WASTE FOR DISPOSAL TO LANDFILL IS MOVED TO PROCESSED WASTE BAY

Table 2.1 Typical waste types brought to Manns Waste Management Ltd

European	Product Description	Tonnes/ week			Destination within facility					Process		
Waste Code(EWC)			Main Building	Tipping	Storage Bay1	Storage Bay2	Container 1	Storage Bay3	Storage Bay4	Storage Bay5	Container 2	Container 3
			Screening	Area	Residue	Wood 191207	Wood 170201	H/C	Fines	UPVC	Cardboard	Metal
170201	WOOD	90	NO	NO		X						
170107	MIXED CONCRETE BRICKS	125	NO	NO					X			
170904	MIXED COMMERCIAL WASTE	210	YES	YES	X	X	X	X	X	X	X	X
200301	MIXED HOUSEHOLD WASTE	90	YES	YES	X	X	X	X	X	X	X	X
European	Product Description	Tonnes/ week										
Waste Code(EWC)			Main Building	Tipping	Skip 1	Skip 2	Skip 3	Skip 4				
			Screening	Area	Lead	Steel	Brass	Copper				
170407	MIXED METALS	45	NO	NO	X	X	X	X				
Total		560										

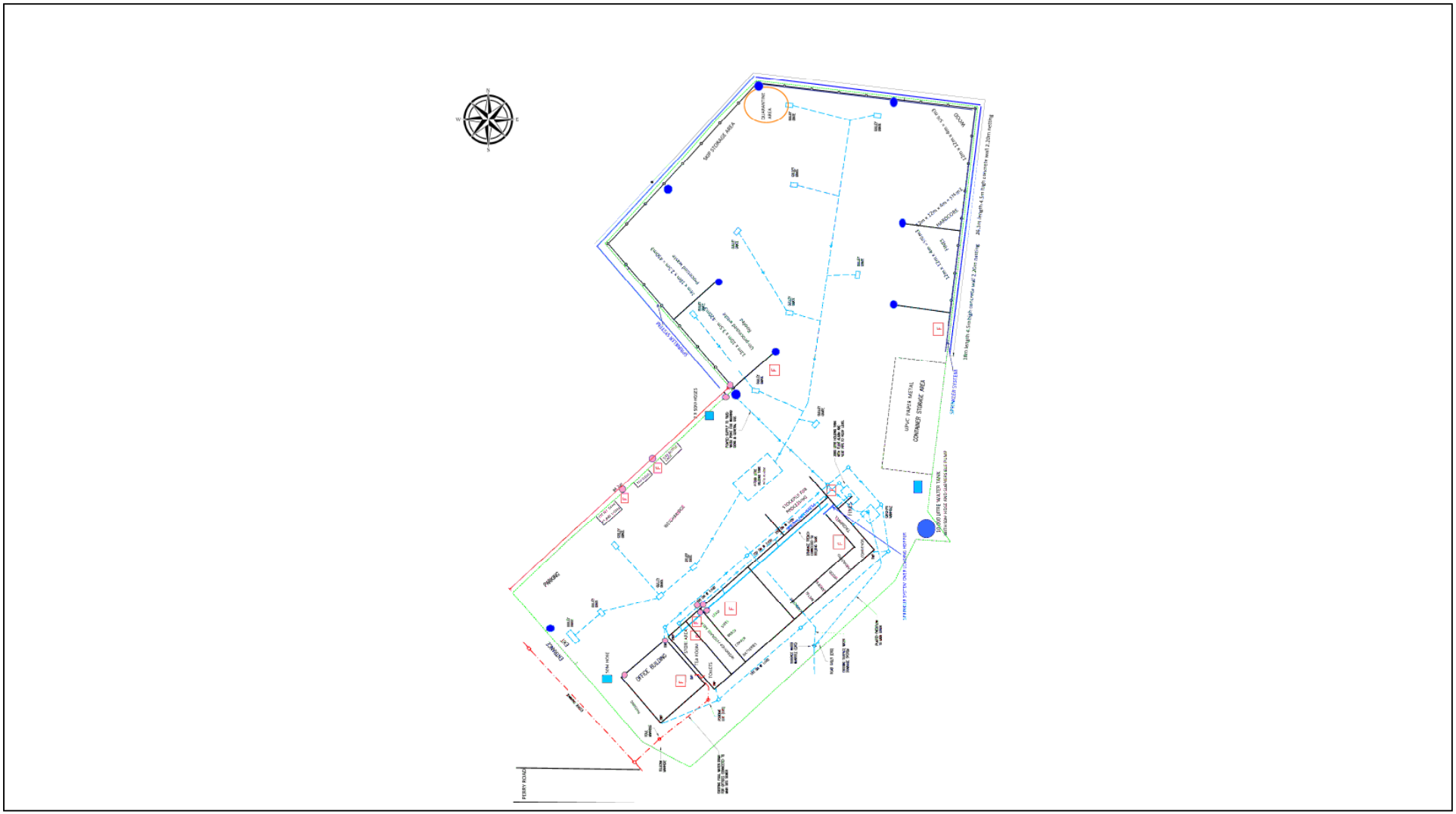


Figure 2.1: Site Layout Plan

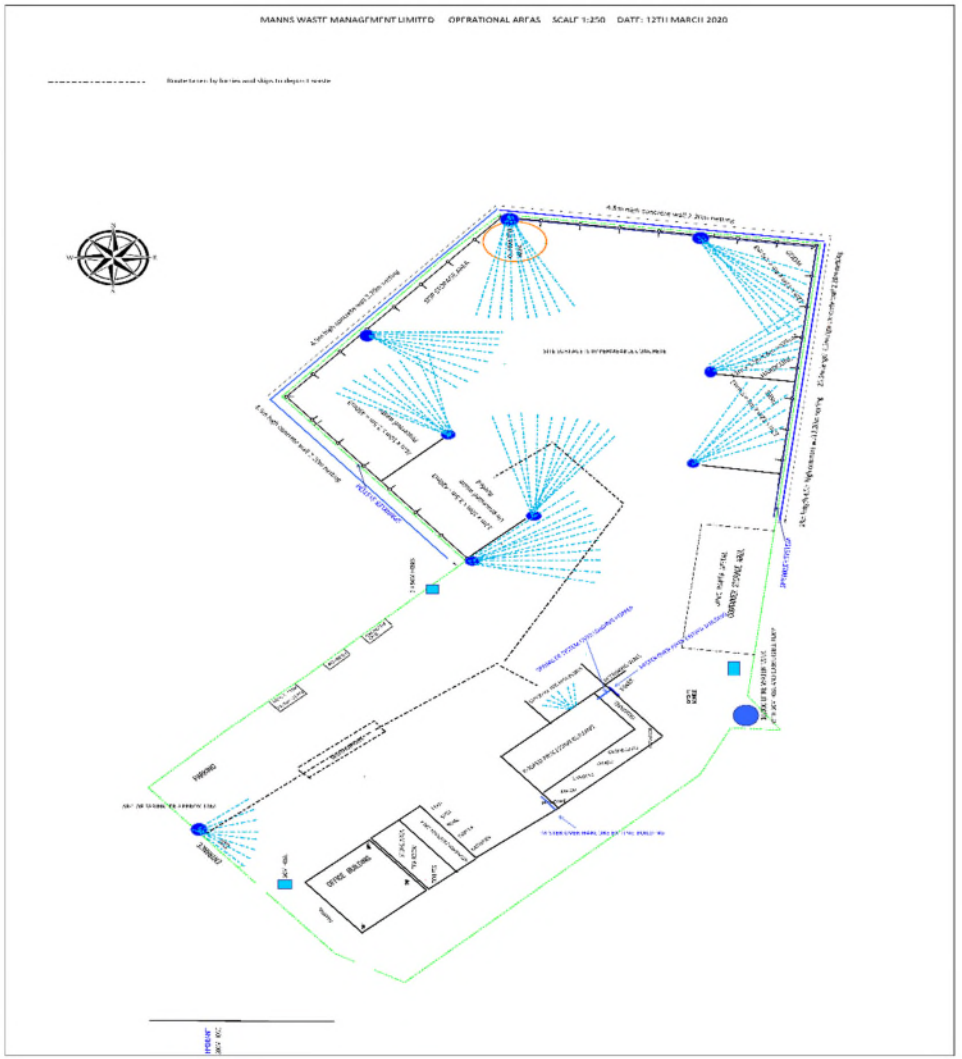


Figure 2.2: Site Operational Areas and Sprinkler System

The site is designed to limit double handling as much as possible and minimise disturbance of the wastes. Most of the site is covered by a sprinkler system any part that is not is damped down using a handheld hose.

Misting systems are used above the side exits of the building where the fines and hardcore exit the building from the process line.

The entire site surface is impermeable concrete and kept clear of dust by the use of a road sweeper around the site.

2.3 Mobile Plant and Equipment.

Nitrogen Dioxide gas is a by-product of internal combustion engines and the site uses several items of plant with internal combustion engines. The following table lists the type, mobile and emission ratings for the mobile plant and equipment used on site:

Description	Make	Model	Emission Rating
Loading Shovel	Liebherr	L556	Stage 4
Material Handler (Grab)	Liebherr	LH22C	Stage 3b
Wheel Loader	Liebherr	L542	Stage 3b

The above machinery is all owned by Manns Waste Management Ltd. There is a repair and maintenance contract in place with Liebherr, therefore they are maintained to the manufacturers specification.

The replacement strategy is that these plant will be replaced at three years. All replacements are the lowest emission standard possible at the time of purchase. Only low sulphur fuel is used.

To reduce emissions there is an anti-Idling campaign, all Drivers and visitors to site are informed of this.

3. Dust and Particulate (PM_{10}) Management

3.1 Responsibility for Implementation of the DEMP

Ronnie Parry is the Director of Manns Waste Management Ltd and will be responsible for the DEMP. The Deputy will be Ricky Mann, Operations Manager. It will be reviewed yearly or if an issue or complaint arises at the site regarding dust the DEMP will be reviewed.

Ronnie Parry is also the Technically Competent Person (WAMITAB) for the site, so is therefore competent to implement the DMP and review it. Any reviews or updates made will also be checked by the sites Environmental Consultant.
The training will be delivered by either Ronnie Parry, Ricky Mann or Peter and refresher training will be given every six months.

3.2 Sources and Control of Fugitive Dust/Particulate Emissions

<u>Sources</u>
Operations at the site that have the potential to produce dust and particulates are listed below:

- Vehicles entering and/or leaving the site with mud on wheels, and tracking dust on to or off the site.
- Vehicles and plant moving around the site kicking up dust
- Road vehicles tipping waste
- Excavators/360s sorting waste
- Plant sorting waste – trommel screeners
- Waste dropping from conveyors into bays
- Waste stored in bays
- Site surfaces
- Loading waste materials back on to vehicles.
- Particulate emissions from the exhaust of vehicles/plant/machinery on site.
- Generators, plant and other non-road going mobile machinery.

Table 3.1: Source-Pathway-Receptor Routes

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	tracking dust on wheels and vehicles, then mud dropping off wheels/vehicles when dry	Local highway and local business	Visual soiling, also consequent resuspension as airborne particulates	Mud will be removed from vehicles before leaving site with the use of jet wash. A road sweeper is used on site daily to keep the site surface clear of mud, dust and litter.
Debris	falling off lorries	Local highway and local business	Visual soiling, also consequent resuspension as airborne particulates	Lorries are covered before leaving site. A road sweeper is used on site daily to keep the site surface clear of mud, dust and litter.
Tipping, storage and sorting of wastes in the open	Atmospheric dispersion	Local highway and local business	Visual soiling and airborne particulates	Source strength is minimised by means of low drop heights, profiling and shielding of piles from wind whipping, positioning sources away from receptors. Also wetting of certain materials (not plasterboard)
Vehicle exhaust emissions	Atmospheric dispersion	Local business	Airborne particulates	Regulatory controls and best-practice measures to minimise source strength, no idling.
Non road going machinery exhaust emissions	Atmospheric dispersion	Local business	Airborne particulates	Regulatory controls and best-practice measures to minimise source strength, no idling.

Table 3.2: Measures that will be used on site to control dust/particulates (PM_{10}) and other emissions

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Preventative Measures			
Enclosure within a building	Creating a solid barrier between the source of dust and particulates and receptors is likely to be the most effective method of control, provided that the building entrances and exits are well managed.	The site is not in a sensitive area, it is an Industrial Estate with several other dust generating sites.	The building will be used to process the waste all the time the site is operational. The building has three sides, there is no front to the building due to access issues. However, there is a sprinkler system along the front of the building where the waste will be tipped. It is not practical to erect a building to contain the whole site or indeed other bays, mainly due to financial constrictions and the site is not owned by Manns Waste.
Site / process layout in relation to receptors	Locating particulate emitting activities at a greater distance and downwind from receptors may reduce receptor exposure, provided that emissions from the source are not dispersed over significant distances.	Non-sensitive Receptors are adjacent to the site on all sides except the North where the is a dis-used Power Station.	It is not feasible to move dust generating activities to a greater distance or downwind from receptors. The prevailing wind is south-west and there no receptors to the north-east of the site.
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Reducing vehicle movements and idling should reduce emissions from vehicles. Procurement policy to only purchase clean burn road vehicles and non-road going mobile machinery. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels.	Easy to implement as part of good practice. Should be identified clearly in the site management system and implemented as appropriate measures.	Vehicle movements and idling will be reduced as far as possible, this is written in the Management System.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Minimising drop heights. Use of enclosed chutes for drops/end of conveyor transfers and covered skips / storage vessels.	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be blown and dispersed by winds. Enclosing processes will further reduce dispersion.	Currently the two waste drop ends (fines and hardcore) are covered by misters to suppress the dust generated. Installing chutes would not be practical as the waste would back up and block the chutes.	Drop heights are always kept to a minimum, training is given on this to all staff. Enclosed chutes or similar would be considered should any issues of dust and or litter arise or complaints arise from the drop ends. To date there is no issue.
Good house-keeping	Having a consistent, regular housekeeping regime that is supported by management, will ensure site is regularly checked and issues remedied to prevent and remove dust and particulate build up.	The site is regularly cleared of debris and dust by Staff members on a daily basis. The main areas targeted are the areas that the road sweeper cannot reach. Specifically, inside the building around the picking line and bays.	This will be carried out all the time the site is operational.
Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Relatively easy to implement at many sites. Should be identified clearly in the site management system and implemented as appropriate measures.	Vehicles are sheeted entering and exiting the site all the time the site is operational.
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles although likely to be less effective than a more powerful wheel wash.	May be worthwhile where wheel wash installation is not feasible, or where the wheel wash does not achieve the desired outcome. This should be in the site procedures and training. If the action works as a control measure, then consideration must be given to installing a wheel wash as the appropriate measure.	Vehicles are hosed down when vehicles are either muddy or dusty prior to leaving the site.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Ceasing operation during high winds and/or prevailing wind direction	Mobilisation of dust and particulates is likely to be greater during periods of strong winds and hence ceasing operation at these times may reduce peak pollution events.	Likely to reduce dust and particulate emissions, however, not a long-term solution. Procedures should be in place to identify when operations will cease.	Operations on site will cease during high winds. This will be assessed using the Beaufort Scale.
Easy to clean concrete impermeable surfaces	Creating an easy to clean impermeable surface, using materials such as concrete as opposed to unmade (rocky or muddy) ground within the site and on site haul roads. This should reduce the amount of dust and particulate generated at ground level by vehicles and site activities.	Considered good overall based on dust and particulate reduction but potentially costly and disruptive to retrofit. For sites that have concrete surfaces ensure there are maintenance and cleaning procedures in the management system and they are implemented.	The site surface is made entirely of impermeable concrete which are maintained and cleaned on a regular daily basis.
Minimisation of waste storage heights and volumes on site	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be blown and dispersed by winds. Reducing storage volumes should reduce the surface area over which particulates can be mobilised.	Likely minimal return on potentially costly layout changes. The amount of waste that can be managed on site without causing dust and particulate pollution should be identified in the management system and may have to be reduced if it is considered an appropriate measure.	The waste is stored below 4 metres in all bays, there is a minimum of 0.5m freeboard in all bays and containers, once bays are full the material is loaded onto a lorry and taken off site, as are full containers of material.
Reduction in operations (waste throughput,	Reducing the amount of activity on site, including no tipping, shredding, chipping or screening of high risk loads during windy weather as well as	Effective in terms of dust and particulate reduction but unlikely to be popular/implemented by operators. It may be the only option when other steps fail. Ensure	No shredding or chipping occurs on site, The trommel and process line are within the building and shielded from the wind. It is unlikely that activities can be reduced as they

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
vehicle size, operational hours)	associated traffic movements should result in reduced emissions and re-suspension of dust and particulates from a site.	the site has procedures to reduce activity on site if required through complaints or known issues, or adverse weather conditions. This may include installing a weather station to alert the site to windy weather and when they need to reduce agreed activities.	are generally dictated by the skip hire customers. However this may be considered if at all possible and/or necessary.
Remedial Measures			
Netting / micro netting around equipment	Erecting netting around equipment that could give rise to large amounts of dust and particulates may be effective within the site boundary and prevent their dispersion off-site / their re-suspension within the site.	Reduces wind speed across the site which indirectly controls the potential for dust and particulate emissions. Maintenance should be covered in the management system and procedures. Effective for use as litter netting, but not for stopping dust from leaving the site boundary.	Micro netting is erected around the entire operational area. It is regularly maintained as per the Management System.
On-site sweeping	Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles. Road sweepers damp down dust/particulates whilst collecting dust/particulates from the road surface, particularly at the kerbside. This may generate dust and particulate movement that may become a H & Safety if not maintained properly.	Easy to apply but less effective than other measures. Should be covered in the management system and procedures and implemented thoroughly.	A road sweeper is used daily around the yard to clear the site surface of mud, dust and litter and manual sweeping is carried out within the building as part of general housekeeping. This is carried out all the time the site is operational. The road sweeper is not owned by Manns Waste it is on a contract with Quattro Plant Hire. A picture of the road sweeper is attached below.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Site perimeter netting / micro netting	Erecting netting around the site perimeter may capture released debris and dust and particulates prior to it being dispersed off-site.	Reduces wind speed across the site which indirectly controls the potential for dust and particulate emissions. Maintenance should be covered in the management system and procedures. Can look untidy and dirty creating negative impression of the facility. Not very effective at reducing dust and emissions from leaving the site boundary.	Netting is erected on top of the site perimeter walls all around the operational areas. It is maintained as written in the management system.
Water suppression with hoses & water jets	Damping down of site areas using hoses can reduce dust and particulate re-suspension and may assist in the cleaning of the site if combined with sweeping.	Quite water intensive. Can reduce the calorific value of the material which should be considered if sent for energy recovery/biomass type operations. Maintenance should be covered in the management system and procedures.	Water suppression with hoses is used when necessary, i.e. in particularly dry weather or to damp down a part of site surface that the sprinklers do not reach.
Water suppression with mist sprays	Installation of mist sprays around sites, at building entrances/exits and within buildings at point source emissions like conveyors, trommels etc. It can also assist in the damping down of dust and particulates, therefore, reducing emissions from site.	Very effective at controlling point source emissions of dust and particulates. Can be installed to conveyors and areas where waste is dropped. 'Halo' rings can be fitted to conveyor drops on concrete crushers and screeners to minimise dispersion. Not effective for use at site boundaries. Uses less water than water bowser Maintenance should be covered in the management system and procedures.	Mist sprays are used at the two openings of the building, to the north end where fines exit the building and to the south end where hardcore exits the building.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Water suppression with bowser	Using bowsers is a quick method of damping down large areas of the site with large water jets. This method could also be used on easy-to-clean, impermeable concrete surface.	Highly water intensive and more likely to minimise dust and particulates on the ground that is at risk of being re-suspended rather than already airborne dust and particulates. Very effective at dampening down haul roads and large surface areas. Can also come with hose attachments and other attachments to increase its versatility.	A mobile bowser will be available on site however it will not be used all the time. It will be used during particularly dry spells as an additional aid to damp down waste and site surface.
Dust and particulate monitor with trigger alarm	Installation of a dust and particulate monitor with specified alarm trigger level can alert site staff when short-term particulate concentrations are elevated in order that site practices can be reviewed or application of mitigation measures increased.	Worthwhile installing as a real-time tracker of dust and particulate concentrations. Helpful to monitor environmental performance and also to track the effectiveness of improvements made at the site.	A dust and particulate monitor with a trigger alarm is to be installed at the site. This will be backed up by a suitable maintenance contract. Dust Scan AQ have been contacted and have advised the installation of a Turnkey Osiris Real-Time particulate Monitor, with lamp post, web server and psu.
Application of CMA / chemical suppressant	Diluted Calcium Magnesium Acetate (CMA) or other chemical based dust suppressant is regularly applied by spraying using a back-pack applicator for small areas or by road sweeper to cover larger areas. CMA acts as a suppressant with the aim of reducing dust and particulate re-suspension and hence ambient concentrations.	Trials indicate this can be an effective process. It shouldn't be applied during rain and once applied it needs to be re-applied regularly. Works best when applied to clean surfaces, and can also be applied to stockpiles to form a 'crust' and reduce wind-whipping. Price and efficacy vary depending on the brand selected. Maintenance should be covered in the management system and procedures.	CMA will be used during a drought.

Picture showing the road sweeper that attends the site daily.

3.3 Other considerations

Water usage/ availability:

The sprinkler system on site works off a 10,000 litre water tank with a submersible pump. The system can be operated by remote control and generally works on a cycle of two sprinklers on at a time for five minutes, then the next two on for five minutes etc. The system can also be controlled to cover certain areas for instance if waste is being tipped in front of the building and a lorry being loaded at the same time the system will be able to cover both areas simultaneously. The tank automatically refills whilst in use, however should the scenario arise where the tank has not refilled quick enough there are several hand-held hoses on site. Furthermore, a dust fighter/dust boss is being purchased for use on the site. There is a continuous supply of water from the mains and the site has never encountered a situation whereby there was insufficient water to supress dust on site, even on a hot, dry and windy day.

The entire site drains to the retention tank which holds 40,000 litres, this is regularly emptied and maintained.

In the event of a drought:

In the event of an upcoming drought, Calcium Magnesium Acetate (CMA) dust binding agent will be acquired for use on the site, which has been proven in test to be as effective as water in suppressing dust.

3.4 Enclosure of Waste Processing & Storage Areas

The waste processing area is enclosed in a building, this consists of a hopper, conveyor belt, trommel, picking line with storage bays underneath, a blower and magnet. Where waste exits the side of the building i.e fines at the north side and hardcore at the southern side there is a misting system fitted to suppress dust.

There is a sprinkler system above the hopper / trommel inside the building that suppresses any dust that may be produced when waste is placed into the hopper and processed by the trommel.

The storage bay for waste being delivered to site awaiting processing is roofed and meets the Environment Agency's definition of a building. There is dust suppression at the front and side of this to stop dust escaping the confines of the building.

The remaining bays are not roofed, this is due to practicality of loading the wastes for disposal and also financial constraints. The site is not owned by Manns Waste they merely lease the site so such a huge financial commitment on a site that they don't actually own is high risk. The unroofed bays are used to store hardcore, fines, wood and the residue material destined for landfill.

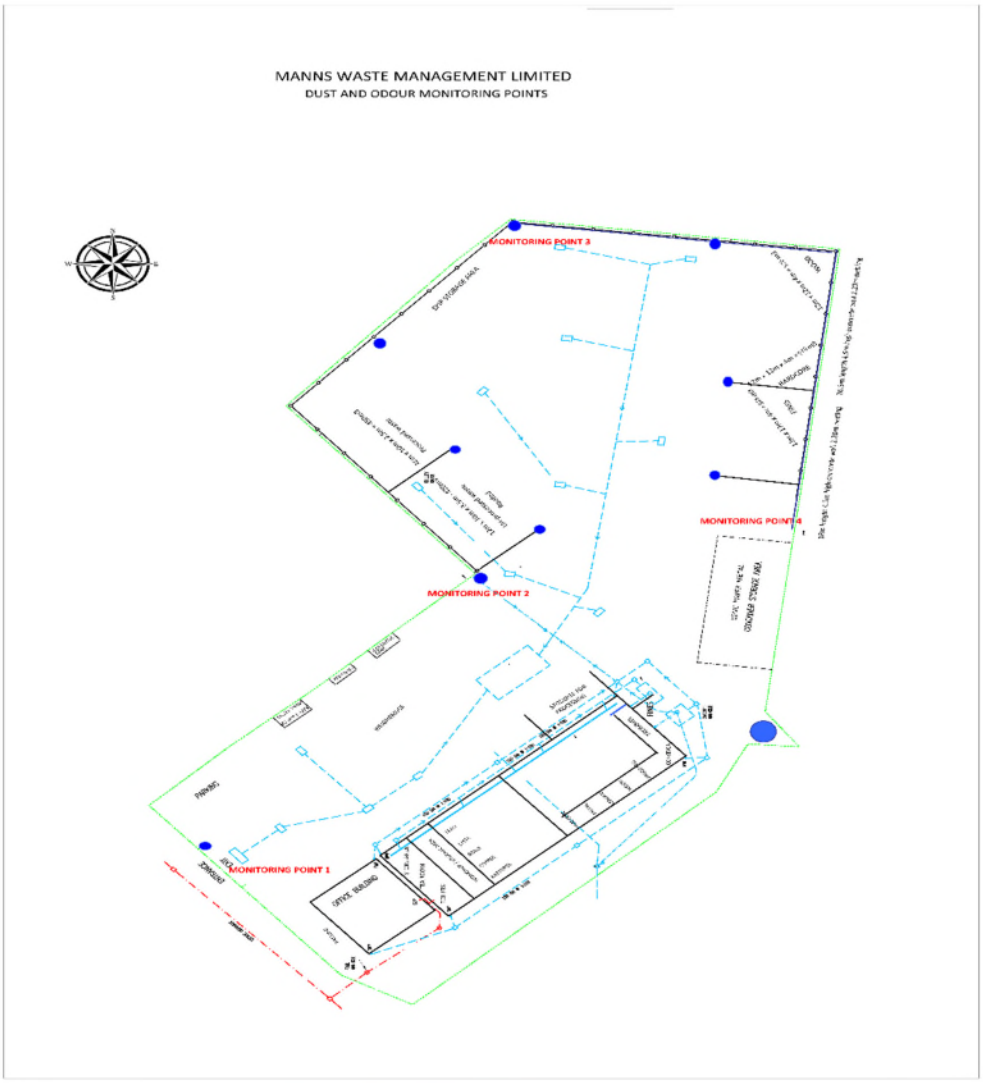
Two retaining walls constructed of concrete and steel H girders are to be erected in front of the building to act as retaining walls for the tipping area. The building is not large enough to house all the processing equipment, the material handler and a stockpile of waste so the waste has to be tipped outside of the building. It is then picked up by the material handler that is situated within the building and placed into the hopper. There is dust suppression at the front of the building which covers the tipping area and the retaining walls will be 4.5m high.

All other recyclables are stored in containers.

3.5 Visual Dust Monitoring

Routine dust monitoring will be carried out twice a day more if necessary.

There are set locations around the perimeter of the site for dust monitoring the map below shows the locations.



Out of hours monitoring will not be regularly required as waste is always stored in bays overnight and no movements are carried out that would generate dust.

The site does not carry out any crushing, chipping or shredding. However a trommel is used and sorting is carried out of large items in the yard and of smaller items on the picking line within the building. Visual monitoring is constantly carried out on site by the Yard Manager Peter Pui and all staff have been trained with regards to dust generation, monitoring and suppression.

Visual dust monitoring is also carried out at regular intervals throughout the day at the perimeter of the site. This is done by Peter Pui, the Yard Manager and a dust monitoring sheet is completed and kept in the office.

If dust is detected the activity giving rise to the dust will be located and ceased until the cause of the dust generation is established and resolved. Additional dust monitoring will be carried out if necessary.

If the additional measures fail and dust continues to escape the site the activity giving rise to the dust will cease until it can be carried out without generating dust that escapes off site.

4. Particulate Matter Monitoring

The dust monitor will be an indicative form of MCerts, it will be a Turnkey Osiris real-time particulate monitor. The monitor will be able to collect data on a 5 minute averaging period and the levels will be set below **75µg/m3**.

The monitor will be maintained and calibrated by DustScanAQ this will be carried out as advised by/agreed with DustScanAQ.

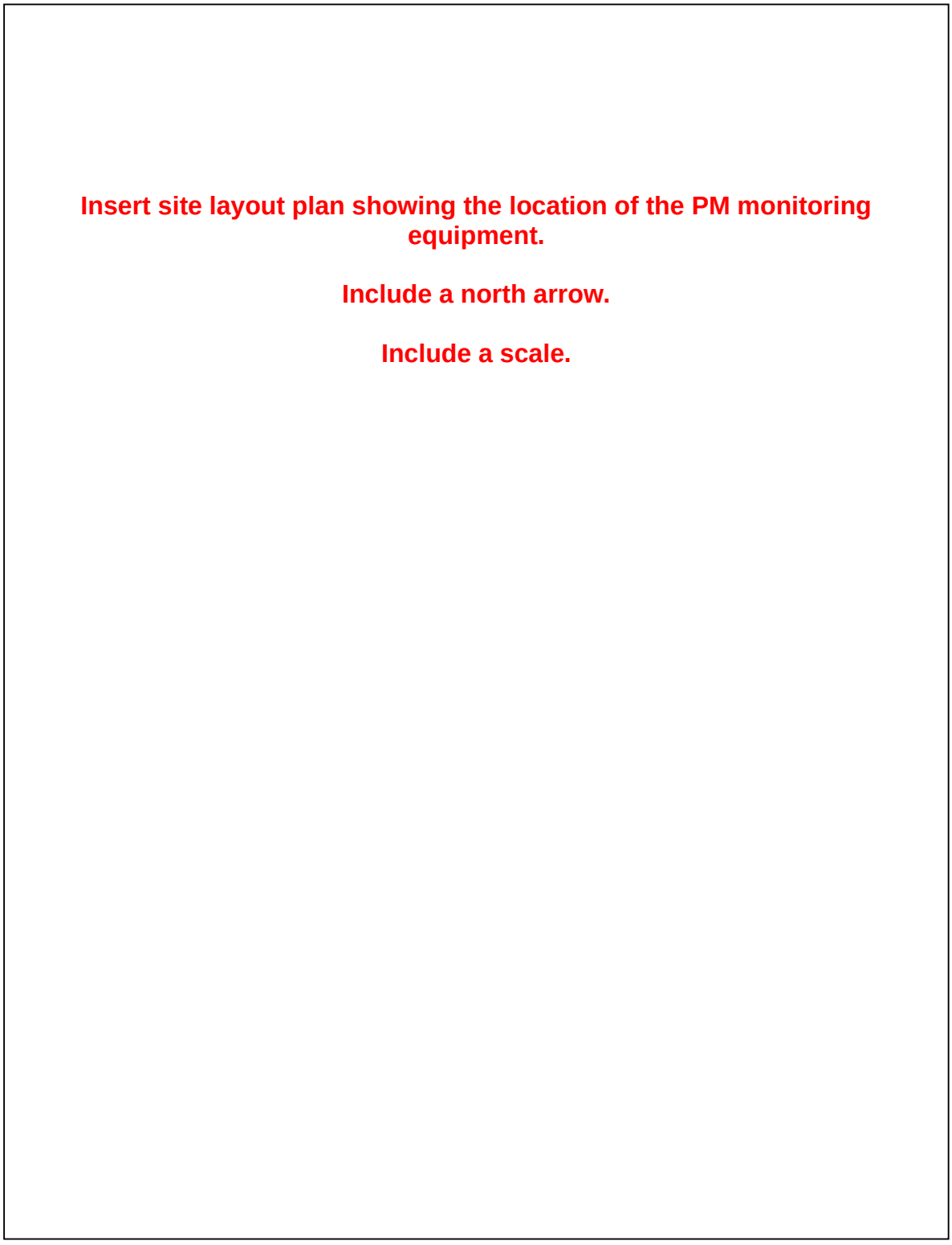
Out of hours monitoring will not be regularly required as it is deemed that the processing and loading of the material is likely to give rise to the highest levels of dust emissions. However, should it become apparent out-of-hours that stockpiles are giving rise to dust, site management will then make a decision on whether additional out of hours monitoring is required.

4.1 Monitoring Location

Dust Scan AQ will visit the site and decide the best place for the Monitor to be positioned, it is installed on a lamp post box supplied by Dust Scan AQ along with the power supply unit and web server.

Once Dust Scan AQ have attended site this Dust Management Plan will be updated with the information of the location and any of subsequent information.

Figure 4.1 Location of PM monitoring equipment at Insert Site Name



4.2 Operation of the PM Monitoring Equipment

Principally DustScanAQ will be responsible for the installation, management and operation of the system. However on a day to day basis Mr Ronnie Parry (COTC and Director) will be responsible.

Information on how the data will be looked at and presented is not yet known, DustScanAQ will inform Manns Waste of this during installation. How the Site Supervisor will be made aware of high levels is also not yet known until installation.

There is no requirement in the current Environmental Permit to submit data to the Environment Agency.

The recommended "action level of 75 µg/m^3 will be used.

4.3 Quality Assurance/Quality Control and Record Keeping

This will all be added once the Turnkey Monitor has been installed.

i) The make and model of the monitoring equipment
ii) The serial number of the monitoring equipment;
iii) When, how and by whom the data is checked
iv) When the equipment is calibrated;
v) How the equipment is calibrated;
vi) Copies of the qualifications and training records of who carries out the calibration
vii) When and by whom the equipment is routinely inspected;
viii) If the equipment is damaged and/or no longer able to collect reliable data.

4.4 Equipment and Data Management

DustScanAQ will be responsible for the PM monitoring equipment.

4.5 Reporting of Data

There is currently no requirement within the Permit to report this data to the Environment Agency. However, the results of monitoring exercises and any remedial action taken will be entered into the site's diary or log book which is available for the EA to inspect upon request.

4.6 Additional Detailed Monthly Reporting

If the recommend level of 75 µg/m^3 (as a 5-minute average) is repeatedly exceeded a more detailed investigation will be carried out in order to work out the source of the pollution, whether it be from dust/particulate sources on site sources of dust/particulates beyond the site boundary, background sources affecting the whole region, or more local sources.

5. Actions when alarm is triggered.

When the "action level" alarm sounds the following actions are taken:

1. The Site Foreman assesses yard activities and the nature of the waste handling and deliveries immediately prior to the alarm being activated, to work out what has caused the alarm to be activated.
2. If the source cannot be ascertained with 100% confidence, the Site Foreman on duty suspends the **likely** dust/particulate generating activities.
3. If the source is within the site's control, the Site Foreman on duty takes appropriate action in terms of dust/particulate abatement, to ensure that the alarm is not re-activated. This may take the form of the following;

    (a) Investigating the source of the dust/particulates to prevent a re-occurrence.
    (b) Suspending operations which are not being conducted using best-practice controls as set out in Table 3.1.
    (c) Additional use of the dust abatement measures.
    (d) Logging findings of a – c in the site diary, and also in the reporting template within the relevant appendix of the Environmental Permit.

    If an effective abatement technique cannot be identified and implemented, and observed PM_{10} levels remain above the action level for 6 consecutive, 5-minute mean readings (i.e. 25 minutes) concurrent with recorded wind directions suggesting that the source of particulate

could be from the site activities, then operations should be suspended until measured PM concentrations drop below the action level of 75 µg/m^3 for 6 consecutive, 5-minute mean readings.

In all cases, any new “lessons learnt” from the Site Foreman’s investigations are considered by the company directors and implemented into dust & particulate emission management plan (if not already included), to prevent a re-occurrence of the alarm.

The alarm is not the sole indicator of a dust event at the site; the continuous visual monitoring of potential dust sources and activities safeguard all play a very important part in managing dust and particulates.

6. Reporting and Complaints Response

Should a dust complaint be received a Complaints Form will be completed see Appendix A, these will be kept for inspection on request by the EA. Details of information to be completed are dates, nature of complaint, weather conditions at the time of the complaint, investigation details, action taken and a signature (as a minimum).

Any unavoidable events such as plant/equipment malfunctions will be recorded in the site diary, this will ensure that if complaints are received retrospectively from either the Council/EA or directly, any circumstances which led to that complaint as a result of elements outside of the operator’s control would be able to be attributed to the cause of the complaint.

If the source cannot be ascertained with 100% confidence, the site manager or TCM will either suspend or reduce the likely dust/particulate generating activities, i.e. waste processing. If the complaint is considered valid, an investigation to the complaint will take place immediately by site management to ensure the problem can be rectified as soon as possible. The operator would then contact the complainant to advise on the issue and how this has been rectified.

If the source is within the site’s control, the site manager or TCM will take appropriate action in terms of dust/particulate abatement, to ensure that the alarm is not re-activated.

This may take the form of the following:

a. Investigating the source of the dust/particulates to prevent a re-occurrence.

b. Suspending operations which are not being conducted using best-practice controls.

c. Additional use of the dust abatement measures.

Logging findings of a – c in the site diary / complaints form and also in the reporting template within the EP.

Complaints of dust and particulate will be dealt with by the Management. Details will be taken from the complainant and logged on a Complaint Form. Investigations will be made into the complaint to verify the issue. If the complaint is verified then the activity giving rise to the dust will cease until such time as the it can be carried out with causing a dust nuisance. The complainant will be informed of the findings and of the actions taken to rectify the issue. A record will be made in the Site Diary and the Complaint Form kept in the Site Office. This will generally be completed within two working days or less of the initial complaint.

6.1 Engagement with the Community

If the site is causing an impact on local businesses steps will be taken to reassure them that issue is being dealt with and they will be informed of progress and outcome.

6.2 Reporting of Complaints

A complaints form will be used to log complaints, feed back will be given either in person to the complainant or over the phone. Complaints will be reviewed to ensure that the cause of the problem does not occur again.

Any complaints received in relation to dust will be recorded on the form shown in Appendix A by the person in receipt of the complaint. Complaints will be handled by either the Site Foreman or Ronnie Parry (TCM).

The following details as a minimum will be completed on the form.

a) The name, address and telephone number of the caller will be requested.

b) Each complaint will be given a reference number.

c) The caller will be asked to give details of

- the nature of the complaint;
- the time;

- how long it lasted;
- how often it occurs;
- is this the first time the problem has been noticed; and,
- what prompted them to complain.

d) The person completing the form will then, if possible, make a note of:

- the weather conditions at the time of the problem (rain snow fog etc.)
- strength and direction of the wind; and,
- the activity on site at the time the dust was detected.

e) The reason for the complaint will be investigated and a note of the findings added to the report.

f) The caller will then be contacted with an explanation of the source of the complaint if identified and the action taken to prevent a recurrence of the problem in future.

g) If the caller is unhappy about the outcome or unwilling to identify themselves the caller will be referred to the appropriate department of the EA or Local Council.

h) Following any complaint the complaints procedure will be reviewed to see if any changes are required or if new procedures need to be put in place.

Appendix A - Dust Complaint Form

Manns Waste Management Ltd	
Customer Name -	
Address – Postcode -	
Customer Contact Details -	
Tel -	
Email -	
Date -	
Complaint Ref Number -	
Complaint Details -	

Investigation Details	
Investigation carried out by -	
Position -	
Date & time investigation carried out -	
Weather conditions -	
Wind direction and speed -	
Investigation findings -	
Feedback given to Environment Agency and/or local authority -	
Date feedback given -	
Feedback given to public -	
Date feedback given -	

Review and Improve	
Improvements needed to prevent a reoccurrence -	
Proposed date for completion of the improvements -	
Actual date for completion -	
If different insert reason for delay -	
Does the dust management plan need to be updated -	
Date that the dust management plan was updated -	

Closure	
Site manager review date	
Site manager signature to confirm no further action required	