

## APPENDIX 6.2 – DUST ASSESSMENT CRITERIA

Assessment of dust impacts (IAQM Guidance on the Assessment of Dust from Demolition and Construction – February 2014)

**Table A6.2.1 Dust emission magnitude determination criteria and assessment for demolition activities without mitigation**

Demolition Criteria	IAQM Dust Emission Magnitude			Site-specific Assessment
	Small	Medium	Large	Five Mile Lane
Installation Volume	<20,000m <sup>3</sup>	20,000m <sup>3</sup> -50,000m <sup>3</sup>	>50,000m <sup>3</sup>	N/A
Material Dust Potential	Metal/timber cladding, demolition activity above <10m ground, during wetter months.	Potentially dusty demolition material, activities at 10-20m above ground.	Potentially dusty demolition material. Onsite crushing e.g. concrete and screening demolition activities >20m above ground level.	N/A
Comments				No significant demolition activities
Overall Dust Emission Magnitude Rating				N/A

**Table A6.2.2 Dust emission magnitude determination criteria and assessment for earthworks activities without mitigation**

Earthworks Criteria	IAQM Dust Emission Magnitude			Site-specific Assessment
	Small	Medium	Large	Five Mile Lane
Site Area	<2,500m <sup>2</sup>	2,500 – 10,000m <sup>2</sup>	>10,000m <sup>2</sup>	Large
Soil/Material Type	Sand	Silt	Clay (dry)	Medium
Earthmoving equipment	<5 veh at a time	5 – 10 veh at a time	>10 veh at a time	Medium
Bunds / Stockpiles	<4m high	4 – 8m high	>8m high	Small
Material Moved	<20,000 tonnes	20,000 -100,000 tonnes	>100,000 tonnes	Large
Timing of Works	During wetter months	Various conditions	During drier months	Medium
Comments				Site clearance will be required
Overall Dust Emission Magnitude Rating				Large

**Table A6.2.3 Dust emission magnitude determination criteria and assessment for construction activities without mitigation**

Construction Criteria	IAQM Dust Emission Magnitude			Site-specific Assessment
	Small	Medium	Large	Five Mile Lane
Installation Volume	<25,000m <sup>3</sup>	25,000m <sup>3</sup> -100,000m <sup>3</sup>	>100,000m <sup>3</sup>	Large
Dust Potential of Construction Activities	Use of materials with low potential for dust release (e.g. metal cladding or timber)	e.g. use of dusty material such as concrete/ballast; piling	e.g. on-site concrete batching, sandblasting	Medium
Comments				Laying of asphalt
Overall Dust Emission Magnitude Rating				Medium

**Table A6.2.4 Dust emission magnitude determination criteria and assessment for trackout activities without mitigation**

Trackout Criteria	IAQM Dust Emission Magnitude			Site-specific Assessment
	Small	Medium	Large	Five Mile Lane
Number of HDV (>3.5t) per day	<10	10 – 50	>50	Medium
Extent of unconsolidated surfaces (i.e. unpaved road length)	<50m	50 – 100m	>100m	Small
Surface material dust potential	Low	Moderately dusty i.e. some clay content	Potentially dusty i.e. high clay content	Small
Comments				Consolidated access provided by existing road
Overall Dust Emission Class Rating				Small

**Table A6.2.5 Outcome of the assessment of potential dust emission magnitude from construction related activities**

Activity	Dust Emission Magnitude
Demolition	Negligible
Earthworks	Large
Construction	Medium
Trackout	Small

**Table A6.2.6 Criteria for defining the sensitivity of receptors to construction dust related impacts**

Sensitivity of the Area	Human Receptor – Dust Soiling Effects	Human Receptor – Human Health Effects of PM <sub>10</sub>	Ecological Receptor
High	<ul style="list-style-type: none"> <li>- users can reasonably expect a enjoyment of a high level of amenity; or</li> <li>- the appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected a to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.</li> <li>- indicative examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms.</li> </ul>	<ul style="list-style-type: none"> <li>- locations where members of the public are exposed over a time period relevant to the air quality objective for PM<sub>10</sub> (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</li> <li>- Indicative examples include residential properties. Hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</li> </ul>	<ul style="list-style-type: none"> <li>- locations with an international or national designation and the designated features may be affected by dust soiling; or</li> <li>- locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List For Great Britain.</li> <li>- indicative examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>- users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or</li> <li>- the appearance, aesthetics or value of their property could be diminished by soiling; or the people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.</li> <li>- indicative examples include parks and places of work.</li> </ul>	<ul style="list-style-type: none"> <li>- locations where the people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM<sub>10</sub> (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</li> <li>- indicative examples include office and shop workers, but will generally not include workers occupationally exposed to PM<sub>10</sub>, as protection is covered by Health and Safety at Work legislation.</li> </ul>	<ul style="list-style-type: none"> <li>- locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or</li> <li>- locations with a national designation where the features may be affected by dust deposition.</li> <li>- indicative example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.</li> </ul>
Low	<ul style="list-style-type: none"> <li>- the enjoyment of amenity would not reasonably be expected; or</li> <li>- property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; or</li> <li>- there is transient exposure, where the people or property would reasonably be expected to be</li> </ul>	<ul style="list-style-type: none"> <li>- locations where the people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM<sub>10</sub> (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</li> <li>- indicative examples include office and shop</li> </ul>	<ul style="list-style-type: none"> <li>- locations with a local designation where the features may be affected by dust deposition.</li> <li>- indicative example is a local Nature Reserve with dust sensitive features.</li> </ul>

Sensitivity of the Area	Human Receptor – Dust Soiling Effects	Human Receptor – Human Health Effects of PM <sub>10</sub>	Ecological Receptor
	<p>present only for limited periods of time as part of the normal pattern of use of the land.</p> <p>- indicative examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads. a People's expectations will vary depending on the existing</p>	<p>workers, but will generally not include workers occupationally exposed to PM<sub>10</sub>, as protection is covered by Health and Safety at Work legislation.</p>	

**Table A6.2.7 Criteria for the determination of the sensitivity of the area to dust soiling effects on people and property**

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
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

**Table A6.2.8 Criteria for the determination of the sensitivity of the area to human health impacts**

Receptor Sensitivity	PM <sub>10</sub> background concentration	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<350
High	>32 µg/m <sup>3</sup>	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32 µg/m <sup>3</sup>	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 µg/m <sup>3</sup>	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m <sup>3</sup>	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	-	>10	High	Medium	Low	Low	Low
	-	10-10	Medium	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low



**Table A6.2.9 Criteria for the determination of the sensitivity of the area to ecological impacts**

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

**Table A6.2.10 Outcome of the assessment of the sensitivity of the area to construction dust impacts**

Potential Impact	Sensitivity of the surrounding area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Negligible	Low	Low	Low
Human Health	Negligible	Low	Low	Low
Ecological	Negligible	High	High	High

Table A6.2.11 Criteria for the determination of the risk of dust impacts in the absence of mitigation

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
<i>Demolition</i>			
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
<i>Earthworks</i>			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
<i>Construction</i>			
High	High Risk	Medium Risk	Low Risk
Medium	Low Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
<i>Trackout</i>			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

**Table A6.2.12 Outcome of the assessment of the risk of dust impacts**

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Negligible	Low Risk	Low Risk	Negligible
Human Health	Negligible	Low Risk	Low Risk	Negligible
Ecological	Negligible	High Risk	Medium Risk	Low Risk