TECHNICAL NOTE			
from:	ALAN DAVIES	date:	7/12/2020
subject:	**PROPOSED RESIDENTIAL DEVELOPMENT HIGH MOOR CLITHEROE**	file ref:	J1002-TN1

Introduction

An outline application for upto 125 units with access has been submitted with supporting documentation and drawings.

This Technical Note sets out the response to the highway feedback.

Feedback and responses

The feedback set out the following clarification in *italics*, responses shown in **bold**:

The initial formal response was made on the 8/10/2020 and submissions made to answer the queries raised to enable a supportive reply to be made on the access. the attached appendix A covers this area.

The feedback went on to say - Whilst it is noted that the application submitted relates to the access details only, the applicant has submitted supporting information in consideration of the impact of the development of the site on the local highway network which includes the submission of a Transport Assessment. Having read through the TA there are a number of errors and assumptions which cannot be supported and I would welcome further discussions with the applicants Transport Consultant to identify and overcome these concerns.

Initially the trip rates were queried and the assessment of the A59 roundabout,

The confirmation from the Standen Development is sufficient to justify the use of the trip rates quoted.

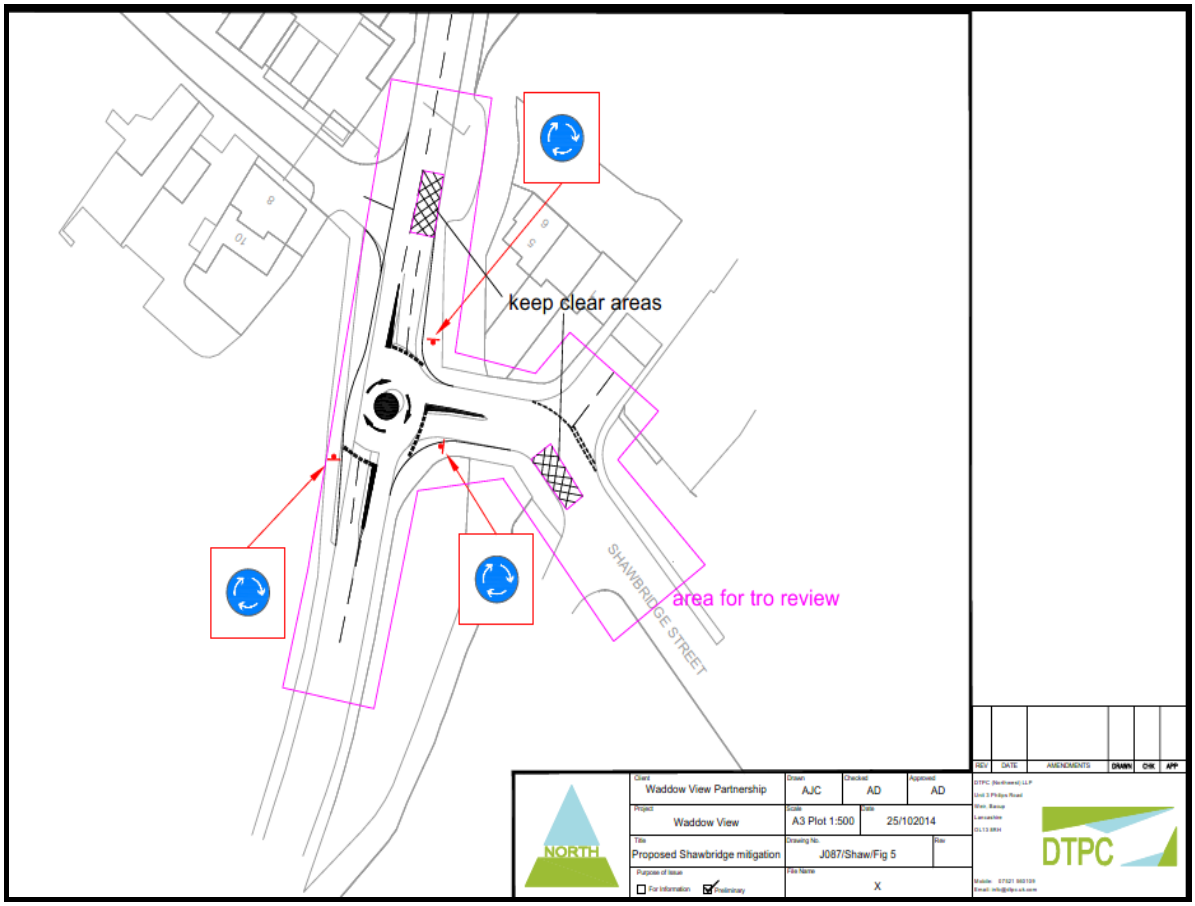
Appendix B provides the feedback on this item as agreed.

LCC further requested using these figures can you assess the impact on the Waterloo Road / Shaw bridge Street junction.

The issue is that the committed development have agreed monies to be paid to improve this junction to support that developments however to date no approved scheme has been adopted.

Given this it has been agree with the Highway Authority to use the fallback improvement scheme at the junction for lane widening which will be tested with the proposed development flow in 2020 and 2030.

The proposed improvement to the A671 Waterloo Road / Shawbridge Street mini roundabout is shown overleaf.



For the avoidance of doubt the 110 dwellings that have been built and occupied by the Standen development, which are reflected in the traffic surveys undertaken in 2019, have not been removed from the surveys to obtain background traffic flows thus robust, also the Waddow view flows – largely construction traffic are also in the background surveys.

For background reference should also be made to the historic assessment report as this will contain the agreed traffic growth rates, distribution and proposed development trips all of which are accepted.

Traffic Flow Diagrams - The table below details how the traffic flow diagrams have been derived.

Figure Number	Title	Comment
A	2019 Survey Flows - PCUs	Taken from survey data. Each individual peak period, in PCUs, combined.
B	2020 Background Flows	Figure 1 growthed using TEMPRO growth rates
C	2030 Background Flows	
D	Proposed Residential Development Distribution - Based on Approved Standen Development	Based on Standen distribution.
E	Proposed Development Flows	Proposed development trips assigned to highway network in accordance with Figure D
F	2020 Base Flows Plus Development Flows	Figure B + Figure E
G	2030 Base Flows Plus Development Flows	Figure C + Figure E

Table 1: Schedule of Traffic Flow Diagrams

Junction Assessments

The Transport Research Laboratory modelling software Junctions 8 ARCADY has been used to assess the impact of the A617 Waterloo Road / Shawbridge mini roundabout.

The table below summarises the PICADY results for the A617 Waterloo Road / Shawbridge mini roundabout without and with improvements. The model output is attached.

Existing Layout								
Approach	A1 - 2020 Background Flows				A1 - 2030 Background Flows			
	AM		PM		AM		PM	
	Q	RFC	Q	RFC	Q	RFC	Q	RFC
Waterloo Road south	2	0.72	2	0.63	2	0.65	4	0.81
Waterloo Road north	109	1.27	103	1.24	210	1.41	140	1.33
Shawbridge Street	80	1.25	124	1.36	190	1.49	109	1.31
Proposed Improvement Dec 2020								
Approach	A1 - 2020 Background Flows				A1 - 2030 Background Flows			
	AM		PM		AM		PM	
	Q	RFC	Q	RFC	Q	RFC	Q	RFC
Waterloo Road south	1	0.51	1	0.43	1	0.46	1	0.57
Waterloo Road North	4	0.81	5	0.85	10	0.93	8	0.9
Shawbridge Street	10	0.94	31	1.08	62	1.21	27	1.06

The above shows that the improvement agreed as the baseline for either Standen or Waddow View has a marked difference on the capacity of the junction.

Approach	A1 - 2020 Background + Development Flows				A1 - 2030 Background + Development Flows			
	AM		PM		AM		PM	
	Q	RFC	Q	RFC	Q	RFC	Q	RFC
Waterloo Road south	1	0.52	1	0.44	1	0.46	1	0.58
Waterloo Road North	4	0.82	6	0.86	10	0.93	8	0.91
Shawbridge Street	12	0.96	34	1.1	69	1.24	29	1.07
Approach	Difference							
	AM		PM		AM		PM	
	Q	RFC	Q	RFC	Q	RFC	Q	RFC
Waterloo Road south	0	0.01	0	0.01	0	0	0	0.01
Waterloo Road North	0	0.01	0	0.01	0	0	0	0.01
Shawbridge Street	2	0.02	3	0.02	7	0.03	3	0.01

The growth and combined flows will be part of the LCC scheme as it progresses taking on board the local area and its constraints.

It is generally considered that a Ratio of Flow to Capacity Value (RFC) result of less than 0.85 is acceptable in demonstrating that the junction can operate without any difficulty.

Without improvement the existing min roundabout operates with significate issues of queuing. The proposed improvement will provide significant relief to the predicted queuing issue. The proposed development will only have a marginal impact on the operation of the junction.

Furthermore it is considered that the proposed junction, when assessed with development traffic, will operate in a vastly superior manner than what it is predicted to do so now.

With reference to the Government's National Planning Policy Framework document the proposed development will not have a residual impact that would be deemed severe and therefore should not be refused on highways and transportation grounds.

The conclusion of the above indicates that the improvement would be required by the scheme and if the other committed schemes default or do not hit their delivery trigger before High or does than the application would commit to deliver the scheme or contribute in a similar manner.

The legal wording is set out below:

A scheme to mitigate the combined impact of the proposed Waddow View (3/2014/05978) and Standen (3/2012/0942) developments to the junction to be agreed with the Develop with a Transport Contribution for this development calculated on the proportion which the growth in peak hour traffic flow at the junction from 2014 to 2018 created by Waddow View bears to the total growth arising from the two combined developments over the same period.

As the above trigger has not been enacted given the delay in starting Waddow View the fallback below is set out.

PROVIDED ALWAYS THAT the Transport Contribution shall be limited to cover the costs of the scheme set out on the Plan above prepared by DTPC (Northwest) LLP to support a alternative scheme at the junction derived by LCC.

Alan Davies
DTPC

2020

Appendix A

The proposed access road will be 7.3m wide at its junction with Highmoor Park with 2m footways either side. Visibility splay swill be 2.4m x 43m in either direction. Highmoor Park , at the site of the proposed access is subject to a 20mph speed limit and is traffic calmed (flat-topped road humps). There is an existing road hump situated on the northbound approach to the proposed junction (adj LC No 3) and this is considered to be too close to the junction therefore it is proposed that this hump is removed and replaced by a junction table at the proposed access. This relocated feature will also benefit pedestrians crossing Highmoor Park by providing a level crossing surface to the footpath link on the west side of Highmoor Park.

Taking in to consideration the proposed access details and the prevailing highway conditions, the proposed access would be considered acceptable in principle, subject to detailed design and I would therefore raise no objection to the proposed means of access Subject to the following conditions being attached to any permission that may be granted.

DTPC High More J1002 access fig 1 rev A has been updated to take on board the feedback and the junction platform added.

Appendix B

The trip rates used for the assessment require further clarification.

Have received feedback that the new build at Standen trip rates even with the construction traffic kept in appears to be low. For reference the surveys are pre covid therefore representative of the area.

The Standen trip rates were challenged at the time of the approval but found to be acceptable by LCC.

The observed trip rates including construction traffic in the report were slightly lower but actual flows than derived flows thus considered more representative of the area.

Peak Period	TRICS Residential Trip Rate Associated with Approved Development Off Higher Standen Drive With Travel Plan and Internalisation Factor			Observed Vehicle Movements to and From Higher Standen Drive			Observed Residential Trip Rate Based on 110 Occupied Dwellings.		
	Arr	Dep	Two Way	Arr	Dep	Two way	Arr	Dep	Two way
AM	0.131	0.400	0.531	15	36	51	0.136	0.323	0.459
PM	0.368	0.189	0.557	35	21	56	0.318	0.191	0.509

The surveys undertaken last year have been reviewed and the following movements and derived trip rates.

Peak Period	Observed Trips To and From Highmoor Park			Derived Trip Rate Based on Observed Trips To and From Highmoor Park and 207 Dwellings		
	Arr	Dep	Two Way	Arr	Dep	Two Way
AM	66	102	168	0.319	0.495	0.814
PM	119	52	171	0.577	0.251	0.828

The two way is considered high, having relooked the road also gives access for a drop off to the primary school and the high moor car park as such not truly representative of the residential units. The in/out proportions are markedly different from a typical trip rate. AM Standen trics 25/75, observed 30/70, high moor 40/60. PM Standen trics 66/34, observed 62/38, high moor 70/30

Other sites agreed rates i.e. Wiswell Lane trip rates agreed, similar to those used in the Highmoor assessment.

Peak Period	**TRICS Vehicle Trip Rate Data**		
	Arr	**Dep**	**Two way**
AM	0.126	0.358	0.484
PM	0.334	0.158	0.492

Naturally consider the trip rates to be representative of the area as they are observed from a new development.

The High moor mini roundabout has no capacity issues, increasing trips would not make a material impact here. The A59 junction without the development shows queues on the

pendle road arm (assumes full Standen build out) the queues increase here with extra trips.

The assessment was based on the Standen geometry which had a 4.1m entry width, the site observations show 2 lanes thus increased capacity, I will updated the A59 assessment.

The number of units built on Standen have been rechecked with the sales team and confirmed as 110 at the time of the surveys, we used 106.

The assessment adjusted the roundabout for the as built width on Pendle Road with tow lane entry from the previously modelled 1 lane and this has made a major change to the output and shows that the possible future increase in queuing using the single lane will not occur, even if the flows increase noticeably, we have 20% spare capacity to 0.85 RFC

Approach	A1 - 2020 Background Flows				A1 - 2030 Background Flows			
	AM		PM		AM		PM	
	Q	RFC	Q	RFC	Q	RFC	Q	RFC
A59 north	1	0.51	1	0.45	1	0.52	1	0.55
Clitheroe Road	1	0.41	1	0.44	1	0.55	1	0.47
A59 south	1	0.6	1	0.58	2	0.62	2	0.67
Pendle Road	2	0.66	1	0.52	2	0.63	2	0.67
Approach	A1 - 2020 Background Plus Development Flows				A1 - 2030 Background Plus Development Flows			
	AM		PM		AM		PM	
	Q	RFC	Q	RFC	Q	RFC	Q	RFC
A59 north	1	0.52	1	0.46	1	0.52	1	0.56
Clitheroe Road	1	0.42	1	0.45	1	0.56	1	0.47
A59 south	2	0.6	1	0.59	2	0.62	2	0.68
Pendle Road	2	0.68	1	0.54	2	0.65	2	0.68