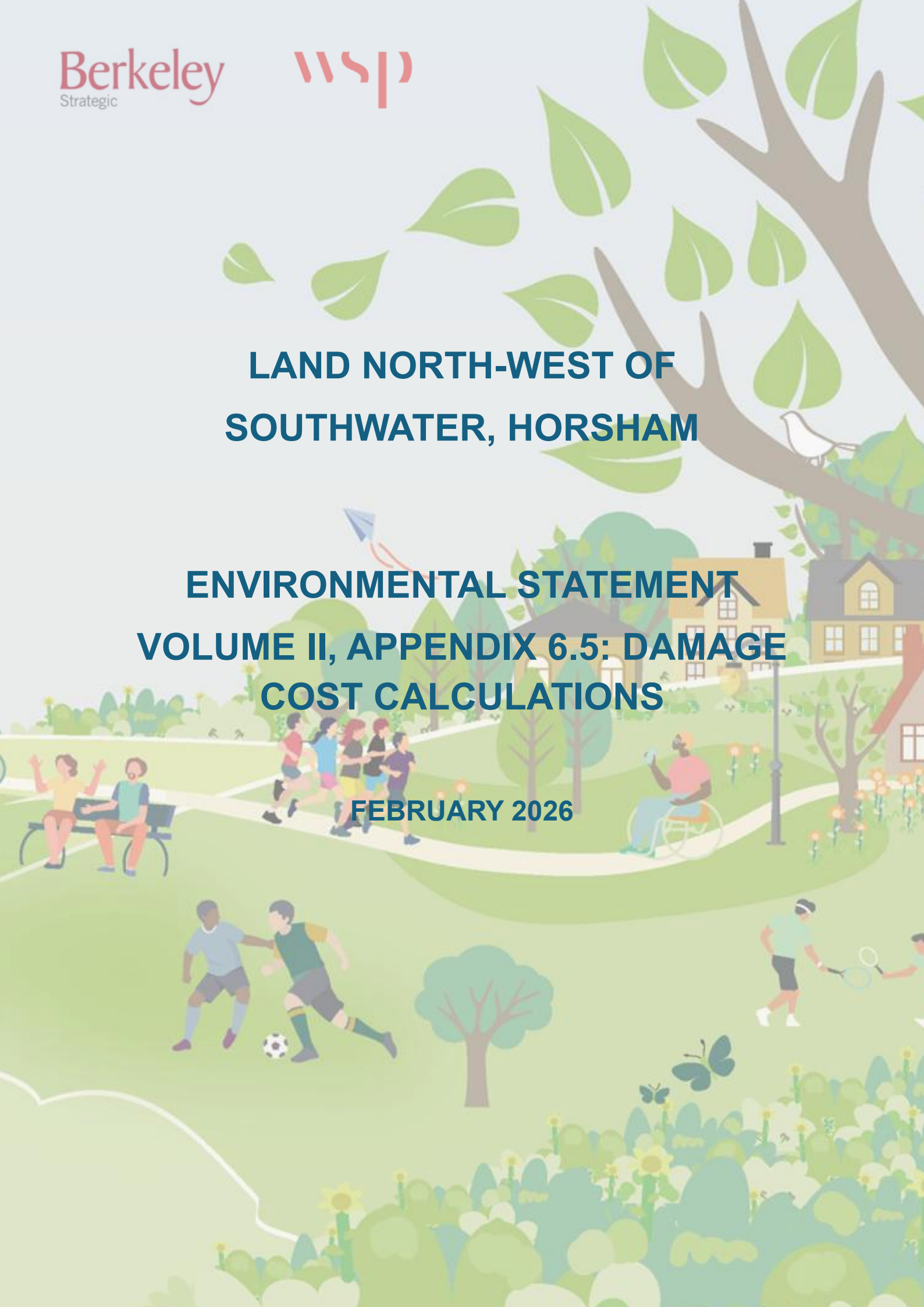


**LAND NORTH-WEST OF  
SOUTHWATER, HORSHAM**

**ENVIRONMENTAL STATEMENT  
VOLUME II, APPENDIX 6.5: DAMAGE  
COST CALCULATIONS**

**FEBRUARY 2026**





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## 6.5 DAMAGE COST CALCULATIONS

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### 6.5.1 DAMAGE COST CALCULATION

A damage cost calculation was undertaken for emissions of NO<sub>x</sub> and PM<sub>2.5</sub> from road traffic generated by the Proposed Development in accordance with HDC's Air Quality and Emission Mitigation Guidance<sup>1</sup>. The calculation is based on Defra's Air Quality Appraisal: Damage Cost Guidance<sup>2</sup>.

For the calculation of the emissions associated with the Proposed Development the generated Annual Average Daily Traffic (AADT) flow was obtained from the Project's Transport Consultant and entered into Defra's Emissions Factors Toolkit v13.1 (EFT)<sup>3</sup> to predict the change in NO<sub>x</sub> and PM<sub>2.5</sub> emissions associated with the operation of the Proposed Development. In the EFT it was assumed that the average speed of the vehicles was 50kph and that the vehicles travelled an average distance of 10km.

The following data was used in the EFT:

- Traffic flow: 5900 AADT
- % HDV: 2.68%
- Speed (kph): 50
- No of hours: 24
- Road type: Rural (not London)
- Years: 2036-2040 (inclusive)

The calculated NO<sub>x</sub> and PM<sub>2.5</sub> emissions from the EFT were input into the most recent Defra Air Quality Appraisal: Damage Costs Toolkit<sup>4</sup>. The following details were used in the control panel:

- Start year: 2036
- End year: 2040
- Price base year: 2026
- Number of pollutants: 2 (NO<sub>x</sub> and PM<sub>2.5</sub>)

The input details into the damage cost user interface are outlined in **Table 1** below, where the annual emissions in tonnes/year are from the EFT.

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<sup>1</sup> SUSSEX-air (2021) Air Quality and Emissions Mitigation Guidance for Sussex (2021). [Online] accessed via: <https://www.sussex-air.net/wp-content/uploads/2022/09/Sussex-AQ-Guidance-V.1.2-2021.pdf>

<sup>2</sup> Defra, (2025) Air Quality Appraisal: Damage Cost Guidance. [Online] accessed via: <https://www.gov.uk/government/publications/assess-the-impact-of-air-quality/air-quality-appraisal-damage-cost-guidance>

<sup>3</sup> Department for Environment, Food and Rural Affairs, (2025). Emissions Factors Toolkit. [Online] accessed via: <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/emissions-factors-toolkit/>

<sup>4</sup> Defra, (2025). Damage Cost Appraisal Toolkit. [Online] Accessed via: <https://www.gov.uk/government/publications/assess-the-impact-of-air-quality>

**Table 6-5-1: Input to the Damage Cost Appraisal Toolkit**

Operational Years	Damage Cost Type	Annual Emissions (tonnes/year)	
		NOx	PM <sub>2.5</sub>
2036	Road Transport Rural	0.963	0.376
2037		0.867	0.375
2038		0.798	0.372
2039		0.744	0.372
2040		0.703	0.372

**Table 6-5-1** shows that annual emissions for all pollutants are predicted to decrease from 2036 to 2040. This is expected as the EFT predicts that pollutant emissions from vehicles will gradually decrease for with time due to the increased uptake of cleaner, lower emission vehicles<sup>5</sup>.

**Table 6-5-2** shows the outputs from the Damage Cost Appraisal Toolkit<sup>4</sup> for each pollutant. The total damage cost for the Proposed Development is £114,630 (central present value).

**Table 6-5-2: Output from the Damage Cost Appraisal Toolkit**

Pollutant	Low sensitivity present value	Central present value	High sensitivity present value
NOx Road Transport Rural	£5,080	£23,966	£77,908
PM <sub>2.5</sub> Road Transport Rural	£31,633	£90,664	£283,671
Total	£36,713	<b>£114,630</b>	£361,579

<sup>5</sup> Whilst the EFT tool provides emissions outputs for 2031-2050, it should be noted that the input assumptions embedded within the tool for these years may not fully align with those applied for the purposes of NAEI projections. Therefore, there will be limitations associated with the emissions that have been used to calculate the emissions mitigation costs/damage costs.



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