MH / 442-01-01a

16 April 2008

Proposed New Residential Development
Baron Hill, Beaumaris, Anglesey
Transport Statement

Prepared on behalf of:

Watkin Jones & Son Ltd

AXIS
Camellia House
76 Water Lane
Wilmslow
SK9 5BB

Tel: 01625 418 718
Fax: 01625 418 678

www.axisped.co.uk

CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 This Transport Statement has been prepared by AXIS on behalf of Watkin Jones & Son Ltd to consider highways and transportation issues related to proposals for the redevelopment of land at the Baron Hill estate, Beaumaris, for residential development purposes.

1.2 The purpose of this report is to appraise the Local Planning and Highway Authority (Isle of Anglesey County Council) of the anticipated highways and transport impact associated with the redevelopment of existing buildings to provide up to 46 new dwellings at the Baron Hill estate. This appraisal will include an assessment of the proposed site access strategy and an analysis of the impact of development related traffic over the immediate local highway network. In addition, the report will consider the location of the site with respect to its accessibility to key existing local shops and services and the opportunity to encourage trips to / from the site to be undertaken by alternative travel modes to the private car.

1.3 The concept of residential development at this location has been discussed with the Local Authority and it is understood that the principle of a residential redevelopment is considered to be generally appropriate at this location, subject to further detailed analysis of feasibility and highways impact. The scope and nature of the assessment included within this report reflects the extent of highway issues which we understand are likely to be of material interest to the LHA following preliminary discussions with highway officers.

1.4 The structure of this Transport Statement is therefore as follows:

- A description of the site location and existing conditions, including a description of the local highway network immediately adjacent to the site, accident history and opportunities to utilise sustainable transport modes;

- A description of the redevelopment proposals for the site, including a review of the proposed access scheme and related off-site local highway network improvements;

- An assessment of the anticipated private car trip generation to / from the site and the distribution of these trips over the local network;

- A consideration of the potential traffic impact of the additional traffic generated by the development scheme at key local junctions and highway links on the immediate highway network;

- Summary and Conclusions.

2.0 SITE LOCATION & EXISTING CONDITIONS

2.1 Site Location

2.1.1 The location of the Baron Hill estate is illustrated in Figure 1 to this report. This plan identifies the strategic location of the site in relation to the surrounding area of Beaumaris, connections to the local distributor route of B5109 Allt Goch Fawr and the main road route of A545 Beaumaris Road.

2.1.2 The layout of the immediate local network is illustrated in Figure 2 to this statement with photographs of existing key layout features illustrated in Appendix A.

2.2 Description of Local Network

Existing Site Conditions

2.2.1 The former Baron Hill estate is located approximately 1km to the west of the town centre of Beaumaris, and was formerly accessed from the B5109 Allt Goch Fawr. Comprising the main house and a number of associated outbuildings, the former country house currently lies in a derelict condition, having remained unoccupied for a long period of time.

2.2.2 The existing estate buildings lie amongst a heavily wooded area of land which remains largely undeveloped to all sides. To the west of the site, however, lies the existing Home Farm and its associated outbuildings. Situated to the southern side of the B5109 Allt Goch Fawr, the former Lodge house is accessed via a small bridge over the main carriageway.

Existing Site Access

2.2.3 As noted above, access to the site was formerly afforded predominantly via the B5109 Allt Goch Fawr. Figure 3 to this report illustrates the location of the access road junction with the B5109 and also illustrates the approximate alignment of the internal site access road, demonstrating that not only did it serve the former Baron Hill estate but continues to serve the neighbouring Home Farm property. Internally to the Baron Hill estate the former route of the driveway now lies in an unusable condition with substantial areas of overgrowth and a number of fallen trees across the route.

2.2.4 In the vicinity of the site access junction with the B5109, the Home Farm / Baron Hill access road is approximately 3.5m in width and is not considered wide enough for two vehicles to pass side by side without extensive clearance of existing vegetation to both sides. Furthermore, observations suggest that the road is currently formed with just a base layer of hardcore with no formal surfacing.

2.2.5 In addition to the narrow width of the existing site access road, visibility at its junction with the B5109 currently falls below required standards as laid out in Technical Advice Note (Wales) 18. At this location the main carriageway of the B5109 is subject to a 60mph National Speed Limit. Given the prevailing speed limit of the road the required visibility from the site access would be 215m in each direction, as measured from a 2.4m setback from the give way line. Accounting for the vegetation that currently obstructs visibility in both directions, measurements taken from a topographical survey of the immediate area would suggest that the existing levels of visibility to the nearside kerblines are just:

Leading Direction

- 40m Y-distance from a 2.4m X-distance.

Non-Leading Direction

- 10m Y-distance from a 2.4m X-distance.

2.2.6 Due to the positioning of the Home Farm access road to the outside of a bend in the B5109, visibility to the offside kerblines is notably increased, particularly in the leading direction, although still some way below the required 215m as set out in TAN 18.

2.2.7 Appendix A to this report illustrates a number of photographs which highlight, in particular, the above visibility issues from the Home Farm / Baron Hill access road junction. These clearly demonstrate that whilst visibility from a 2.4m X-distance may be severely restricted, from a lesser distance visibility in the leading direction is considerably improved. In the non-leading direction, however, it is clear that a number of factors still combine to create a resulting visibility restriction, such as the horizontal and vertical alignment of the B5109 to the east, and the boundary / retaining wall to the northern edge of the carriageway.

Existing Network Conditions

2.2.8 To the east of the Home Farm / Baron Hill access the route curves and falls away relatively steeply over approximately 200-250m before passing beneath a bridge. Beyond this point the gradient of the B5109 reduces as it meets the outer limits of the Beaumaris settlement. In the vicinity of the Ysgol Gynradd Beaumaris the route becomes subject to a 30mph speed limit with carriageway rumble-strips and “Araf / Slow” markings atop anti-skid surfacing.

2.2.9 Approximately 100m to the west of the main access road the B5109 route begins to level off and straighten out. Located almost immediately opposite the development access road, to the southern edge of the carriageway, lies

another minor give way junction which provides private access to two residential properties.

2.2.10 The B5109 Allt Goch Fawr serves as a rural distributor road and in the vicinity of the development site the route is circa 7.0m in width. Approximately 400m to the west the B5109 forms the main route of a priority give way junction with a local access road to the centre of Llanddona.

2.2.11 Some 700m to the east of the existing Home Farm access, the local route of Henllys Lane forms a priority give-way junction with the B5109 Wexham Street. Serving as a minor link road between the B5109 Wexham Street and Ffordd Eglwys to the north, Henllys Lane also provides access to Baron Hill golf course circa 1km to the north.

2.2.12 Linking the A545 and Beaumaris to the east, with the administrative centre of Llangefni to the west, approximately halfway between the centres the B5109 forms a staggered priority crossroads junction with the A5025 at Pentraeth. Circa 1km to the east lies the centre of Beaumaris and the main route of the A545. The A545 Beaumaris Road acts as a district distributor road between the centres of Beaumaris and Menai Bridge, some 7km to the southwest.

2.2.13 The prevailing speed of vehicles on the westbound, uphill, section of B5109 carriageway has been assessed. The survey results attached at Appendix B to this report illustrate that the 85th percentile 'wet weather' speed of vehicles at the top of the uphill westbound section is of the order of 43mph. Given that the B5109 route at this location is subject to the national speed limit of 60mph, it is considered that the recorded low value of 43mph is reflective of the twisty, uphill nature of the westbound route immediately to the east of the existing Home Farm access.

Observed Traffic Demand

2.2.14 Traffic movements on the local network to the proposal site have been observed to be generally free flowing, even during traditional AM & PM peak hour periods. It is considered that the lightly trafficked nature of the local highway network can be attributable to the area's rural location. It should be noted, however, that traffic demand on the Isle of Anglesey, particularly in locations close to the coastline, does fluctuate seasonally with summer peaks being notably higher than winter traffic demand.

2.2.15 In order to inform this statement, reference has been made to traffic count information for the B5109 Allt Goch Fawr, close to the main Home Farm / Baron Hill access junction, along with additional traffic count information for the junction of the B5109 / A545 collected in January 2008. AM & PM peak demand flows from this count exercise are illustrated in Figure 4 to this report.

2.2.16 Reference to this flow data identifies the following peak hour two-way trip movements on the main section of B5109 between the site frontage and the A545 Beaumaris Road (flows in pcu's).

AM Peak Period			
Eastbound:	66	Westbound: 89	Two Way: 155
PM Peak Period			
Eastbound:	72	Westbound: 70	Two Way: 142

2.2.17 Review of this traffic flow information demonstrates that the B5109 route to the west of Beaumaris is subject to relatively low levels of traffic demand, as observed when visiting the site. Recorded AM peak hour traffic demand

flows of 155pcu's, total two-way, equates to a level of traffic of the order of 2-3 vehicles per minute.

2.2.18 In addition to the link flow traffic survey undertaken in the proximity of the proposed Baron Hill development site, an additional turning count survey was undertaken at the junction of the B5109 Church Street with the A545 Castle Street in the centre of Beaumaris.

2.2.19 Figure 4 to this report illustrates the recorded peak hour turning movements at the Church Street / Castle Street junction. Reference to this turning flow data identifies the following maximum peak hour two-way trip movements on both the main section of B5109 within Beaumaris, and also the main route of the A545 Castle Street (flows in pcu's).

B5109 Church Street:

AM Peak Period

Eastbound:	109	Westbound: 94	Two Way: 203

PM Peak Period

Eastbound:	44	Westbound: 103	Two Way: 147

A545 Castle Street:

AM Peak Period

Northbound:	133	Southbound: 174	Two Way: 307

PM Peak Period

Northbound:	188	Southbound: 133	Two Way: 321

2.2.20 Review of the above traffic flow information demonstrates that both the B5109 route to the west of Beaumaris, and the main A545 route within the centre, are subject to relatively low levels of traffic demand. Recorded Church Street AM peak hour traffic demand flows of 203pcu's, total two-way, equates to a level of traffic of the order of 3-4 vehicles per minute. On the main A545 Castle Street arm, a maximum recorded two-way traffic demand flow of 321pcu's equates to approximately 5 vehicles per minute.

2.3 Personal Injury Accident Records

2.3.1 Personal Injury Accident data (PIA) for the B5109 corridor within the locale of Beaumaris has been collected for the 5 year time period 1 January 2003 to 31 December 2007. The results of this search are illustrated on Figure 5 to this report with full results included in Appendix C.

2.3.2 Analysis of Figure 5 shows that during the five year search period a total of just 2 accidents have been recorded within the illustrated search area. Both of these accidents were classified as being slight in nature and further review of the data contained in Appendix C illustrates that only 1 accident event has been recorded on the B5109 corridor in close proximity to the Baron Hill site. The records suggest that the predominant causation factor in the accident was a lack of judgment and consequential failure to stop before colliding with the rear of the second vehicle.

2.3.3 Overall it is concluded that the above review of road traffic accident data has not demonstrated any material highway safety issues within the vicinity of the site that would require additional highway network improvements over and above those already proposed to support the redevelopment of the former Baron Hill estate. On this basis it is concluded that there are no material highway safety reasons for objection to the development scheme.

2.4 Site Sustainability

Walking and Cycling

2.4.1 The location of the proposal site is anticipated to allow for a range of 'everyday' journeys to be undertaken on foot or by cycle. As noted in the sections above, whilst the immediate local highway route to the proposal site does not provide any form of continuous lit footway facility, a former footpath, running eastwards from the Baron Hill estate towards Beaumaris, effectively links the development site with the main route of the B5109 Wexham Street/Church Street. At this location full standard footways are provided to both sides of the major carriageway.

2.4.2 The Institute for Highways and Transportation (IHT) Document 'Providing for Journeys on Foot' identifies suitable walking distances to common facilities. This document identifies the following guidance on acceptable walking distance for access to key facilities:

- Desirable: 400m
- Acceptable: 800m
- Preferred Maximum: 1200m

2.4.3 Figure 6 to this report illustrates 800m and 1200m 'as the crow flies' local catchments as measured from the centre of the Baron Hill proposal site. This analysis illustrates that a range of local shops, services and leisure opportunities lie within an acceptable local walk catchment in the centre of Beaumaris. In particular the site's proximity to the following local 'everyday' services should be noted:

- Ysgol Gynradd Beaumaris Primary School;

- Local Shops and Post Office;
- Local Foodstores and newsagents;
- Medical Facilities;
- Leisure Centre and Golf Club;
- Employment Opportunities.

2.4.4 In addition to walking connections, the pedal cycle has been identified as being an acceptable travel mode for journeys of up to 5 km. Figure 7 to this report illustrates the 15minute cycle-time catchment from the site, and demonstrates that journeys are possible not only to the centre of Beaumaris, but also to additional local centres such as Menai Bridge, Llangoed and Pentraeth.

2.4.5 Figure 8 to this report illustrates local cycle routes connections within the immediate vicinity of the proposal site. This plan demonstrates that the Baron Hill redevelopment site is located within a short distance of the existing on-road signed cycle route the Telor Cycle Tour. Furthermore Figure 8 identifies that works are programmed to implement a new section of dedicated cycle route linking the Telor Cycle Tour and Beaumaris with National Cycle Route 5. Route 5 “North Wales Coast Route” operates between Holyhead and Chester and provides direct off-road cycle connections to Menai Bridge.

Access to Public Transport

2.4.6 The proposal site is well located to provide opportunities to utilise public transport, with existing bus stops located approximately 400m from the Baron Hill estate, at the junction of Maes Hyfryd with the B5109 Allt Goch Fawr. The existing bus stop to the eastbound carriageway is of the simple flagpost design, with on street bus stop harbourage markings. To the westbound carriageway the bus stop is situated within a lay-by, and includes full covered shelter facilities and timetable information. Given the lack of any footway to

the eastbound side of the carriageway it is understood that the shelter facilities to the westbound side are utilised for any waiting users.

2.4.7 Further to the existing bus stops located on Allt Goch Fawr, additional stops are located within the centre of Beaumaris itself. Timetables for the existing bus routes serving the Allt Goch Fawr stops are attached at Appendix D to this report and summarised in the table below. This table demonstrates that on weekdays and Saturdays the stops provide up to 4 buses per hour to a range of destinations both locally and strategically such as Bangor, Menai Bridge, Llangefni and Benllech.

Route Number	Route Description	Day Time Frequency
50	Beaumaris – Benllech – Llangefni	3 Hourly
53	Llanddon – Beaumaris – Menai Bridge – Bangor	Hourly
57	Penmon – Llangoed – Beaumaris – Menai Bridge – Bangor	Hourly
58	Penmon – Llangoed – Beaumaris – Menai Bridge – Bangor	1hr 30 minutes

2.4.8 Overall it is concluded that the proposal site represents an appropriate location for residential development, being located within 400m walk of bus stops which are served by regular bus connections and within an acceptable walk / cycle catchment of key everyday destinations such as local town centre shopping, leisure and health facilities. Such connections are anticipated to reduce the need for residents at the site to utilise the car for 'everyday' journeys.

3.0 DESCRIPTION OF THE DEVELOPMENT PROPOSALS

3.1 Development Scheme

3.1.1 The former Baron Hill estate is proposed to be re-developed to provide a scheme for up to 46 private residential units. A masterplan of the proposed development scheme is provided as Figure 9 to this report. This plan illustrates the general layout of the proposal scheme and main site access principles.

3.1.2 It is proposed that the residential re-development of the Baron Hill estate will include for the retention of the main sections of the existing listed structures, with a view to re-instating their use as part of the overall residential scheme.

3.2 Site Access and Local Highway Improvements

3.2.1 Given the nature of the existing Home Farm / Baron Hill access junction, and the extent of earthworks required to provide a new access route internally without disrupting farm operations, it is proposed that access to the re-development scheme will be afforded via a newly constructed access junction direct from Henllys Lane.

3.2.2 The former footpath route from the Baron Hill site towards Beaumaris is illustrated at Figure 10 to this report. Given the desire to reinstate this route to provide pedestrian access to the site, it is proposed that the new access route on to Henllys Lane will adopt a broadly similar alignment. The access point will be of a simple T-junction layout design, and has been designed such that the impact of its construction on the surrounding landscape and habitat would be minimised.

3.2.3 The access junction on to Henllys Lane has been designed in accordance with local and national guidelines, with a carriageway width of 5.5m for the first 50m and junction bellmouth radii of 8m.

3.2.4 Visibility from the site access on to Henllys Lane is proposed to be provided in accordance with the prevailing speed of vehicles along this stretch of carriageway. Whilst the route is subject to a National Speed Limit, surveys of the route would suggest maximum 85th percentile wet weather speeds of 25mph (see Appendix B). On this basis, in accordance with guidance outlined in Technical Advice Note 18 for Wales, visibility splays from the new site access junction are proposed to be provided at the following level:

Leading Direction

- 33m Y-distance from a 2.4m X-distance;

Non-Leading Direction

- 33m Y-distance from a 2.4m X-distance.

3.2.5 As highlighted above, internally to the site it is proposed that the access route will be maintained at a width of 5.5m for the first 50m. Beyond this section it is proposed to reduce the carriageway to a one-way shuttle operation, approximately 3.5m in width, with passing places every 30m. Given the setting of the development, and the access route's location within a Site of Special Scientific Interest, it is considered that the implementation of a one way shuttle operation would help minimise the overall impact of the route.

3.2.6 The pedestrian footpath from the estate runs towards Beaumaris approximately 20-30m to the north of the eastern section of the B5109 carriageway, before terminating close to the junction of Wexham Street with Henllys Lane. It is understood that whilst this former footpath currently terminates at a dry stone wall, development plans include tying the route in to

the existing Henllys Lane footway at the junction bellmouth. Additionally the full reinstated footway route will be fully paved and lit.

4.0 ANTICIPATED TRIP GENERATION AND DISTRIBUTION FROM THE DEVELOPMENT SITE

4.1 Estimated Development Trip Generation

4.1.1 As noted above, it is anticipated that the proposed re-development of the former Baron Hill estate for residential purposes could yield up to 46 private residential apartment dwellings.

4.1.2 Anticipated future levels of traffic generated to / from the proposal scheme have been estimated using trip rates taken from the TRICS traffic generation database. TRICS is a widely accepted national database of historical trip demand information and contains observed traffic data for a large number of development type sites. As such, it can be considered to produce reliable base trip rate estimates.

4.1.3 Trip rates have been generated using information for residential apartment sites in the England and Wales. Average 'per dwelling' trip rates for typical weekday 'rush hour' periods are illustrated in the table below (full TRICS data is included as Appendix E).

Trip Rates (per dwelling)	Arrivals	Departures	Total
Residential – Average			
AM Peak (08:00-09:00)	0.06	0.25	0.31
PM Peak (17:00-18:00)	0.23	0.11	0.34

4.1.4 Application of these trip rates to the proposed maximum development size of up to approximately 46 dwellings at the Baron Hill estate provides the following estimate of trip demand:

Trip Total	Arrivals	Departures	Total
Residential – Average			
AM Peak (08:00-09:00)	3	12	15
PM Peak (17:00-18:00)	11	5	16

4.1.5 An additional development trip generation scenario has also been considered for the Baron Hill site, based on 85th percentile peak hour trip rates. Such estimates typically provide an indication of the maximum trip generation demand for travel anticipated to / from a development site and will therefore ensure a robust 'worst case' assessment of operational impact.

4.1.6 The calculation of the 85th percentile rates is illustrated in Appendix E to this report, with peak hour trip rates illustrated in the table below:

Trip Rates (per dwelling)	Arrivals	Departures	Total
Residential (85th %ile)			
AM Peak (08:00-09:00)	0.10	0.34	0.44
PM Peak (17:00-18:00)	0.36	0.18	0.54

4.1.7 Application of these trip rates to the proposed maximum development size of up to approximately 46 dwellings at the Baron Hill estate provides the following estimate of trip demand:

Trip Total	Arrivals	Departures	Total
Residential – 85%ile			
AM Peak (08:00-09:00)	5	16	21
PM Peak (17:00-18:00)	17	8	25

4.1.8 Review of the above estimates illustrates that trip demand to the proposal site is anticipated to be generally low, with maximum total 'worst case' 85th percentile demand estimates being in the order of 25 vehicles per hour, or less than one additional new vehicle movement every two minutes. It is considered that such levels of traffic will not result in a material impact on existing network operational performance.

4.2 Development Trip Distribution and Assignment

4.2.1 The predicted development trip demand related to the proposal site has been distributed over the local network on the basis of the observed link flow movements on the B5109 Allt Goch Fawr. The arrival / departure distributions calculated via this methodology and utilised in this report are illustrated in Figure 11.

4.2.2 Assignment of the anticipated peak hour development trip totals to these distribution proportions is illustrated in Figures 12.

5.0 ASSESSMENT OF ANTICIPATED DEVELOPMENT TRAFFIC IMPACT

5.1 Introduction

5.1.1 This section of the report considers the assessment of the operation of the immediate local highway to the Baron Hill proposal site and the ability of this network to accommodate the development traffic flow movements predicted in Section 4. Impact assessment has been carried out through the consideration of junction operational assessment at the key local junction of the B5109 Church Street / A545 Castle Street and link flow impact on the B5109 Allt Goch Fawr in the vicinity of the Henllys Lane junction.

5.1.2 Section 2 of this report outlines the existing flows on the local highway network as recorded in January 2008. Whilst the flows demonstrate the low level of flow anticipated in such a small, rural settlement, Beaumaris is one of the key tourist destinations on the Isle of Anglesey. As such the prevailing network traffic demand can vary considerably between the winter and summer months.

5.1.3 In order to ensure that this assessment fully considers the potential 'worst case' traffic demand scenario the recorded January base flows have been seasonally adjusted utilising records of vehicle movements across both the Britannia and Menai Bridges, as supplied by the North Wales Trunk Road Agency. Attached to this report as Appendix F, this review of monthly traffic demand suggests that the summer months could see a 34% uplift in traffic numbers between the months of January and August. Figure 13 illustrates the application of this anticipated uplift to the 2008 count data, thereby providing a reasonable estimate of the worst case peak summer demand traffic on the local highway network.

5.1.4 Base capacity assessments have been carried out for a development opening year of 2010. It is considered that all dwellings on site could reasonably be anticipated to be constructed by this date.

5.1.5 In order to provide additional comfort to the Local Highway Authority as to the capacity of the existing junction of B5109 Church Street / A545 Castle Street an additional future year assessment has been carried out for a 10 year 'design horizon' post opening year (2020).

5.1.6 Predicted background demand conditions for 2010 and 2020 have been estimated through reference to NRTF low growth factors. Such an approach represents a robust methodology and estimates traffic growth of 4.5% to 2010 and 19.5% to 2020, when compared to the seasonally adjusted 2008 recorded traffic count data values. These network demand estimates are illustrated in Figures 14 and 15 for 2010 and 2020 respectively.

5.1.7 Figures 16 and 17 illustrate 2010 and 2020 background including the predicted 85%ile development demand conditions.

5.2 Link Flow Demand

5.2.1 Reference to Institution of Highways and Transportation 'Guidelines for Traffic Impact Assessment' suggests that more detailed analysis of highway impact and / or capacity improvements is only likely to be required where either:

- Traffic to / from the development exceeds 10% of existing two way traffic on the adjoining highway; or,

- Where traffic to / from the development exceeds 5% of the existing two way traffic flow on the adjoining highways at locations where

traffic congestion exists within the assessment period or in other sensitive locations.

5.2.2 The table below demonstrates changes in background two way link flows over the immediate sections of the B5109 Wexham Street for the background opening year 2010 as a result of the re-development of the proposal site (assuming 85th percentile development trip rates). The use of 2010 figures in this assessment ensures the most rigorous estimation of development percentage impact when compared to background traffic demand. Additionally the link flow assessment is based on the lower link count of vehicles to the west, rather than the higher junction turning count flows from the east, thus ensuring the most robust estimate of maximum percentage impact as a result of redevelopment.

	AM PEAK			PM PEAK		
	Devel trips	B'ground flows	%'tage Increase	Devel. trips	B'ground flows	%'tage Increase
B5109 Wexham Street (East of Henllys Lane)	10	218	4.6%	12	198	6.1%
B5109 Wexham Street (West of Henllys Lane)	11	218	5.1%	12	198	6.1%

2 way flow totals

5.2.3 Analysis of the above table demonstrates that maximum two-way development link flows on the external highway network will be of the order of 5-6%. Comparison to IHT guideline thresholds illustrates that such additional traffic levels would not represent a material operational impact and fall below the 10% IHT threshold for additional analysis.

5.3 Local Junction Operation

5.3.1 Detailed operational assessment of the key Castle Street / Church Street junction has been carried out through the utilisation of a detailed PICADY assessment model. In order to provide the most robust assessment of operational impact, a 10 year design horizon has been assumed and 85th percentile development demand utilised.

Future Year 2020 Background + Development Scenario

5.3.2 The results of the PICADY junction capacity analyses are summarised below, with full model printouts included as Appendix G to this report.

AM Peak (08:00-09:00)

Approach Movement	Flow	Max RFC	Max Queue
Church Street Approach	182	0.419	0.7
Castle Street North	266	0.114	0.1

PM Peak (17:00-18:00)

Approach Movement	Flow	Max RFC	Max Queue
Church Street Approach	75	0.190	0.2
Castle Street North	219	0.201	0.3

5.3.3 Results of the 2020 future year 'with development' model runs for typical AM and PM peak rush hour periods illustrate that the key Castle Street / Church Street junction is predicted to operate efficiently with significant spare capacity. In the AM peak maximum RFC is predicted to occur for Church Street side road approach and will be less than 0.45. Maximum queue levels predicted at this time are strictly limited, being of the order of less than just

one vehicle. The limited levels of congestion and queuing predicted are considered to represent satisfactory future junction operation during this time.

5.3.4 PM peak results demonstrate similar future operating conditions on Castle Street, but significantly greater operational capacity on the side road approach of Church Street. RFC's on all key turning movements are well within acceptable levels, with maximum RFC levels illustrated to take place for the Castle Street arm with an RFC of just 0.201 and negligible queuing. Such operation is considered to represent satisfactory conditions for the future demand period

6.0 SUMMARY

6.1 This statement has evaluated the transport and sustainability issues arising as a result of the proposed re-development of the former Baron Hill estate, Beaumaris, for residential land use.

6.2 The site proposals envisage the development of up to 46 private residential apartments, with development being accessed from a new access junction direct from the Henllys Lane route to the east. In order to support the development scheme it is proposed that access to the Baron Hill estate will be re-located, allowing the provision of a junction design which would meet local highway authority standards. Such an approach will provide improved capacity and safety operation along the route and ultimately should allow for the formal 'adoption' of the initial section of the access route by the Local Authority.

6.3 In addition to the relocation of the Baron Hill access corridor, the proposed package of development funded improvements will also include for the re-instatement of a former dedicated footway corridor running along the same route from the re-development site towards the junction of Wexham Road with Henllys Lane. Such measures are anticipated to assist accessibility to the site by non-car modes and will also deliver safety and operational improvements on the immediate local highway network.

6.4 Re-development of the former Baron Hill estate for residential apartments is considered to represent an appropriate land use, with the site being located just to the outskirts of the existing settlement of Beaumaris. Residential land use at Baron Hill will deliver opportunities for sustainable development as set out in TAN18, with the site located within 400m walking distance of busy local bus stops and within 1.2km walk of other key 'everyday' local facilities such

as town centre shops and services and local employment, education, community and medical facilities.

6.5 The Baron Hill proposal scheme is predicted to generate strictly limited levels of traffic demand. Peak hour trip generation to / from the proposal site is not anticipated to reach levels of in excess of 25 two way trips per hour, even assuming for worst case 85th percentile development trip estimates. Such demand represents less than 1 additional vehicle trip every two minutes associated with the development across the immediate local network.

6.6 An assessment of the development link flow impact during peak 'rush hour' demand periods demonstrates that maximum two way development link flows on the immediate sections of the B5109 Allt Goch Fawr will be of the order of just 6.1%. Comparison to IHT guideline thresholds confirms that such demand will be less than the appropriate impact threshold for un-congested routes, and is not anticipated to represent a material detrimental change in operating conditions. This conclusion is supported by detailed future year capacity assessment of the key Castle Street / Church Street junction within the centre of Beaumaris. These assessments demonstrate that all approach arms will operate efficiently and with substantial spare capacity, even including for future year demand scenarios undertaken for 10 years after opening of the proposal scheme.

6.7 In summary, this report has demonstrated that the proposed development of the former Baron Hill estate will provide opportunities for residential development which will generate only limited traffic demand and which is well located to promote the use of alternative travel modes to the private car. The predicted low levels of development related car trip demand can be accommodated safely and efficiently by immediate local highway network improvements, which will also increase the general accessibility of the site. It is therefore concluded that there are no highway capacity or safety reasons for objection to the development scheme.