



Dust and Air Quality Innovation and Expertise

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## Addendum to Air Quality Assessment

Prepared by DustScanAQ, September 2023

### Purpose of Report

This report serves as an addendum to the air quality assessment dated 27<sup>th</sup> March 2023 in support of planning application no. 22/1149/10 at Forest Wood Quarry. This addendum is required due to a revision of the development traffic trips associated with the proposed development (an increase of 6 north of the site entrance), and should be read in conjunction with the air quality assessment.

### Minor Amendments to Text

| Section | Para. | Existing Text   | Replacement Text  |
|---------|-------|---|---|
| 3.7     | 1     | Traffic data was obtained from TPS Transport Consultants Ltd, the appointed transport consultant. There is a net increase in traffic of 77 vehicles per day north through Brynsadler and Pontyclun. | Traffic data was obtained from TPS Transport Consultants Ltd, the appointed transport consultant. There is a net increase in traffic of 83 vehicles per day north through Brynsadler and Pontyclun. |

### Minor Amendments to Tables

The below table supersedes Table 3.3 of the air quality assessment with updated vehicle trips data for the 'with proposed development' scenario.

**Table 3.3: With/Without Proposed development traffic data 2023**

| Link | Without (2023) |      |             | With (2023) |      |             |
|------|----------------|------|-------------|-------------|------|-------------|
|      | AADT           | HDV% | Speed (kph) | AADT        | HDV% | Speed (kph) |
| A    | 4076           | 3.07 | 96.56       | 4084        | 3.23 | 96.56       |
| B    | 4235           | 4.27 | 96.56       | 4318        | 5.76 | 96.56       |
| C    | 4235           | 4.27 | 64.37       | 4318        | 5.76 | 64.37       |
| D    | 4235           | 4.27 | 48.28       | 4318        | 5.76 | 48.28       |
| E    | 12401          | 2.77 | 48.28       | 12484       | 3.30 | 48.28       |
| F    | 12401          | 2.77 | 32.19       | 12484       | 3.30 | 32.19       |

| Link | Without (2023) |      |             | With (2023) |      |             |
|------|----------------|------|-------------|-------------|------|-------------|
|      | AADT           | HDV% | Speed (kph) | AADT        | HDV% | Speed (kph) |
| G    | 12666          | 2.25 | 32.19       | 12749       | 2.76 | 32.19       |
| H    | 12666          | 2.25 | 48.28       | 12749       | 2.76 | 48.28       |
| I    | 45751          | 8.12 | 112.65      | 45772       | 8.17 | 112.65      |
| J    | 46870          | 7.14 | 112.65      | 46891       | 7.19 | 112.65      |

Models have been rerun with the updated vehicle movements data. The two tables presented below contain updated model results, and supersede Table 5.1 and Table 5.2 of the air quality assessment respectively. Table 5.3 and Table 5.4 of the air quality assessment are unchanged as the difference in results is less than the number of significant figures presented.

**Table 5.1: Modelled NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> Concentrations in 2023 without and with proposed development**

| Receptor ID | Without proposed development (2023) |                  |                   |   | With proposed development (2023) |                  |                   |   |
|-------------|-------------------------------------|------------------|-------------------|---|----------------------------------|------------------|-------------------|---|
|             | Annual Mean (µg/m <sup>3</sup> )    |                  |                   | No. of exceedances of 24-hour mean PM <sub>10</sub> AQO | Annual Mean (µg/m <sup>3</sup> ) |                  |                   | No. of exceedances of 24-hour mean PM <sub>10</sub> AQO |
|             | NO <sub>2</sub>                     | PM <sub>10</sub> | PM <sub>2.5</sub> |   | NO <sub>2</sub>                  | PM <sub>10</sub> | PM <sub>2.5</sub> |   |
| R1          | 9.2                                 | 11.8             | 7.4               | 0   | 9.2                              | 11.8             | 7.4               | 0   |
| R2          | 9.5                                 | 11.9             | 7.4               | 0   | 9.5                              | 11.9             | 7.5               | 0   |
| R3          | 16.3                                | 14.6             | 8.6               | 0   | 16.5                             | 14.6             | 8.7               | 0   |
| R4          | 16.0                                | 14.3             | 8.5               | 0   | 16.0                             | 14.3             | 8.5               | 0   |
| R5          | 17.9                                | 14.4             | 8.6               | 0   | 17.9                             | 14.4             | 8.6               | 0   |
| R6          | 26.1                                | 15.5             | 9.3               | 0   | 26.2                             | 15.5             | 9.3               | 0   |
| R7          | 23.9                                | 15.2             | 9.1               | 0   | 23.9                             | 15.2             | 9.1               | 0   |
| R8          | 24.4                                | 15.2             | 9.1               | 0   | 24.4                             | 15.3             | 9.1               | 0   |
| R9          | 18.9                                | 14.6             | 8.7               | 0   | 19.0                             | 14.6             | 8.7               | 0   |

| Receptor ID | Without proposed development<br>(2023) |                  |                   |   | With proposed development<br>(2023) |                  |                   |   |
|-------------|--|------------------|-------------------|---|-------------------------------------|------------------|-------------------|---|
|             | Annual Mean<br>(µg/m³)                 |                  |                   | No. of<br>exceedances<br>of 24-hour<br>mean<br>PM <sub>10</sub> AQO | Annual Mean<br>(µg/m³)              |                  |                   | No. of<br>exceedances<br>of 24-hour<br>mean<br>PM <sub>10</sub> AQO |
|             | NO <sub>2</sub>                        | PM <sub>10</sub> | PM <sub>2.5</sub> |   | NO <sub>2</sub>                     | PM <sub>10</sub> | PM <sub>2.5</sub> |   |
| R10         | 24.3                                   | 16.4             | 9.7               | 0   | 24.5                                | 16.5             | 9.7               | 0   |
| R11         | 20.1                                   | 15.2             | 9.0               | 0   | 20.2                                | 15.3             | 9.1               | 0   |
| R12         | 19.2                                   | 15.1             | 9.0               | 0   | 19.3                                | 15.1             | 9.0               | 0   |
| R13         | 18.7                                   | 15.0             | 8.9               | 0   | 18.8                                | 15.1             | 8.9               | 0   |
| R14         | 18.5                                   | 15.1             | 8.9               | 0   | 18.6                                | 15.1             | 8.9               | 0   |
| R15         | 18.3                                   | 14.3             | 8.7               | 0   | 18.4                                | 14.3             | 8.7               | 0   |
| R16         | 19.2                                   | 14.6             | 8.9               | 0   | 19.3                                | 14.6             | 8.9               | 0   |
| R17         | 19.4                                   | 14.6             | 8.9               | 0   | 19.5                                | 14.7             | 8.9               | 0   |
| R18         | 18.4                                   | 14.3             | 8.7               | 0   | 18.5                                | 14.3             | 8.7               | 0   |
| R19         | 15.6                                   | 13.0             | 8.2               | 0   | 15.7                                | 13.0             | 8.2               | 0   |
| R20         | 18.3                                   | 13.6             | 8.6               | 0   | 18.4                                | 13.7             | 8.6               | 0   |
| R21         | 20.6                                   | 14.1             | 8.9               | 0   | 20.8                                | 14.2             | 8.9               | 0   |
| R22         | 19.8                                   | 13.9             | 8.8               | 0   | 20.0                                | 13.9             | 8.8               | 0   |
| R23         | 27.5                                   | 15.3             | 9.6               | 0   | 27.9                                | 15.4             | 9.6               | 0   |
| R24         | 17.5                                   | 13.5             | 8.5               | 0   | 17.6                                | 13.5             | 8.5               | 0   |
| R25         | 17.1                                   | 13.5             | 8.5               | 0   | 17.2                                | 13.5             | 8.5               | 0   |
| R26         | 17.0                                   | 13.5             | 8.5               | 0   | 17.1                                | 13.5             | 8.5               | 0   |

| Receptor ID                  | Without proposed development<br>(2023)      |                  |                   |   | With proposed development<br>(2023)         |                  |                   |   |
|------------------------------|---|------------------|-------------------|---|---|------------------|-------------------|---|
|                              | Annual Mean<br>( $\mu\text{g}/\text{m}^3$ ) |                  |                   | No. of<br>exceedances<br>of 24-hour<br>mean<br>PM <sub>10</sub> AQO | Annual Mean<br>( $\mu\text{g}/\text{m}^3$ ) |                  |                   | No. of<br>exceedances<br>of 24-hour<br>mean<br>PM <sub>10</sub> AQO |
|                              | NO <sub>2</sub>                             | PM <sub>10</sub> | PM <sub>2.5</sub> |   | NO <sub>2</sub>                             | PM <sub>10</sub> | PM <sub>2.5</sub> |   |
| R27                          | 17.0  | 13.4             | 8.5               | 0   | 17.1  | 13.5             | 8.5               | 0   |
| R28                          | 18.4  | 13.8             | 8.7               | 0   | 18.5  | 13.8             | 8.7               | 0   |
| R29                          | 18.0  | 13.4             | 8.4               | 0   | 18.2  | 13.4             | 8.5               | 0   |
| R30                          | 20.1  | 13.8             | 8.7               | 0   | 20.3  | 13.8             | 8.7               | 0   |
| R31                          | 16.9  | 13.2             | 8.3               | 0   | 17.1  | 13.2             | 8.3               | 0   |
| R32                          | 15.4  | 13.0             | 8.2               | 0   | 15.4  | 13.0             | 8.2               | 0   |
| R33                          | 15.1  | 12.8             | 8.1               | 0   | 15.2  | 12.8             | 8.1               | 0   |
| R34                          | 14.2  | 12.8             | 8.0               | 0   | 14.2  | 12.8             | 8.0               | 0   |
| <b>Corresponding<br/>AQO</b> | <b>40</b>                                   | <b>40</b>        | <b>20</b>         | <b>35</b>   | <b>40</b>                                   | <b>40</b>        | <b>20</b>         | <b>35</b>   |

Table 5.2: NO<sub>2</sub> Annual Mean Concentration Changes and Associated Impact at Modelled Receptors in 2023

| Receptor ID | Predicted<br>Annual Mean<br>NO <sub>2</sub><br>Concentration<br>( $\mu\text{g}/\text{m}^3$ ) | Long Term<br>Average<br>Concentration<br>at Receptor | Pollutant<br>Concentration<br>Change<br>( $\mu\text{g}/\text{m}^3$ ) | %<br>Change<br>Relative<br>to<br>AQAL | Impact<br>Descriptor |
|-------------|--|--|--|---------------------------------------|----------------------|
| R1          | 9.2  | 75% or less of<br>AQAL                               | 0.03   | <0.5                                  | Negligible           |
| R2          | 9.5  | 75% or less of<br>AQAL                               | 0.04   | <0.5                                  | Negligible           |
| R3          | 16.5   | 75% or less of<br>AQAL                               | 0.17   | <0.5                                  | Negligible           |
| R4          | 16.0   | 75% or less of<br>AQAL                               | 0.08   | <0.5                                  | Negligible           |

| Receptor ID | Predicted Annual Mean NO <sub>2</sub> Concentration (µg/m <sup>3</sup> ) | Long Term Average Concentration at Receptor | Pollutant Concentration Change (µg/m <sup>3</sup> ) | % Change Relative to AQAL | Impact Descriptor |
|-------------|--|---|---|---------------------------|-------------------|
| R5          | 17.9   | 75% or less of AQAL                         | 0.01  | <0.5                      | Negligible        |
| R6          | 26.2   | 75% or less of AQAL                         | 0.01  | <0.5                      | Negligible        |
| R7          | 23.9   | 75% or less of AQAL                         | 0.01  | <0.5                      | Negligible        |
| R8          | 24.4   | 75% or less of AQAL                         | 0.02  | <0.5                      | Negligible        |
| R9          | 19.0   | 75% or less of AQAL                         | 0.03  | <0.5                      | Negligible        |
| R10         | 24.5   | 75% or less of AQAL                         | 0.15  | <0.5                      | Negligible        |
| R11         | 20.2   | 75% or less of AQAL                         | 0.09  | <0.5                      | Negligible        |
| R12         | 19.3   | 75% or less of AQAL                         | 0.09  | <0.5                      | Negligible        |
| R13         | 18.8   | 75% or less of AQAL                         | 0.08  | <0.5                      | Negligible        |
| R14         | 18.6   | 75% or less of AQAL                         | 0.08  | <0.5                      | Negligible        |
| R15         | 18.4   | 75% or less of AQAL                         | 0.08  | <0.5                      | Negligible        |
| R16         | 19.3   | 75% or less of AQAL                         | 0.11  | <0.5                      | Negligible        |
| R17         | 19.5   | 75% or less of AQAL                         | 0.11  | <0.5                      | Negligible        |
| R18         | 18.5   | 75% or less of AQAL                         | 0.11  | <0.5                      | Negligible        |
| R19         | 15.7   | 75% or less of AQAL                         | 0.05  | <0.5                      | Negligible        |
| R20         | 18.4   | 75% or less of AQAL                         | 0.11  | <0.5                      | Negligible        |
| R21         | 20.8   | 75% or less of AQAL                         | 0.17  | <0.5                      | Negligible        |
| R22         | 20.0   | 75% or less of AQAL                         | 0.15  | <0.5                      | Negligible        |

| Receptor ID | Predicted Annual Mean NO <sub>2</sub> Concentration (µg/m <sup>3</sup> ) | Long Term Average Concentration at Receptor | Pollutant Concentration Change (µg/m <sup>3</sup> ) | % Change Relative to AQAL | Impact Descriptor |
|-------------|--|---|---|---------------------------|-------------------|
| R23         | 27.9   | 75% or less of AQAL                         | 0.39  | 1                         | Negligible        |
| R24         | 17.6   | 75% or less of AQAL                         | 0.11  | <0.5                      | Negligible        |
| R25         | 17.2   | 75% or less of AQAL                         | 0.10  | <0.5                      | Negligible        |
| R26         | 17.1   | 75% or less of AQAL                         | 0.11  | <0.5                      | Negligible        |
| R27         | 17.1   | 75% or less of AQAL                         | 0.11  | <0.5                      | Negligible        |
| R28         | 18.5   | 75% or less of AQAL                         | 0.13  | <0.5                      | Negligible        |
| R29         | 18.2   | 75% or less of AQAL                         | 0.15  | <0.5                      | Negligible        |
| R30         | 20.3   | 75% or less of AQAL                         | 0.21  | 1                         | Negligible        |
| R31         | 17.1   | 75% or less of AQAL                         | 0.12  | <0.5                      | Negligible        |
| R32         | 15.4   | 75% or less of AQAL                         | 0.08  | <0.5                      | Negligible        |
| R33         | 15.2   | 75% or less of AQAL                         | 0.08  | <0.5                      | Negligible        |
| R34         | 14.2   | 75% or less of AQAL                         | 0.07  | <0.5                      | Negligible        |

### Impact on Conclusion

The conclusions of the air quality assessment remain the same with no amendments required.