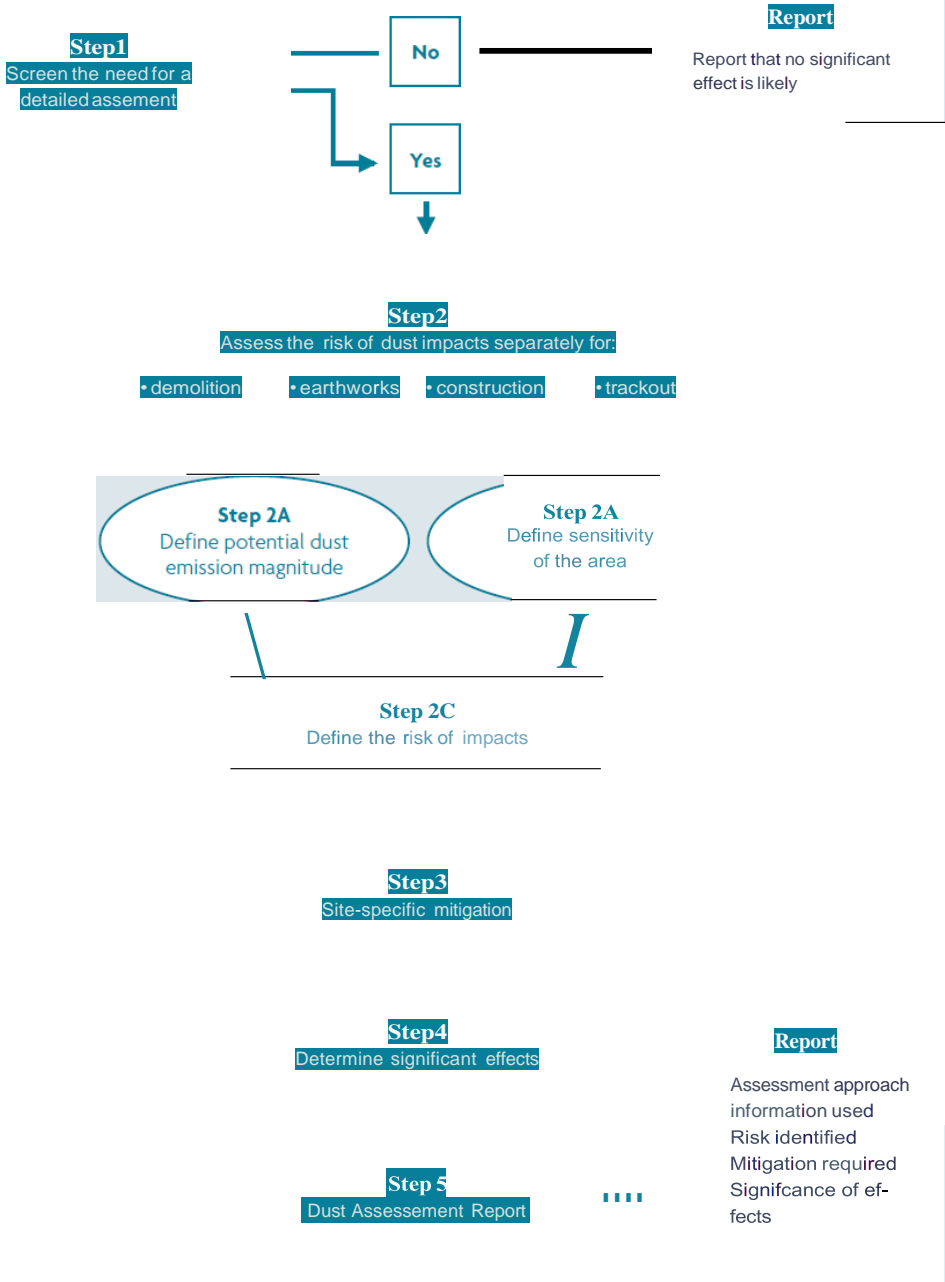


APPENDIX 10.6- DUSK RISK ASSESSMENT PROCEDURES

Figure 1: Steps to Perform a Dust Assessment



Demolition

Examples:

- **Large:** Total building volume >50 000 m³, potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >20 m above ground level;
- **Medium:** Total building volume 20 000 m³ – 50 000m³, potentially dusty construction material, demolition activities 10-20 m above ground level; and
- **Small:** Total building volume <20 000 m³, construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10m above ground, demolition during wetter months.

Earthworks

Examples:

- **Large:** Total site area >10 000 m², 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 >8 m in height, total material moved >100 000 tonnes;
- **Medium:** Total site area 2 500 m² – 10 000 m², moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 m - 8 m in height, total material moved 20 000 tonnes – 100 000 tonnes; and
- **Small:** Total site area <2 500 m², soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <10 000 tonnes, earthworks during wetter months.

Construction

Examples:

- **Large:** Total building volume >100 000 m³, piling, on site concrete batching; sandblasting
- **Medium:** Total building volume 25 000 m³ – 100 000 m³, potentially dusty construction material (e.g. concrete), piling, on site concrete batching; and
- **Small:** Total building volume <25 000 m³, construction material with low potential for dust release (e.g. metal cladding or timber).

Trackout

Examples:

- **Large:** >50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m;
- **Medium:** 10-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road lengths 50m-100m;
- **Small:** <10 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.

These numbers are for vehicles that leave the site after moving over unpaved ground, where they will accumulate mud and dirt that can be tracked out onto the public highway.

Table 2: Sensitivity of the Area to Dust Soiling Effects on People and Property ^{a b}

Receptor Sensitivity	Number of Receptors	Distance from the Source (m) ^c			
		<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

^a The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout. See **STEP 2B, Box 6** and **Box 9**.

^b Estimate the total number of receptors within the stated distance. Only the *highest level* of area sensitivity from the table needs to be considered. For example, if there are 7 high sensitivity receptors < 20m of the source and 95 high sensitivity receptors between 20 and 50 m, then the total of number of receptors < 50 m is 102. The sensitivity of the area in this case would be high.

^c For trackout, the distances should be measured from the side of the roads used by construction traffic. Without site-specific mitigation, trackout may occur from roads up to 500 m from large sites, 200 m from medium sites and 50 m from small sites, as measured from the site exit. The impact declines with distance from the site, and it is only necessary to consider trackout impacts up to 50m from the edge of the road.

Table 3: Sensitivity of the Area to Human Health Impacts^a

Receptor Sensitivity	Annual Mean PM ₁₀ concentration ^b	Number of Receptors ^d	Distance from the Source (m) ^c			
			<20	20-50	50-200	>200
High	32 µg/m ³ (^a 18 µg/m ³ in Scotland)	100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
	28-32 µg/m ³ (16-18 µg/m ³ in Scotland)	100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
	24-28 µg/m ³ (14-16 µg/m ³ in Scotland)	100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
24 µg/m ³ (^a 14 µg/m ³ in Scotland)	100	Medium	Low	Low	Low	
	10-100	Low	Low	Low	Low	
Medium		10	Medium	Low	Low	Low
		1-10	Low	Low	Low	Low
Low		1	Low	Low	Low	Low

^a The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout. See **STEP 2B, Box 7** and **Box 9**.

^b Estimate the total within the stated distance (e.g. the total within 350m and not the number between 200 and 350m), noting that only the highest level of area sensitivity from the table needs to be considered. For example, if there are 7 high sensitivity receptors < 20m of the source and 95 high sensitivity receptors between 20 and 50m, then the total of number of receptors < 50m is 102. If the annual mean PM₁₀ concentration is 29µg/m³, the sensitivity of the area would be high.

^c Most straightforwardly taken from the national background maps, but should also take account of local sources. The values are based on 32µg/m³ being the annual mean concentration at which an exceedance of the 24-hour objective is likely in England, Wales and Northern Ireland. In Scotland there is an annual mean objective of 18µg/m³.

^d In the case of high sensitivity receptors with high occupancy (such as schools or hospitals) approximate the number of people likely to be present. In the case of residential dwellings, just include the number of properties

^e For trackout, the distances should be measured from the side of the roads used by construction traffic. Without site-specific mitigation, trackout may occur from roads up to 500 m from large sites, 200 m from medium sites and 50 m from small sites, as measured from the site exit. The impact declines with distance from the site, and it is only necessary to consider trackout impacts up to 50 m from the edge of the road.

Table 4: Sensitivity of the Area to Ecological Impacts^a

Receptor Sensitivity	Distance from the Source (m) ^b	
	<20	>20
High	High	Medium
Medium	Medium	Low
Low	Low	Low

^a The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout and for each designated site. See **STEP 2B, Box 8** and **Box 9**.

^b Only the highest level of area sensitivity from the table needs to be considered.

^c For trackout, the distances should be measured from the side of the roads used by construction traffic. Without site-specific mitigation, trackout may occur from roads up to 500 m from large sites, 200 m from medium sites and 50 m from small sites, as measured from the site exit. The impact declines with distance from the site.