HAYDEN'S
Arboricultural Consultants

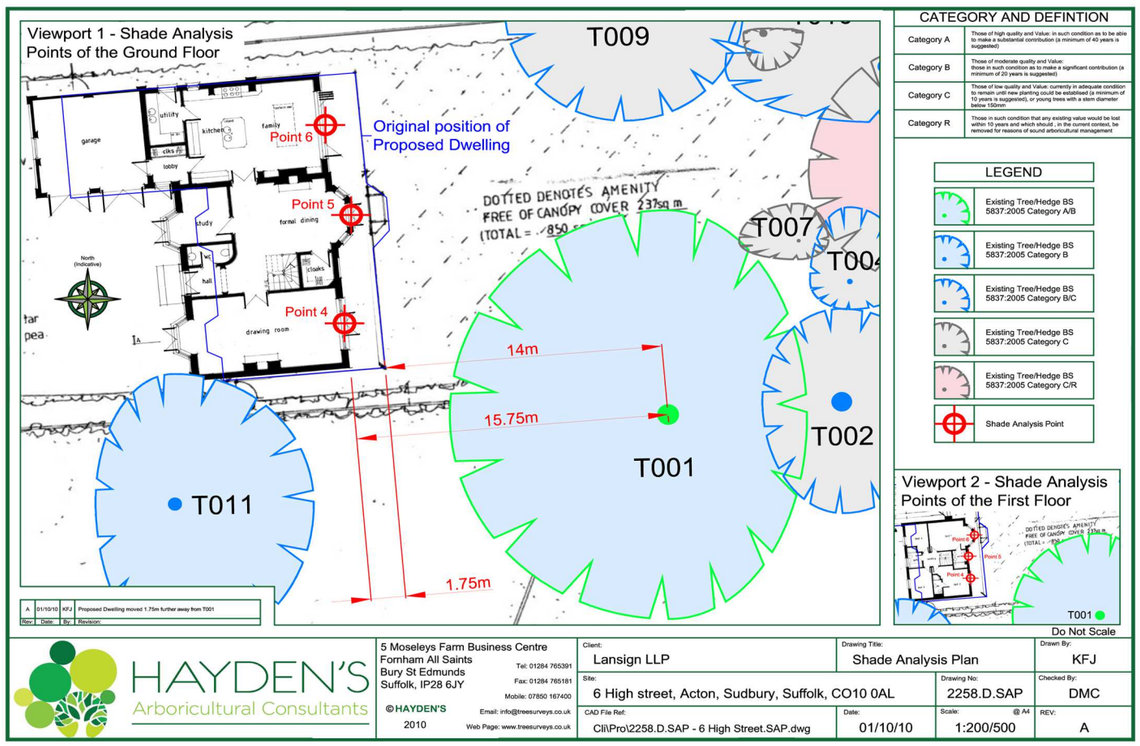
Shade Analysis

Over recent years the effect of shading caused by trees on prospective development has become a regular part of the Arboricultural Implication Assessment as local authorities seek to ensure the sustainability of tree retention as part of prospective development. Shading, as part of the assessment of trees and development first became an issue when it was raised in BS5837:2005 as a potential constraint to developmentt. This has been expanded upon in paragraph 5.3 of BS5837:2012.

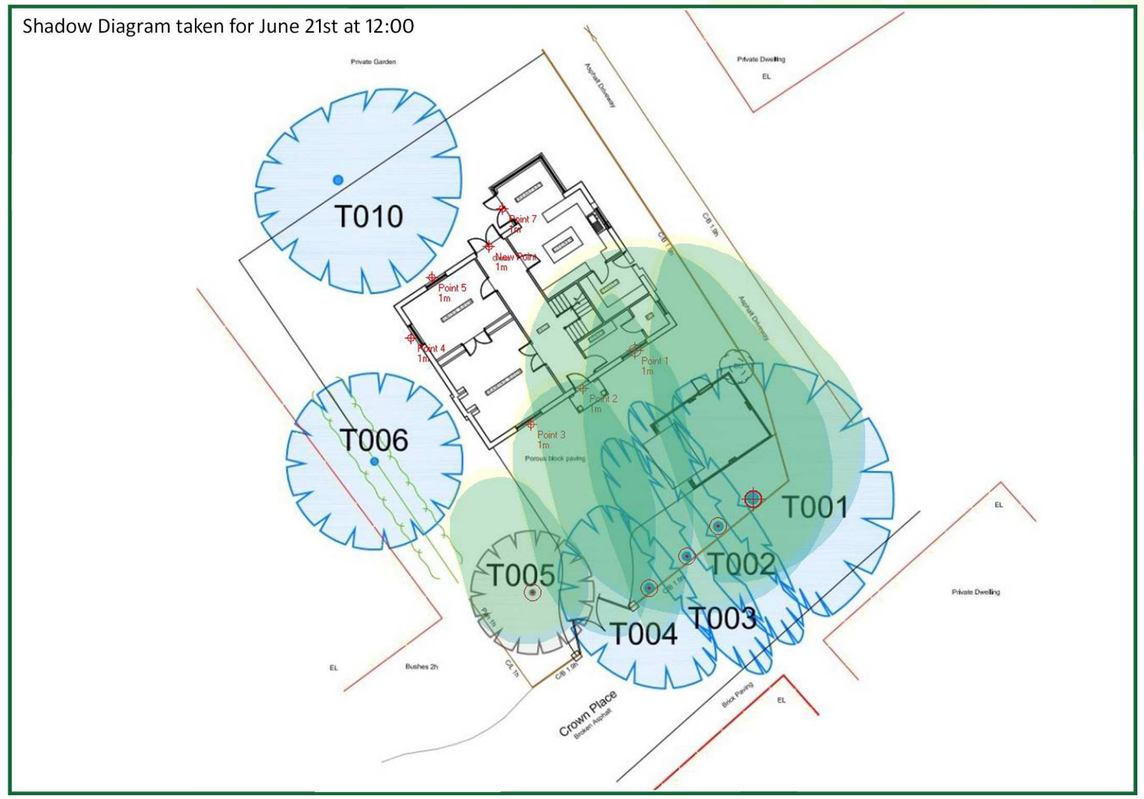
Since this became an issue in 2005 we have developed a detailed and defendable shade analysis program, capable of breaking down the shade patterns of trees on a site into 5 minute sectors, with the ability to provide both static and animated shade diagrams. To date this has not been successfully challenged. The program is based upon tree data collected on site and BS 8206-2:1992 - Lighting for building, and BRE Digest 209: Site Layout Planning for Daylight and Sunlight.

If shading is raised as a concern by the local planning authority we can provide a comprehensive shade analysis that will enable us to advise you on the validity of the concerns in accordance with the very clear parameters provided within BS 8206-2:1992 Lighting for buildings and the BRE Digest 209: Site Layout Planning for Daylight and Sunlight.

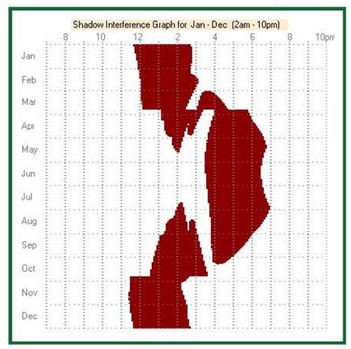
An example of a Hayden's Shade Analysis Plan



Shadow Diagram taken for June 21st at 12:00



Shadow Interference Graph



An example of a Shade Analysis Data Sheet

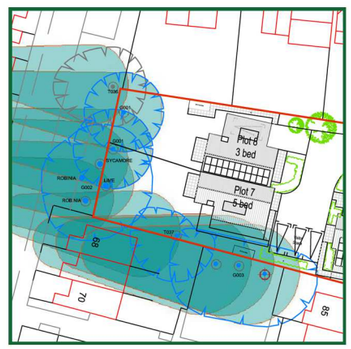
Sunlight/ Shading Forecast: 36 South Avenue, Norwich, Norfolk - Point 01 - Bed 1

This analysis has been undertaken on deciduous & evergreen trees.

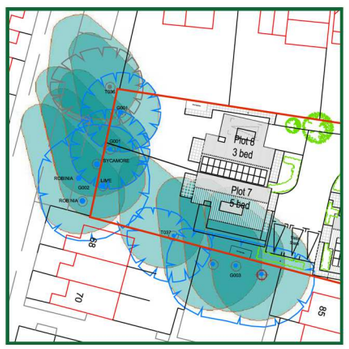
A	B	C	D	E	F	G	H	I
Months	Time of shade	Hours of Shade	Total possible sunlight hours (BRE 209)	Total Probable Sunlight Hrs (BRE 209)	Total Probable Sunlight Hrs as % of Possible Sunlight Hrs [(E/D)x100)]	Percentage of possible shade [(C/D)x100]	Percentage of Total Possible Sunlight (100-G)	Percentage of Probable sunlight (HxF)
January	11.50 - 14.45	0.2916667	7.92	1.58	19.95%	3.68	96.32	19.21
February	12.05 - 15.00	0.2916667	9.16	2.1	22.93%	3.18	96.82	22.20
March	12.10 - 14.30 & 15.05 - 16.35	0.9666667	10.89	3.81	34.99%	8.88	91.12	31.88
April	13.20 - 14.25, 14.35 - 14.50 & 15.45 - 18.20	3.75	12.93	4.34	33.57%	29.00	71.00	23.83
May	15.30 - 18.35	3.0833333	14.83	6.21	41.87%	20.79	79.21	33.17
June	15.35 - 18.25	2.8333333	16.31	7.04	43.16%	17.37	82.63	35.67
July	15.40 - 18.45	3.0833333	16.56	5.98	36.11%	18.62	81.38	29.39
August	13.25 - 14.30, 14.40 - 14.55 & 15.50 - 18.25	3.9166667	15.44	5.82	37.69%	25.37	74.63	28.13
September	12.55 - 15.15 & 15.50 - 17.55	3.8333333	13.6	5.06	37.21%	28.19	71.81	26.72
October	12.35 - 15.35	0.3	11.65	3.54	30.39%	2.58	97.42	29.60
November	11.30 - 14.20	0.2833333	9.68	1.94	20.04%	2.93	97.07	19.45
December	11.35 - 14.35	0.3	8.2	1.45	17.68%	3.66	96.34	17.04
							Summer %	29.48
							Winter %	23.23
							Overall %	26.36

BS 8206-2:1992 Lighting for building — Para 5.3 Sunlight Duration

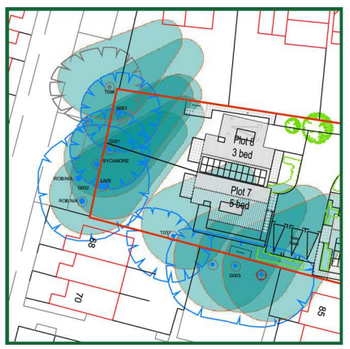
Shadow cast on 21st June at 09:00



Shadow cast on 21st June at 12:00



Shadow cast on 21st June at 15:00



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