

# Appendix 8.1 Construction Assessment Methodology

## Appendix 8-1 Supplied Traffic Data and Modelled Roads

| Modelled Road ID  | Supplied Road Link ID | Baseline |             |      | Do Nothing |             |      | Do Something |             |      |
|-------------------|-----------------------|----------|-------------|------|------------|-------------|------|--------------|-------------|------|
|                   |                       | AADT     | Speed (kph) | HDV% | AADT       | Speed (kph) | HDV% | AADT         | Speed (kph) | HDV% |
| LondonRdJnct*     | 18                    | 14076    | <b>24.1</b> | 6.0  | 13355      | <b>24.1</b> | 6.0  | 14524        | <b>24.1</b> | 6.0  |
| LondonRd2*        | 18                    | 14076    | 39.1        | 6.0  | 13355      | 36.5        | 6.0  | 14524        | 36.7        | 6.0  |
| Mancunian Way6    | 47                    | 85859    | 64.2        | 2.9  | 88512      | 63.0        | 2.9  | 86795        | 61.1        | 3.0  |
| GreatAncoatsSt3   | 14                    | 46238    | 49.2        | 2.0  | 47358      | 48.9        | 1.9  | 45990        | 48.8        | 1.9  |
| GreatAncoats      | 38                    | 39212    | 39.3        | 1.3  | 38646      | 37.8        | 1.2  | 36488        | 31.8        | 1.2  |
| Brook Street      | 41                    | 10961    | 20.7        | 2.0  | 11033      | 21.3        | 2.4  | 11691        | 20.0        | 2.4  |
| BrookStreetJnct   | 41                    | 10961    | <b>24.1</b> | 2.0  | 11033      | 21.3        | 2.4  | 11691        | 20.0        | 2.4  |
| BrrokStreetNF     | 42                    | 29577    | 32.1        | 2.0  | 30602      | 29.5        | 2.0  | 33807        | 28.7        | 1.9  |
| BrookStreetJnct2  | 42                    | 29577    | <b>24.1</b> | 2.0  | 30602      | <b>24.1</b> | 2.0  | 33807        | 28.7        | 1.9  |
| BrookStreetNF1    | 42                    | 29577    | 32.1        | 2.0  | 30602      | 29.5        | 2.0  | 33807        | 28.7        | 1.9  |
| DowningStreet2    | 8                     | 16512    | 34.2        | 0.3  | 16561      | 34.1        | 0.4  | 18283        | 35.5        | 0.3  |
| ManctoDowning1    | 110                   | 5391     | 46.3        | 2.8  | 5388       | 64.8        | 3.0  | 6044         | 68.1        | 2.8  |
| DowningtoManc     | 111                   | 4762     | 19.0        | 6.9  | 7210       | 15.4        | 4.3  | 7949         | 16.2        | 3.8  |
| ManctoLondon2     | 109                   | 11642    | 16.4        | 3.7  | 12169      | 14.9        | 3.7  | 10458        | 6.7         | 5.1  |
| FarifieldSt3      | 12                    | 24242    | 35.7        | 2.8  | 25002      | 38.4        | 2.8  | 25753        | 32.8        | 2.8  |
| Great Ancoats St  | 15                    | 33798    | 37.6        | 1.8  | 34451      | 39.4        | 1.6  | 32714        | 36.4        | 1.6  |
| GreatAncoatsSt2   | 14                    | 46238    | 49.2        | 2.0  | 47358      | 48.9        | 1.9  | 45990        | 48.8        | 1.9  |
| Mancunian WayJnct | 14                    | 46238    | <b>24.1</b> | 2.0  | 47358      | <b>24.1</b> | 1.9  | 45990        | 48.8        | 1.9  |
| Mancunian Way2    | 11                    | 31418    | 23.6        | 2.8  | 31902      | 23.3        | 2.7  | 30875        | 25.6        | 2.8  |
| MancunianWayJnct2 | 1                     | 45884    | <b>24.1</b> | 3.5  | 47463      | <b>24.1</b> | 3.4  | 47744        | 41.2        | 3.4  |
| Mancunian Way3    | 2                     | 45884    | 36.9        | 3.5  | 47463      | 39.6        | 3.4  | 47744        | 41.2        | 3.4  |

|                  |       |       |             |      |       |             |      |       |             |      |
|------------------|-------|-------|-------------|------|-------|-------------|------|-------|-------------|------|
| Mancunian Way4   | 40+2  | 45310 | 36.9        | 3.3  | 46964 | 39.6        | 3.2  | 46930 | 41.2        | 3.2  |
| Mancunian Way5   | 40    | 44736 | 36.9        | 3.1  | 46464 | 39.6        | 3.0  | 46115 | 41.2        | 3.0  |
| FarifieldSt      | 19    | 15981 | 20.7        | 1.3  | 17047 | 20.5        | 1.3  | 15191 | 20.9        | 0.7  |
| FarifieldStJnct1 | 19    | 15981 | 20.7        | 1.3  | 17047 | 20.5        | 1.3  | 15191 | 20.9        | 0.7  |
| FarifieldSt1     | 4     | 7517  | 50.5        | 0.5  | 7446  | 50.3        | 0.4  | 6823  | 48.4        | 0.4  |
| FarifieldSt2     | 3     | 7796  | 51.9        | 0.5  | 7630  | 52.3        | 0.4  | 7251  | 51.9        | 0.4  |
| FarifieldStJnct  | 12    | 24242 | <b>24.1</b> | 2.8  | 25002 | <b>24.1</b> | 2.8  | 25753 | 32.8        | 2.8  |
| LondonRd*        | 22    | 8109  | 11.6        | 12.0 | 7562  | 6.9         | 12.0 | 9199  | 12.6        | 12.0 |
| DowningStreet1   | 10    | 30229 | 35.9        | 3.1  | 30787 | 32.2        | 3.1  | 29774 | 36.3        | 3.2  |
| DowningStreet3   | 9     | 19716 | 41.0        | 0.3  | 18553 | 43.7        | 0.3  | 22029 | 42.1        | 0.3  |
| DowningStreet4   | 9     | 19716 | 41.0        | 0.3  | 18553 | 43.7        | 0.3  | 22029 | 42.1        | 0.3  |
| OxfordRd1*       | 48    | 5834  | 15.2        | 40.4 | 6191  | 18.9        | 40.4 | 6324  | 15.2        | 40.4 |
| OxfordRdJnct*    | 48    | 5834  | 15.1        | 40.4 | 6191  | <b>24.1</b> | 40.4 | 6324  | 15.2        | 40.4 |
| OxfordRd2*       | 49    | 3004  | 36.4        | 40.4 | 3147  | 33.4        | 40.4 | 3243  | 35.1        | 40.4 |
| MancunianWay3a   | 38    | 39212 | 39.3        | 1.3  | 38646 | 37.8        | 1.2  | 36488 | 31.8        | 1.2  |
| GreatAncoatsJnct | 1     | 45884 | <b>24.1</b> | 3.5  | 47463 | <b>24.1</b> | 3.4  | 47744 | 41.2        | 3.4  |
| GreatAncoatsNF   | 37    | 41214 | 34.0        | 1.3  | 40881 | 31.4        | 1.2  | 38961 | 28.5        | 1.2  |
| OxfordRdJnct2*   | 48    | 5834  | 15.2        | 40.4 | 6191  | 18.9        | 40.4 | 6324  | 15.2        | 40.4 |
| WhitworthSt      | 54    | 14779 | 25.5        | 2.0  | 15566 | 23.9        | 1.9  | 14512 | 30.8        | 1.4  |
| WhitworthStJnct  | 54+55 | 14825 | 16.1        | 2.1  | 15676 | 25.4        | 2.0  | 14681 | 30.2        | 1.5  |
| OxfordRd3*       | 48    | 5834  | 15.2        | 40.4 | 6191  | 18.9        | 0.0  | 6324  | 15.2        | 0.0  |
| PeterSt1*        | 96    | 6921  | 19.0        | 5.0  | 7347  | 22.9        | 5.0  | 7789  | 22.7        | 5.0  |
| PeterStJnct*     | 96    | 6921  | 19.0        | 5.0  | 7347  | 22.9        | 5.0  | 7789  | 22.7        | 5.0  |
| PeterSt2*        | 96    | 6921  | 19.0        | 5.0  | 7347  | 22.9        | 5.0  | 7789  | 22.7        | 5.0  |
| PeterStJnct2*    | 96    | 6921  | 19.0        | 5.0  | 7347  | 22.9        | 5.0  | 7789  | 22.7        | 5.0  |
| PeterSt3         | 94    | 4060  | 33.5        | 0.5  | 4323  | 30.9        | 0.8  | 4595  | 30.5        | 0.7  |
| PeterStJnct3     | 94    | 4060  | <b>24.1</b> | 0.5  | 4323  | <b>24.1</b> | 0.8  | 4595  | <b>24.1</b> | 0.7  |

|                  |    |       |             |      |       |             |      |       |             |      |
|------------------|----|-------|-------------|------|-------|-------------|------|-------|-------------|------|
| OxfordRd4*       | 56 | 4081  | 39.1        | 40.4 | 4291  | 36.5        | 0.8  | 4528  | 36.7        | 0.7  |
| PortlandStJnct*  | 46 | 11257 | 18.4        | 21.0 | 12283 | 18.7        | 21.0 | 12772 | 18.7        | 21.0 |
| PortlandSt*      | 46 | 11257 | 18.4        | 21.0 | 12283 | 18.7        | 21.0 | 12772 | 18.7436     | 21.0 |
| PortlandSTJnct2* | 46 | 11257 | 18.4        | 21.0 | 12283 | 18.7        | 21.0 | 12772 | 18.7        | 21.0 |
| PortlandStJnct3* | 46 | 11257 | 18.4        | 21.0 | 12283 | 18.7        | 21.0 | 12772 | 18.7        | 21.0 |
| AytounSt*        | 24 | 8955  | 21.2        | 17.0 | 8651  | 23.8        | 17.0 | 8994  | 26.9        | 17.0 |
| AytounSt2        | 20 | 6732  | 24.8        | 0.5  | 6643  | 23.0        | 0.4  | 6397  | 23.8        | 0.6  |
| Picadilly1*      | 27 | 8193  | 21.4        | 9.0  | 8352  | 25.2        | 9.0  | 9204  | 27.0        | 9.0  |
| NewtonSt*        | 28 | 2076  | 44.2        | 27.0 | 1944  | 25.8        | 27.0 | 2090  | 29.4        | 27.0 |
| NewtonSt1        | 29 | 5544  | 22.9        | 1.4  | 5437  | 15.3        | 1.6  | 6048  | 17.4        | 2.0  |
| NewtonStJnct     | 29 | 5544  | 22.9        | 1.4  | 5437  | 15.3        | 1.6  | 6048  | 17.4        | 2.0  |
| NewtonSt2        | 72 | 6065  | 29.9        | 1.0  | 5134  | 23.5        | 1.4  | 5503  | 23.6        | 1.8  |
| StoreStJnct      | 21 | 634   | <b>24.1</b> | 0.0  | 421   | <b>24.1</b> | 0.0  | 570   | <b>24.1</b> | 0.0  |
| StoreSt          | 21 | 634   | 25.5        | 0.0  | 421   | 26.8        | 0.0  | 570   | 27.3        | 0.0  |
| PlymouthGrove    | 44 | 11442 | 42.1        | 1.5  | 11343 | 43.7        | 1.9  | 12261 | 38.6        | 1.8  |
| DucieSt1         | 26 | 4105  | 20.1        | 0.2  | 3745  | 20.0        | 0.2  | 4012  | 24.8        | 0.0  |
| DucieStJnct      | 26 | 4105  | 20.1        | 0.2  | 3745  | 20.0        | 0.2  | 4012  | 24.8        | 0.0  |
| DucieSt2         | 69 | 2577  | 20.1        | 0.0  | 2646  | 20.0        | 0.0  | 2923  | 24.8        | 0.1  |
| WhitworthSt2     | 55 | 14871 | 22.9        | 2.1  | 15786 | 26.8        | 2.1  | 14850 | 29.6        | 1.6  |
| WhitworthJnct2   | 23 | 19039 | 22.5        | 1.4  | 19831 | 25.9        | 1.6  | 18103 | 25.5        | 1.2  |
| WhitworthSt3     | 23 | 19039 | 22.5        | 1.4  | 19831 | 25.9        | 1.6  | 18103 | 25.5        | 1.2  |
| WhitworthJnct3   | 23 | 19039 | 22.5        | 1.4  | 19831 | 25.9        | 1.6  | 18103 | 25.5        | 1.2  |
| WhitworthSt4     | 23 | 19039 | 22.5        | 1.4  | 19831 | 25.9        | 1.6  | 18103 | 25.5        | 1.2  |
| WhitworthJnct4   | 23 | 19039 | 22.5        | 1.4  | 19831 | 25.9        | 1.6  | 18103 | 25.5        | 1.2  |
| PrincessSt       | 41 | 10961 | 20.7        | 2.0  | 11033 | 21.3        | 2.4  | 11691 | 20.0        | 2.4  |
| PrincessStJnct   | 45 | 3377  | 18.5        | 0.0  | 3838  | 18.5        | 0.0  | 3867  | 18.5        | 0.0  |
| PrincessSt2      | 45 | 3377  | 45.0        | 0.0  | 3838  | 43.0        | 0.0  | 3867  | 40.9        | 0.0  |

|                |    |      |      |     |      |      |     |      |      |     |
|----------------|----|------|------|-----|------|------|-----|------|------|-----|
| PrincessStJct2 | 89 | 1411 | 18.4 | 0.0 | 1791 | 18.5 | 0.0 | 1786 | 18.7 | 0.0 |
|----------------|----|------|------|-----|------|------|-----|------|------|-----|

*\*Indicates HDV% has been taken from DFT counts*

**Speeds in bold have been manually decreased to account for junctions within model.**

# Appendix 8.2 Construction Mitigation Measures

## Appendix 8-2 Construction assessment methodology

### Assessing the risk of dust impacts

#### A) Defining the potential dust emission magnitude

The dust emission magnitude is based on the scale of the anticipated works and should be classified as Small, Medium, or Large.

**Demolition:** Example definitions for demolition are:

- **Large:** Total building volume >50,000 m<sup>3</sup>, 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 m<sup>3</sup> – 50,000 m<sup>3</sup>, potentially dusty construction material, demolition activities 10-20 m above ground level; and
- **Small:** Total building volume <20,000 m<sup>3</sup>, construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10m above ground, demolition during wetter months.

**Earthworks:** Earthworks will primarily involve excavating material, haulage, tipping and stockpiling. This may also involve levelling the site and landscaping. Example definitions for earthworks are:

- **Large:** Total site area >10,000 m<sup>2</sup>, 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 m<sup>2</sup> – 10,000 m<sup>2</sup>, 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 m<sup>2</sup>, 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 <20,000 tonnes, earthworks during wetter months.

**Construction:** The key issues when determining the potential dust emission magnitude during the construction phase include the size of the building(s) / infrastructure, method of construction, construction materials, and duration of build. Example definitions for construction are:

- **Large:** Total building volume >100,000 m<sup>3</sup>, on site concrete batching, sandblasting;
- **Medium:** Total building volume 25,000 m<sup>3</sup> – 100,000 m<sup>3</sup>, potentially dusty construction material (e.g. concrete), on site concrete batching; and
- **Small:** Total building volume <25,000 m<sup>3</sup>, construction material with low potential for dust release (e.g. metal cladding or timber).

**Trackout:** Factors which determine the dust emission magnitude are vehicle size, vehicle speed, vehicle numbers, geology and duration. As with all other potential sources, professional judgement must be applied when classifying trackout into one of the dust emission magnitude categories. Example definitions for trackout are:

- **Large:** >50 HDV (>3.5t) outward movements<sup>1</sup> in any one day<sup>2</sup>, potentially dusty surface material (e.g. high clay content), unpaved road length >100 m;

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<sup>1</sup> A vehicle movement is a one way journey. i.e. from A to B, and excludes the return journey.

<sup>2</sup> HDV movements during a construction project vary over its lifetime, and the number of movements is the maximum not the average.

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

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.

B) Defining the sensitivity of the area

The sensitivity of the area takes account of a number of factors:

- The specific sensitivities of receptors in the area;
- The proximity and number of those receptors;
- In the case of PM<sub>10</sub>, the local background concentration; and
- Site-specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust.

Examples of sensitivities of various receptors to dust soiling, elevated PM<sub>10</sub> and ecological effects are shown in Table 1.

For the sensitivity of people and their property to soiling, the IAQM recommends that the air quality practitioner uses professional judgement to identify where on the spectrum between high and low sensitivity a receptor lies, taking into account the general principles in the table below.

For the sensitivity of people to the health effects of PM<sub>10</sub>, the IAQM recommends that the air quality practitioner assumes that there are three sensitivities based on whether or not the receptor is likely to be exposed to elevated concentrations over a 24-hour period, consistent with the Defra's advice for local air quality management.

With regards to ecological effects, it is advised to seek the advice of an ecologist to determine the need for an assessment of dust impacts on sensitive habitats and plants. Professional judgement is required to identify where on the spectrum between high and low sensitivity a receptor lies, taking into account the likely effect and the value of the ecological asset. A habitat may be highly valuable but not sensitive, alternatively it may be less valuable but more sensitive to dust deposition. Consequently, specialist ecological advice should also be sought to determine the sensitivity of the ecological receptors to dust impacts. In general most receptors will either be of high sensitivity or low sensitivity i.e. either sensitive or not to dust deposition.

**Table 1 Examples of receptor sensitivities for various construction effects**

| Receptor sensitivity | Effects                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | Dust soiling                                                                                                                                                                                                                                                                                                                                                                                                                                       | Elevated PM <sub>10</sub>                                                                                                                                                                                                                                                                                                                                                                                             | Ecological                                                                                                                                                                                                                                                                                                                                   |
| <b>High</b>          | <ul style="list-style-type: none"> <li>• Users can reasonably expect a enjoyment of a high level of amenity</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</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</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>• location 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> </ul> |

| Receptor sensitivity | Effects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | Dust soiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Elevated PM <sub>10</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ecological                                                                                                                                                                                                                                                                                                                                                                                      |
|                      | <p>dwellings, museum and other culturally important collections, medium and long term car parks and car showrooms.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>an indicative example is a Special Area of Conservation (SAC) designated for acid heathlands adjacent to the demolition of a large site containing concrete (alkali) buildings or for the presence of lichen.</li> </ul>                                                                                                                                 |
| <b>Medium</b>        | <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</li> <li>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 may 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 examples include a Site of Special Scientific Interest (SSSI) with dust sensitive features.</li> </ul> |
| <b>Low</b>           | <ul style="list-style-type: none"> <li>the enjoyment of amenity would not reasonably be expected; or</li> <li>there is property that 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 present only for limited periods of time as part of the normal pattern of use of the land.</li> <li>indicative examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.</li> </ul> | <ul style="list-style-type: none"> <li>locations where human exposure is transient.</li> <li>indicative examples public footpaths, playing fields, parks and shopping streets.</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>                                                                                                                                                                 |

Additional factors to consider when determining the sensitivity of the area include the following

- Any history of dust generating activities in the area;
- The likelihood of concurrent dust generating activity on nearby sites;
- Any pre-existing screening between the source and the receptors;

- Any conclusions drawn from analysing local meteorological data which accurately represent the area; and if relevant the season during which the works will take place;
- Any conclusions drawn from local topography;
- Duration of the potential impact, as a receptor may become more sensitive over time; and
- Any known specific receptor sensitivities which are considered go beyond the classifications given.

The following tables show how the sensitivity of an area can be determined for the various potential impacts. For each potential impact the highest level of sensitivity should be recorded.

**Table 2 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 3 Sensitivity of the area to human health impacts**

| Receptor sensitivity | Annual mean PM <sub>10</sub> concentration                       | Number of receptors | Distance from the source (m) |        |        |        |      |
|----------------------|------------------------------------------------------------------|---------------------|------------------------------|--------|--------|--------|------|
|                      |                                                                  |                     | <20                          | <50    | <100   | <200   | <350 |
| High                 | >32 µg/m <sup>3</sup><br>(>18 µg/m <sup>3</sup> in Scotland)     | >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><br>(16-18 µg/m <sup>3</sup> in Scotland) | >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><br>(14-16 µg/m <sup>3</sup> in Scotland) | >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  |
|                      |                                                                  |                     |                              |        |        |        |      |
|                      |                                                                  |                     |                              |        |        |        |      |

| Receptor sensitivity | Annual mean PM <sub>10</sub> concentration | Number of receptors | Distance from the source (m) |        |      |      |      |
|----------------------|--------------------------------------------|---------------------|------------------------------|--------|------|------|------|
|                      |                                            |                     | <20                          | <50    | <100 | <200 | <350 |
|                      | (<14 µg/m <sup>3</sup> in Scotland)        | 10-100              | Low                          | Low    | Low  | Low  | Low  |
|                      |                                            | 1-10                | Low                          | Low    | Low  | Low  | Low  |
| Medium               | -                                          | >10                 | High                         | Medium | Low  | Low  | Low  |
|                      | -                                          | 1-10                | Medium                       | Low    | Low  | Low  | Low  |
| Low                  | -                                          | >1                  | Low                          | Low    | Low  | Low  | Low  |

**Table 4 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    |

C) Defining the risks of impacts

Dust emission magnitude determined at step A) should be combined with the sensitivity of the area determined at step B) in order to determine the risk of impacts with no mitigation applied. The following matrices provide a method of assigning the level of risk for each activity. For those cases where the risk category is 'negligible', no mitigation measures beyond those required by legislation will be required.

**Table 5 Risk of dust impacts – demolition**

| Sensitivity of area | Dust emission magnitude |             |             |
|---------------------|-------------------------|-------------|-------------|
|                     | Large                   | Medium      | Small       |
| High                | High risk               | Medium risk | Medium risk |
| Medium              | High risk               | Medium risk | Low risk    |
| Low                 | Medium risk             | Low risk    | Negligible  |

**Table 6 Risk of dust impacts – earthworks**

| Sensitivity of area | Dust emission magnitude |        |       |
|---------------------|-------------------------|--------|-------|
|                     | Large                   | Medium | Small |

|        |             |             |            |
|--------|-------------|-------------|------------|
| High   | High risk   | Medium risk | Low risk   |
| Medium | Medium risk | Medium risk | Low risk   |
| Low    | Low risk    | Low risk    | Negligible |

**Table 7 Risk of dust impacts – construction**

| Sensitivity of area | Dust emission magnitude |             |            |
|---------------------|-------------------------|-------------|------------|
|                     | Large                   | Medium      | Small      |
| High                | High risk               | Medium risk | Low risk   |
| Medium              | Medium risk             | Medium risk | Low risk   |
| Low                 | Low risk                | Low risk    | Negligible |

**Table 8 Risk of dust impacts – trackout**

| Sensitivity of area | Dust emission magnitude |             |            |
|---------------------|-------------------------|-------------|------------|
|                     | Large                   | Medium      | Small      |
| High                | High risk               | Medium risk | Low risk   |
| Medium              | Medium risk             | Low risk    | Negligible |
| Low                 | Low risk                | Low risk    | Negligible |