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1.0 Introduction

1.1 Motion has been instructed by Great Wolf Resorts (the parent company of Great Wolf Lodge) to advise on highways and transport matters associated with development proposals for a new family resort at a site in Chesterton near Bicester. This process has been managed by the Managing Director Phil Bell, who will also be the expert witness giving evidence in relation to the Appeal.

1.2 Phil Bell holds a First-Class Bachelor of Engineering Degree in Civil Engineering and a Royal Society for the Prevention of Accidents (RoSPA) accreditation in advanced road safety engineering. He is a member of the Institute of Logistics and Transport and of the Institution of Highways and Transportation. He has over 30 years' experience in the field of transportation planning, traffic engineering and highway safety. His experience includes a period in the Development Studies Department of Wootton Jeffreys Consultants. Subsequently, he worked for Mayer Brown for over 14 years. He was jointly responsible for setting up Motion Consultants Limited in August 2004.

1.3 Motion specialises in advising developers and professionals in the development field on all matters concerning transportation, highways, traffic and road safety. Our clients comprise a wide variety of private and public sector organisations.

Planning History

1.4 A planning application was submitted to Cherwell District Council (CDC) in November 2019 (Planning Ref: 19/02550/F) for:

"Redevelopment of part of golf course to provide new leisure resort (sui generis) incorporating waterpark, family entertainment centre, hotel, conferencing facilities and restaurants with associated access, parking and landscaping."

1.5 The planning application was accompanied by a supporting Transport Assessment, Framework Travel Plan, Framework Delivery and Servicing Management Plan and subsequent Technical Notes.

1.6 That planning application was refused by CDC's Planning committee in March 2020 and the Decision Notice included three reasons for refusal relating to highways and transport matters. These reasons can be summarised as follows:

- Reason for refusal 2 relates to the location of the site, its sustainability and the accessibility of the site by non-car modes of transport;
- Reason for refusal 3 relates to the traffic impact of the development on the local highway network and, in particular, the B430/ B4030 crossroad junction in Middleton Stoney; and,
- Reason for refusal 4 relates to the effect of the development on the character and appearance of the local area as a result of design, appearance and vehicle movements.

1.7 The applicant has confirmed its intention to appeal the application decision in a letter to CDC dated 25th June 2020 and, as such, is seeking further information and clarification from Oxfordshire County Council (OCC) in relation to each of the three reasons for refusal identified above. This Note summarises Motion's response to the each of the three reasons for refusal so far as they concern matters relating to highways and transport.

1.8 Motion have submitted a separate Technical Note on Highways Matters to OCC in July 2020, subsequently updated in September 2020, seeking further information and clarification from OCC in relation to the three reasons for refusal identified above. Motion have been in ongoing discussion with OCC, as local Highway Authority, regarding the above matters both before and after the determination of the planning application.

1.9 A meeting was held between Motion and OCC on 4th September 2020 and the remainder of this document provides a summary of the current position of Motion and OCC.

2.0 Reason for Refusal 2 – Sustainability

2.1 Reason for refusal 2 relates to the location of the site, its sustainability and the accessibility of the site by non-car modes of transport.

2.2 This reason for refusal is unjustified. The site is sustainable and accessible by non-care modes of transport.

2.3 In order to enhance access to the site via sustainable transport modes, a package of measures has already been discussed with OCC to include pedestrian and cycle infrastructure improvements, a dedicated shuttle bus service and contribution to a new bus service linking the site to Bicester town centre.

2.4 The application for the Proposed Development was accompanied by a comprehensive package of sustainable transport improvements and measures which had been discussed in detail and agreed between the applicant and OCC including:

- A package of pedestrian and cycle improvements in the vicinity of the site including a new foot/cycleway along the southern side of the A4095 connecting from the site to Chesterton;
- Diversion and enhancement of the existing Public Right of Way (PRoW) 161/1 which routes across part of the site;
- A new length of footway on the southern side of the A4095 connecting from the site to the motorway overbridge and continuing west to connect PRoW 161/6 with 161/11
- A new length of footway at the A4095 connection to PRoW 161/1 to assist pedestrians crossing between the PRoW and existing footway;
- Two new lengths of footway on Green Lane, either side of The Hale to connect PRoW 161/6 with Chesterton;
- A contribution to cycle improvements between the application site and Bicester;
- A S106 contribution of £1.6million to fund a new public bus service linking the site to Bicester town centre and railway stations, as per OCC consultation response dated 10th January 2020;
- A S106 contribution to improvements to the public bus stop in Chesterton;
- A dedicated shuttle bus service for the development;
- A contribution to a coordinated signage strategy for the development;
- Sustainable day passes, offering discounted day access for local residents that use sustainable modes of travel to access to site;
- On-site cycle parking;
- Provision of electric vehicle charging facilities;
- A Travel Plan; and,
- A Delivery and Servicing Management Plan.

2.5 It is understood that, on the basis of the package of sustainable transport improvements and measures proposed as part of the development, OCC has no objection to the Great Wolf development on the basis of accessibility or sustainability. OCC confirmed verbally at the meeting on 4th September 2020 that they have no objection to the Great Wolf development on the grounds of accessibility of sustainability.

2.6 In any event, as identified in the material supporting the Planning Application, Motion consider that the Proposed Development is accessible by foot, cycle and public transport and offers a genuine choice of alternative travel modes to the private car and is a sustainable site.

3.0 Reason for Refusal 3 – Traffic Impact – Middleton Stoney

3.1 Reason for refusal 3 relates to the traffic impact of the development on the local highway network and, in particular, the B430/ B4030 crossroad junction in Middleton Stoney.

3.2 This is the only junction for which OCC had expressed any outstanding concern at the time of determination of the planning application. OCC were and remain satisfied that the development will not have a material traffic impact on any other junction on the local highway network.

3.3 The applicant has sought confirmation that the only junction for which OCC had an outstanding objection, at the time of determination of the planning application, was the B430/ B4030 Middleton Stoney junction and OCC are satisfied that the development will not have a material traffic impact on any other junction on the local highway network. OCC confirmed verbally at the meeting on 4th September 2020 that they only junction for which they had raised an objection at the time of determination of the planning application was the B430/B4030 junction.

B430/ B4030 Middleton Stoney junction

3.4 At the time of refusal of planning permission discussions were ongoing between Motion and OCC in relation to the effect of the development proposals at the B430/B4030 Middleton Stoney junction and Motion had submitted proposals for a mitigation scheme at the junction in a Technical Note dated 27th February 2020 and subsequent email correspondence on the 6th and 12th March 2020. Motion have submitted a separate Technical Note on Highways Matters to OCC in July 2020 which has been subsequently updated in September 2020, providing further information and junction capacity modelling in relation to the B430/B4030 Middleton Stoney junction.

Vehicle Trips and Distribution

3.5 Based on the analysis and routeing of vehicle presented in the submitted Transport Assessment the proposed development will result in an increase of 34 vehicle trips at this junction during the morning peak hour and 46 vehicles during the evening peak hour. This is equivalent to less than one additional vehicle movement per minute during the morning and evening peak hours. The change in traffic flow at the B430/B4030 junction as a result of the Proposed Development will be imperceptible at just 1.6% in the morning peak hour and 2.5% in the evening peak hour. Motion therefore maintain its expert judgment that the Great Wolf development proposals do not result in a material change in vehicle trips at the Middleton Stoney junction and will not result in a material impact on the operation of the junction.

3.6 Additionally, and without prejudice to that, the applicant has agreed to provide a contribution towards a coordinated signage strategy for the development with the level of the contribution to be determined subject to further details of the strategy (to be secured as part of a section 106 agreement). If OCC as any residual concerns regarding the operation of the B430/B4030 crossroad in Middleton Stoney then the signage strategy can be developed in a manner that seeks to direct drivers away from the B430 corridor and utilise other routes to access the site. In this regard it is noteworthy that OCC has full control over the signage strategy associated with the proposed development.

3.7 The analysis presented in the Transport Assessment assumed that all vehicles approach the site from the M40 (north) and A43 will route via the B430 to access the site. Consideration has been given to potential alternative

routes for vehicles between the application site and the M40 (north) and A43. One potential signage strategy would be to direct drivers approaching from the A43, along the B4100 southbound towards Bicester and then along the A4095 towards the site. This is currently the signed route to Bicester from the A43 and does not result in a material change in journey time between the A43 and the site in comparison with the B430 route. The routeing considered in the Transport Assessment and the potential alternative route are presented in a separate Technical Note on Highways Matters submitted to OCC in July 2020 and subsequently updated in September 2020.

3.8 Utilising this alternative signage strategy would result in 16 fewer two-way vehicle trips routeing through the B430/B4030 junction during the morning peak hour, and 21 fewer two-way vehicle trips during the evening peak. Table 3.1 summarises the change in vehicle trips should vehicles route via the B4100.

	Traffic Movements at Middleton Stoney Signals		
	TA Flows	Adjusted Flows	Change in Flows
AM Peak	34	18	-16
PM Peak	46	25	-21

Table 3.1 Change in Vehicle Trips at Middleton Stoney

3.9 The analysis shows that this signage strategy could reduce vehicle movements on the B430 to 18 vehicles in the morning peak hour and 25 vehicles in the evening peak hour, equivalent to one vehicle every 3-4 minutes and one vehicle every 2-3 minutes respectively. It is evident that the signage strategy could be developed in a manner to seek to minimise the number of trips associated with the development using the B430 and that this could be achieved via the strategic signage strategy for which the applicant has committed to provide a S106 contribution.

Junction Capacity - Middleton Stoney

3.10 Again, without prejudice to the points above and notwithstanding the above position with regard to the immaterial impact of the development proposals at the Middleton Stoney junction, the applicant has proposed a highway mitigation scheme at the junction in any event and this was presented in a Technical Note dated 27th February 2020 and subsequent email correspondence with OCC.

3.11 The proposed scheme of works has been prepared and is presented at Drawing 1803047-17, included in the Technical Note on Highways Matters submitted to OCC in July 2020 and updated in September 2020. The proposed works would be in addition to those consented as part of the Heyford Park Phase 1 and can be accommodated within the existing adopted highway at the junction. The works comprise the provision of an additional northbound dedicated left turn lane at the junction along with minor changes to the south-eastern kerbline and road markings and adjustments to the signal timings at the junction.

3.12 OCC provided some commentary on a previous iteration of the proposed highway mitigation works in email correspondence dated 10th March 2020. In response to those comments from OCC the proposed highway mitigation scheme was updated and the following summary of the response to OCC's comments is provided:

- OCC queried whether it is likely that all vehicles routeing north will switch to the central ahead lane in advance of the stopline and some northbound traffic may remain in the nearside left turn lane and this could result in vehicles merging after the stopline. However, the mitigation works include changes to the road markings in advance of the northbound stopline. The amended road markings will mean that the straight-ahead northbound lane is a continuous lane, with the new turning lane towards the B4030 west filtering to the left. Vehicles continuing northbound on the B430 will not be required to change lanes and only the turning traffic (left and right) will be required to switch into the respective turning lanes. On that basis it is considered that the majority of vehicle will be utilising the correct lane at the stopline and it is unlikely that vehicles will be required to merge or change lanes after the stopline. Furthermore, it is considered that signage in the form of dedicated lane advance direction signs (as set out at Section 6 of Traffic Signs Manual Chapter 7) can be installed in advance of the junction to advise drivers about the appropriate lane at the stopline and detail of signage will be provided at the detailed design stage;

- OCC asked whether queuing vehicles in the northbound straight-ahead lane could block vehicles entering the proposed new left turn lane. By way of response, it has been noted that the junction capacity modelling has been undertaken using LinSig and this assesses the utilisation of the proposed flared left turn lane based on the proposed dimensions and it adjusts the utilisation of that lane based on expected queuing in the central lane and the potential for queuing to block access to the left turn filter lane. On that basis, the junction modelling presented in this Note reflects the proposed layout and the likely utilisation of both ahead and the new left turning lane;

- As requested by OCC, swept path analysis has been undertaken for HGVs and articulated vehicles routeing from the B430 east to west and vice versa and this is shown at Drawing 1803047-TK62, within the Technical Note on Highways Matters submitted to OCC in July 2020 and in September 2020. The swept path analysis demonstrates that a 10 metre rigid vehicle and 16.5 metre articulated vehicle can manoeuvre appropriately from the B430 east to the B430 west and vice versa and will not conflict with the proposed pedestrian refuge; and,

- Given the distance of the junction from the application site, the Great Wolf development proposals will not result in a change in the number of pedestrian movements at the junction. The proposed new pedestrian crossing point and pedestrian refuge showing on Drawing 1803047-17 will result in a significant betterment over current pedestrian facilities at the junction. The existing pedestrian crossing is located to the south of the junction, which is not on the desire line for pedestrians crossing between the majority of local dwellings and local services, such as the local pub. At present, and under the consented Heyford Park Phase 1 mitigation scheme, pedestrians are required to cross the width of the B430 in one movement with no refuge in the centre of the carriageway. Furthermore, the existing pedestrian crossing facility is positioned in advance of the northbound stopline, such that pedestrians are currently required to walk in between queueing vehicles. The proposed pedestrian crossing arrangements, detailed at Drawing 1803047-17, provide a new pedestrian refuge allowing pedestrians to cross the B430 in two movements and wait safely in the centre of the carriageway. The arrangement also moves the pedestrian crossing point from a location in advance of the northbound stopline, to within the junction. This means that pedestrians are no longer required to cross in between queuing traffic and this is a safer arrangement. Furthermore, the proposed pedestrian crossing point and refuge provide the opportunity for pedestrians to cross the northbound and southbound carriageway of the B430 during traffic-free phases within the junction signal plan. For example, a pedestrian can cross the southbound carriageway of the B430 during the green phase for the B4030 Bicester Road and there will be no conflict between pedestrians and vehicle movements. Similarly, a pedestrian can cross the northbound carriageway during the green phase for the B4030 Heyford Road and there will be no conflict between pedestrians and vehicles. In comparison, under the current pedestrian crossing arrangements pedestrians crossing the B430 will always be in conflict traffic movements either on the B430 or turning from the B4030. In addition, the new pedestrian crossing point and refuge is located within the junction and this is on the desire line for pedestrians routeing between local dwellings and services and is therefore considered more convenient for pedestrians.

3.13 OCC requested that a Stage 1 and 2 Road Safety Audit were undertaken on the proposed highway mitigation works. It is not normal practice for a Stage 2 Road Safety Audit to be undertaken at the planning stage as this requires the detailed design of the highway works. The Stage 2 Road Safety Audit is therefore to be undertaken as part of the detailed design of the highway works, should planning consent be granted.

3.14 Gateway TSP have undertaken a Stage 1 Road Safety Audit in relation to the works shown on Drawing 1803047-17 and this is included in the Technical Note on Highways Matters submitted to OCC in July 2020 and updated in September 2020 and raises no material concerns with the proposed mitigation scheme and all comments raised in the Audit can be addressed as part of the detailed design of the mitigation works.

Junction Capacity and Heyford Park Phase 2 Mitigation

3.15 The assessment of the Middleton Stoney junction includes consideration of traffic associated with the Heyford Park Phase 2 development (Planning Ref: 18/00825/HYBRID). At the time of preparing the Transport Assessment for the Great Wolf application, the Heyford Park development had not proposed any highway mitigation works at the Middleton Stoney junction, despite that development resulting in 329 additional vehicle

trips at the junction during the morning peak hour and an additional 272 additional vehicles trips at the during the evening peak hour.

3.16 Since determination of the Great Wolf application, a Transport Assessment Addendum (TAA) has been submitted for the Heyford Park Phase 2 development. This includes mitigation measures associated with the impact of that development on the B430/ B4030 Middleton Stoney junction. The mitigation measures proposed as part of the Heyford Park Phase 2 scheme include no changes to the highway arrangement at the Middleton Stoney junction, in comparison with a scheme of highway works consented as part of Heyford Park Phase 1 and instead comprise:

- The introduction of a bus gate on the B4030 west arm of the junction and associated changes in the priority of the B4030/Unnamed Road Junction (west of Middleton Stoney). The Heyford Park TAA includes two options from the bus gate; one that provides a full restriction and one that provides a southbound only restriction. It is understood that from the TAA and subsequent response from OCC that the full restriction is the preferred scenario;
- Introduction of a weight restriction on the B4030 east arm to reduce the number of HGVs using the junction; and,
- A package of sustainable transport improvements including improved bus services between Heyford Park and Bicester, a cycle route between Heyford Park and Bicester and a Travel Plan which result in modal shift away from car usage and reduce the vehicle trip generation of the Heyford Park development proposals.

3.17 Motion has reviewed the information provided within the Heyford Park TAA to ascertain the change in traffic movements as a result of the package of mitigation measures proposed. For consistency with the assessment as part of the Heyford Park TAA, Motion have extracted the 'With Development' scenario traffic flows from the Heyford Park TAA analysis. These traffic flows are shown at Figure 3.2 and 3.3, included in the Technical Note on Highways Matters submitted to OCC in July 2020 and updated in September 2020, for the weekday morning and evening peak periods and form the baseline flows for the purpose of this assessment. These traffic flows include all traffic associated with the Heyford Park Phase 1 & 2 developments, along with any changes to traffic movements at the Middleton Stoney as a result of the bus gate and restrictions proposed to be introduced by the Heyford Park development.

3.18 Figures 3.4 and 3.5, included in the Technical Note on Highways Matters submitted to OCC in July 2020 and updated in September 2020, show the vehicle movements associated with the proposed Great Wolf development during the weekday morning and evening peak periods. These have been added to baseline Heyford Park traffic flows at the Middleton Stoney junction. Figures 3.6 and 3.7, show the expected vehicle movements at the Middleton Stoney junction inclusive of the Heyford Park Phase 2 and Great Wolf developments during the weekday morning and evening peak period.

3.19 Table 3.2 shows the operation of the B430/B4030 signalised crossroads including the Heyford Park Phase 1 and Phase 2 developments. The assessment includes consideration of the highway improvements works at the Middleton Stoney junction consented as part of the Heyford Park Phase 1 development and includes for the changes to traffic movements at the junction as a result of the mitigation works proposed for Heyford Park Phase 2. Full model output files are included in the Technical Note on Highways Matters submitted to OCC in July 2020 and updated in September 2020.

Approach	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
B430 (south)	107.3%	107	92.7%	36
B4030 (east)	106.7%	52	92.1%	24
B430 (north)	75.0%	11	92.5%	27
B4030 (west)	86.7%	5	44.8%	2

Table 3.2 B430/B4030 Signalised Crossroad – 2026 Baseline with Heyford Park Phase 1 & 2

3.20 Table 3.2 demonstrates that the junction is likely to operate within theoretical capacity (under 100% DoS) during the evening peak hour but over theoretical capacity (in excess of 100% DoS) during the morning peak hour, in the baseline situation.

3.21 Table 3.3 summarises the operation of the B430/B4030 signalised crossroads in the 2026 'With Development' scenario. The analysis includes traffic associated with the proposed Heyford Park Phase 1 & 2 developments, along with the mitigation works associated with both Heyford Park Phase 1 & 2 development. The assessment includes consideration of vehicle trips associated with the Great Wolf development and the mitigation works shown at Drawing 1803047-17.

Approach	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
B430 (south)	108.7%	117	92.8%	37
B4030 (east)	107.8%	56	95.4%	26
B430 (north) (ahead, left)	37.5%	9	67.4%	20
B430 (north) (Right)	75.0%	2	92.9%	8
B4030 (west)	86.7%	5	44.8%	2

Table 3.2 B430/B4030 Signalised Crossroad – 2026 Baseline with Heyford Park Phase 1 & 2

3.22 Table 3.2 demonstrates that with the traffic associated with the proposed Great Wolf development and associated mitigation, the junction will continue to operate within theoretical capacity during the evening peak hour. In the morning peak hour, the junction is shown to continue to operate as before in excess of theoretical capacity with the proposed Great Wolf development and mitigation in place.

3.23 Accordingly, whilst Motion do not consider there will be any material impact on the junction from the Proposed Development given the level of traffic that will be created, a mitigation scheme has been designed by Motion and modelled for the junction. This will further minimise the potential impact of the development on the signalised crossroads. The modelling demonstrates that, whilst the junction is expected to continue to operate in excess of its theoretical capacity during the weekday morning and evening peak periods, the proposed Great Wolf development will not have a material effect on the operation of the junction and, as such, no further analysis or additional mitigation measures are considered necessary. The mitigation works will deliver material betterment for the junction as outlined above.

3.24 OCC advised, at a meeting on 4th September 2020, that they are reviewing the additional modelling and supporting information provided in relation to B430/B4030 junction and will provide a written response in due course.

4.0 Reason for Refusal 4 – Traffic Impact – Chesterton

4.1 Reason for refusal 4 relates to the effect of the development on the character and appearance of the local area as a result of design, appearance and vehicle movements.

4.2 Whilst this reason appears to involve issues relating to the design and appearance of the development (dealt with by others), it refers to "comings and goings" from the Proposed Development which relates to the potential vehicle generation of the development.

4.3 Table 4.1 summarises the percentage change in vehicle trips on the A4095, from which the site is accessed, as a result of the development.

	Base Flows		Development Traffic		Percentage Change	
	East	West	East	West	East	West
Weekday AM Peak (0800-0900)	365	365	32	81	9%	22%
Weekday PM Peak (1700-1800)	398	398	43	111	11%	28%
Weekday Daily (24 hour)	3334	3334	554	1424	17%	43%

Table 4.1 Change in Local Traffic

4.4 Table 4.1 demonstrates that the development is likely to result in a maximum of a 22% increase in vehicle movements during the morning peak hour and a 28% increase during the evening peak hour. The development traffic equates to approximately 1 to 2 additional vehicle movements per minute during the weekday morning and evening peak hours. Motion does not consider increases in vehicle movements of this level will have any material impact on the local area with regard to vehicle movements and the use of the roads in question for such vehicles is entirely in accordance with their current character and usage.

5.0 Summary

5.1 Motion has been instructed by Great Wolf Resorts (the parent company of Great Wolf Lodge) to advise on highways and transport matters associated with development proposals for a new family resort at a site in Chesterton near Bicester.

5.2 A planning application was refused by a CDC committee in March 2020 and the Decision Notice included three reasons for refusal that raised highways and transport matters. Prior to and since the determination of the planning application, Motion has been involved in ongoing discussions with OCC regarding highways and transport maters with a view to reaching agreement with OCC and consequently CDC. While these discussions are summarised in this note, full details are set out in the Technical Note on Highway Matters dated 4th September 2020 that is appended to the Statement of Case. This Note sets out Motion's summary response to the reasons for refusal so far as they concern highway and transport matters. For the reasons set out in more detail above, Motion does not consider any of the highways related reasons for refusal to be justified.