

APPENDIX I:

CLIMATE CHANGE ADAPTATION AND MITIGATION

Table 1 Embodied Carbon in Construction Materials

Material*	Square meters (m ²)	Total Emissions (tonnes CO ₂ e)
Foundation concrete	10,000	571
Bricks	31,527	797
Concrete Blocks	39,409	2,120
Roof Tiles	20,427	207
Plasterboard	31,527	34
Glazing	4,729**	581
Asphalt***	26,707	784
Total CO₂		5,094

*These figures have been assumed based upon a typical home type from similar project examples undertaken by the applicant

**Glazing taken as 15% of brick/plasterboard area

***The total impermeable area for the Proposed Development has been taken from the Flood Risk Assessment and Sustainable Drainage Systems (SuDS) Strategy (Table 6) subtracted by the Land Use Area found in Volume 2 Chapter 5 (Table 5.1) to provide a high-level estimate of the area of the roadways being constructed.

Figure 1 Contribution of the construction materials by resource type

TOTAL kg CO₂e, - Resource types

This is a drilldown chart. Click on the chart to view details

- Concrete - 49.0%
- Masses - 27.2%
- Bricks and ceramics - 13.5%
- Glass - 9.8%
- Gypsum, plaster & cement - 0.6%

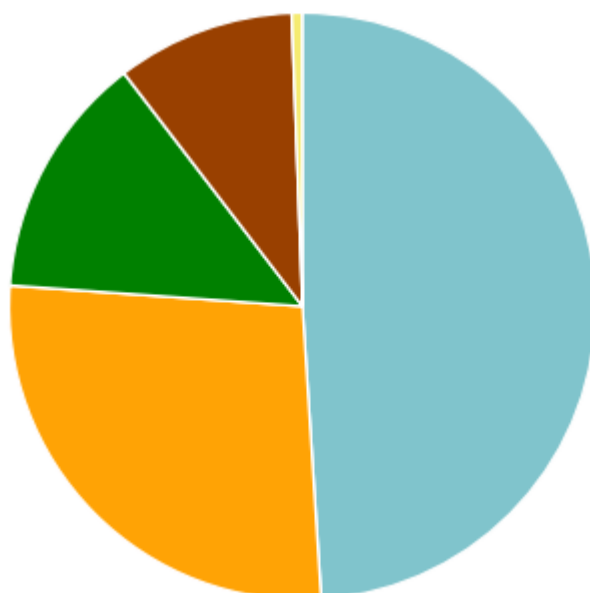


Table 2 CO₂ (kg) Resulting from Construction Traffic through the Construction Phases

Year	AADT	AADT (HDV)	Total Assumed Distance (LGV) km	Total Assumed Distance (HGV) km	Total emissions
2021	85	25	50.0	50.0	495.4
2022	85	25	50.0	50.0	494.0
2023	85	25	50.0	50.0	492.8
2024	85	25	50.0	50.0	491.7
2025	85	25	50.0	50.0	490.6
2026	85	25	50.0	50.0	489.5
Total					2954.0

Table 3 Operational Traffic Generated

Road Link	All vehicles on road link (AADT)	% HGV's	Link Length (km)
Kidmore End Road North	99	5.2	0.96
Kidmore End Road South	1624	4.3	0.30
Peppard Road North	46	6.2	0.53
Kiln Road	156	5.3	0.59
Caversham Park Road	278	5.1	0.44
Peppard Road Central	428	6.2	0.23
Buckingham Drive	856	4.8	0.27
Peppard Road South	642	5.0	1.21
Henley Road	0	7.9	0.37
Prospect Street	373	6.0	0.29
North of Kidmore End Rd North	99	5.2	49.04
North of Peppard Road North	46	6.2	49.47
North of Kiln Road	156	6.2	49.41
East of Caversham Park Road	278	5.1	49.66
South Prospect Street	373	6.0	49.71
Westfield Road (South of Peppard Road South)	268	6.3	49.82
Lowfield Road	341	5.5	49.69

Table 4 Operational Traffic CO₂ Emissions (tonnes) based upon 100-year lifecycle

Vehicle Type	CO ₂ (tonnes)
Other vehicles	311.1
HGV	129.9
Total	441.0