

Marble Hill House

Parking Response Note

November 2018

172807/N03

Introduction

1. This Technical Note is provided in response to a query from the planning officer regarding the on-site parking accumulation presented in the Transport Assessment (Tables 6.2 and 6.3). Whilst the highways officer was completely satisfied on all highways matters in his consultation response dated 11 October 2018, the planning officer has raised a query in relation to the arrival and departure profile of visitors to the house, and the correlation between these and the proposed house opening times.
2. The parking accumulation presented within the Transport Assessment was based on the profile of existing vehicle arrivals and departures at the site throughout the day. For future park visitors it is considered appropriate to apply the profile of existing vehicle arrival and departures, however for house visitors it is recognised that these will have longer durations of stay and therefore the existing departure profile only was amended to reflect this.
3. This methodology for estimating future parking accumulation is considered robust as it is based on the observed pattern of vehicle movements at the site and satisfactorily reflects the make-up of visitors to the site, with the majority being park visitors (77%) and house visitors making up only 23% of daily trips to the site.
4. Notwithstanding this, it is recognised that this approach results in the parking accumulation displaying house visitor arrival and departures outside of the opening hours of the house (10:00-17:00). Whilst this may occur in practice since some house visitors will also chose to visit the park and/or café as part of their trip and so may arrive before or leave after the house is open, these trips are likely to make up only a small proportion of house visitors and therefore a revised parking accumulation exercise has been undertaken as a sensitivity test and is set out below.
5. The sensitivity test parking accumulation has been based on the high season August weekend day forecast visitor trips since these represent the maximum number of estimated trips in a single day. This parking accumulation was originally presented at Table 6.3 of the Transport Assessment. On all other days of the year, including the high season average weekend day presented in Table 6.2, the number of vehicle trips is lower, and therefore parking accumulations will be lower.

Revised Parking Accumulation

6. Again, for park visitors it is considered appropriate to use the existing profile of vehicle arrivals and departures at the site. For house visitors, a revised parking profile has been calculated based on the existing arrival and departure profile between 10:00-17:00 only (the proposed opening hours of the house). As previously, the departure profile has been amended by 1 hour to reflect this on the basis of advice from English Heritage. Consequently, all house visitor departures are assumed to occur between the period 11:00-18:00.
7. This revised house visitor profile and resulting parking accumulation base on a high season August weekend day (i.e. the worst case) is set out in **Table 1** below.

Table 1: Revised Parking Accumulation- High Season August Weekend Day

Time	Park Visitor Profile		House Visitor Profile		Arrivals	Departures	Accumulation	Occupancy
	Arr	Dep	Arr	Dep				
06:00					0	0	2	3%
07:00	4%	2%			16	8	10	13%
08:00	10%	4%			39	16	33	44%
09:00	16%	13%			62	51	45	59%
10:00	7%	8%	11.5%		40	31	54	71%
11:00	15%	15%	24.6%	12.7%	86	73	68	89%
12:00	11%	12%	18.0%	23.8%	63	74	57	75%
13:00	11%	8%	18.0%	19.0%	63	53	68	89%
14:00	4%	4%	6.6%	12.7%	23	30	61	80%
15:00	4%	6%	6.6%	6.3%	23	31	53	70%
16:00	4%	6%	6.6%	9.5%	23	34	42	55%
17:00	5%	4%	8.2%	9.5%	29	26	44	58%
18:00	3%	4%		6.3%	12	23	33	44%
19:00	5%	8%			19	31	21	28%
20:00	1%	6%			4	23	2	3%
21:00					0	0	2	3%
Total	100%	100%	100%	100%	503	503		

*Starting occupancy of 2 vehicles has been assumed.

8. **Table 1** demonstrates that based on the revised house visitor profile, a maximum car park occupancy of 89% (68 spaces) is predicted. This represents a reduction of maximum occupancy of four vehicles when compared with the parking accumulation presented at Table 6.3 of the Transport Assessment. This maximum occupancy is within the capacity of

the car park and less than that in the Transport Assessment already accepted by the highway officer. It can therefore be concluded that the car park is sufficient to accommodate all forecast vehicle trips.

9. This is considered an appropriate alternative methodology to estimate parking accumulation on-site as again, it is based on observed vehicle movements at the site. It is however noted that the sensitivity test profile of house arrivals and departures results in the majority of trips being undertaken during the period 10:00-14:00, with fewer trips after this time.
10. To ensure on-site parking accumulation is considered thoroughly, an alternative sensitivity test has been undertaken using a “flat” arrival and departure profile for house visitors. This flat profile results in an equal distribution of arrivals and departures throughout the period during which the house is open. The results of this sensitivity test are presented in **Table 2** below.

Table 2: Sensitivity Test Parking Accumulation- High Season August Weekend Day

Time	Park Visitor Profile		House Visitor Profile		Arrivals	Departures	Accumulation	Occupancy
	Arr	Dep	Arr	Dep				
06:00					0	0	2	3%
07:00	4%	2%			16	8	10	13%
08:00	10%	4%			39	16	33	44%
09:00	16%	13%			62	51	45	59%
10:00	7%	8%	12.5%		41	31	55	73%
11:00	15%	15%	12.5%	12.5%	73	73	55	73%
12:00	11%	12%	12.5%	12.5%	57	61	51	67%
13:00	11%	8%	12.5%	12.5%	57	45	63	83%
14:00	4%	4%	12.5%	12.5%	30	30	63	83%
15:00	4%	6%	12.5%	12.5%	30	38	55	73%
16:00	4%	6%	12.5%	12.5%	30	38	47	62%
17:00	5%	4%	12.5%	12.5%	34	30	51	67%
18:00	3%	4%		12.5%	12	30	33	44%
19:00	5%	8%			19	31	21	28%
20:00	1%	6%			4	23	2	3%
21:00					0	0	2	3%
Total	100%	100%	100%	100%	503	503		

*Starting occupancy of 2 vehicles has been assumed.

11. Based on this flat profile, it is estimated that car park occupancy will peak at 83% of available capacity, 63 vehicles. This is again within the capacity of the car park and less than the occupancy level assessed in the Transport Assessment and already accepted by the highway officer. It is therefore concluded that the car park will have sufficient capacity to accommodate all forecast vehicle trips.
12. It is however recognised that this flat profile does not account for any potential peaks in visitor arrivals and departures during the day and therefore a final 'worst case' sensitivity test has been undertaken assuming 20% of house arrivals and departures occur during each hourly period. This results in an over-estimate of the total number of vehicle trips associated with house visitors by 160% across the day however provides a robust analysis of the ability of the on-site car park to the increase in vehicle trips predicted. This further sensitivity test is presented in **Table 3** below.

Table 3: Further Sensitivity Test Parking Accumulation- High Season August Weekend Day

Time	Park Visitor Profile		House Visitor Profile		Arrivals	Departures	Accumulation	Occupancy
	Arr	Dep	Arr	Dep				
06:00					0	0	2	3%
07:00	4%	2%			16	8	10	13%
08:00	10%	4%			39	16	33	44%
09:00	16%	13%			62	51	45	59%
10:00	7%	8%	20%		50	31	64	84%
11:00	15%	15%	20%	20%	81	81	64	84%
12:00	11%	12%	20%	20%	66	69	60	79%
13:00	11%	8%	20%	20%	66	54	71	94%
14:00	4%	4%	20%	20%	38	38	71	94%
15:00	4%	6%	20%	20%	38	46	64	84%
16:00	4%	6%	20%	20%	38	46	56	74%
17:00	5%	4%	20%	20%	42	38	60	79%
18:00	3%	4%		20%	12	38	33	44%
19:00	5%	8%			19	31	21	28%
20:00	1%	6%			4	23	2	3%
21:00					0	0	2	3%
Total	100%	100%	160%	160%	571	571		

*Starting occupancy of 2 vehicles has been assumed.

13. **Table 3** demonstrates that whilst the number of vehicle trips to the site is a substantial over-estimate, the car park at the site has sufficient capacity to accommodate 20% of house trips arriving and departing the site during each hourly period, alongside predicted park visitors. A

maximum occupancy of 94% (71 spaces) is predicted in these extreme circumstances which will not happen in practice.

14. This 'worst case' sensitivity test is considered extremely robust since it significantly over-estimates the number of house trips occurring on a daily basis, but confirms that the car park has sufficient capacity to serve the proposed development.

Conclusions

15. This Technical Note has presented a revised parking accumulation estimate based on an amended profile of house visitors to better align with the proposed opening hours. The profile of arrivals and departures of house trips has been derived from the existing vehicle movements at the site during the relevant hours (10:00-17:00). This revised parking accumulation demonstrates that the existing on-site car park has sufficient capacity to accommodate the forecast vehicle trips generated on a high season August weekend day, the busiest day of the year, and therefore will also be sufficient for the remainder of the year.
16. Alongside this, two sensitivity tests have been presented using alternative house visitor profiles to ensure that the consideration of the capacity of the on-site car park is robust. These sensitivity tests demonstrate that even assuming a significant over-estimate of house trips during an August weekend day, there is sufficient capacity to accommodate forecast demand.
17. On the basis of the above it is considered that the conclusions of the Transport Assessment that the on-site car park has sufficient capacity to accommodate forecast demand remains valid. The analyses presented above do not affect any other elements of the Transport Assessment and it is noted that no further queries have been raised by either the planning officer, or the highways officer who has confirmed that there are no highways objections to the proposal subject to the inclusion of appropriate conditions.