

Appendix 48

HTp/1107/TN/21 – Option B Alignment and Vehicular Trips (2030)

Highgate *Transportation*

**Land at Peel Hall, Warrington
Technical Note – Through Route Scenario**

(HTp/1107/TN/21/A)

July 2017

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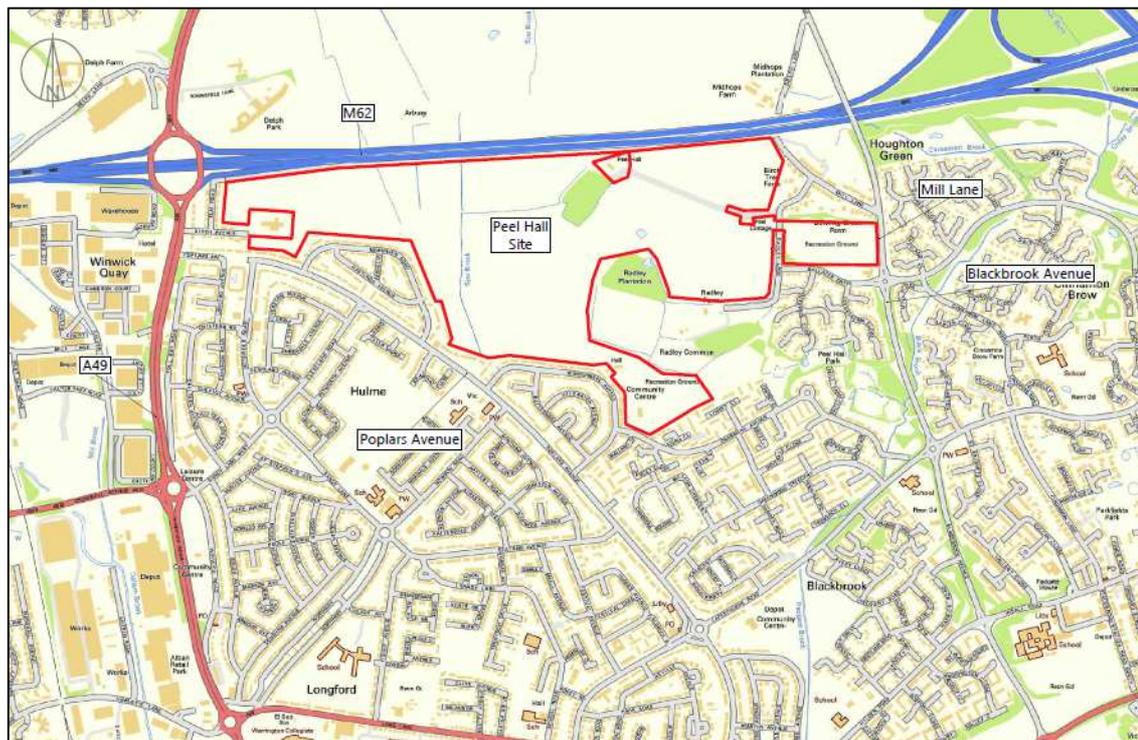
Appendices

Appendix 1	Indicative Through Route Alignment
Appendix 2	Peel Hall Proposed Alignment for Through Route to A49
Appendix 3	Proposed Main Site Access at Blackbrook Avenue

1.0 Introduction

1.1 This Technical Note has been prepared by Highgate Transportation Limited to set out the proposed alignment for a potential through route for all vehicles to be created from the A49 to the west of the Peel Hall site, through the site to Mill Lane/Blackbrook Avenue in the east. The site location is illustrated in **Figure 1.1** below.

Figure 1.1 – Site location plan



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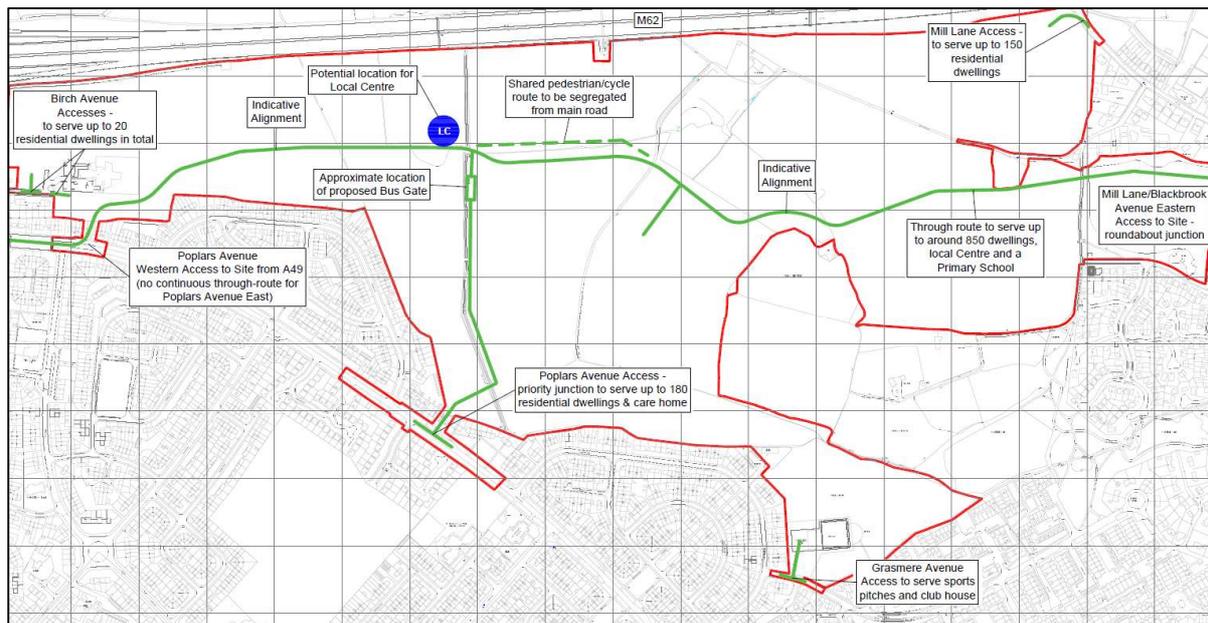
- 1.2 The through route has been proposed as a sensitivity test at the request of the Warrington Borough Council (WBC) highway officers. The through route scenario is to be tested in the Peel Hall SATURN model for a full development profile build-out in the future year of 2030.
- 1.3 The application is for an outline scheme, with access for determination. The Peel Hall development can be summarised as:
- i. Up to 1,200 residential dwellings.
 - ii. A 100 bedroom care home.
 - iii. An area of employment land comprising up to 7,500sqm Gross Floor Area (GFA) of light industrial units.
 - iv. A local centre comprising a food store of up to 2,000sqm GFA plus up to a further 600sqm GFA of local centre type facilities (such as A1-A5 and D1) plus a family pub and restaurant of up to 800sqm GFA.
 - v. Up to a two form entry primary school with a maximum of up to 420 pupils.

- vi. Relocating and upgrading of existing sports pitches to provide like-for-like replacement in terms of number of pitches and the provision of ancillary facilities, which are expected to include changing facilities for up to four teams at any one time and a function room that can be used for local community uses such as a mother and toddler group.
- 1.4 The alignment of the proposed all-vehicle through route and the preliminary proposed junction arrangement with the A49 is set out in **Section 2.0** of this report, which also includes details of the main site access junction to the east of the Peel Hall site from Blackbrook Avenue at Mill Lane. The Blackbrook Avenue junction is a three-arm roundabout as per the original Peel Hall access strategy (2016 application, updated to reflect Road Safety Audit comments).
- 1.5 The 2030 development trip rates are taken from Section 5.0 of the HTP Technical Note TN/19 (dated May 2017) for the purposes of this assessment, and are set out in **Section 3.0** of this report in relation to the vehicular trips forecast to be associated with the through route sensitivity test.

2.0 Through Route

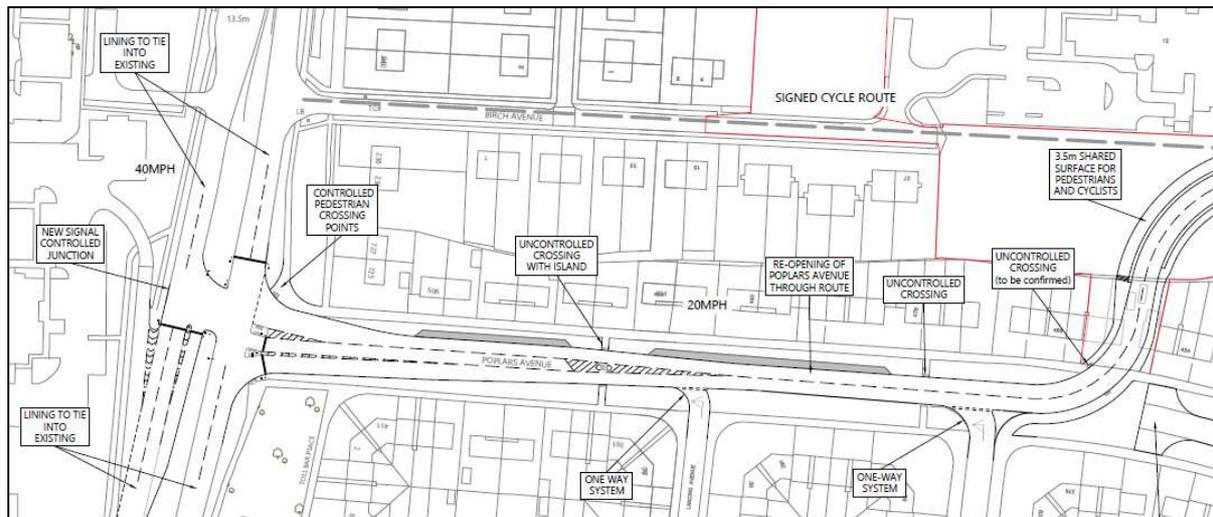
- 2.1 The through route will act as a local distributor road between the A49 in the east and Blackbrook Avenue through Mill Lane to the west. The alignment will pass through the centre of the site.
- 2.2 The carriageway will be 7.3 metres wide, with a 3.5 metres shared surface footway-cycleway to one side and a 2.0 metre footway to the other side. The through route is illustrated in **Figure 2.1** below and the full plan is contained at **Appendix 1**.

Figure 2.1 - Extract of indicative through route alignment



- 2.3 The through route will require a new signalised junction with the A49 and for Poplars Avenue to be reopened west of Cotswold Road (east of Lancing Avenue). This will enable traffic from the development to access the A49 without the need to travel through the existing residential area to the south of the site.
- 2.4 The access to the site from Poplars Avenue West will be a continuation of the Poplars Avenue link with the A49. An extract of this is shown in **Figure 2.2** below and the full plan is contained at **Appendix 2**.

Figure 2.2 - Extract of proposed alignment for through route at A49



- 2.5 The new signalised junction will enable development traffic to travel north or south on the A49 and for A49 traffic from the north and the south to access the development and travel through the development to the wider highway network east of the site (and vice versa) via the proposed Blackbrook Avenue site access.
- 2.6 To ensure that the existing residential areas surrounding the site are protected from development traffic the following measures are proposed:
- i. Lancing Avenue one way northbound with a left-turn out only manoeuvre allowed at poplars Avenue.
 - ii. Cotswold Road one way northbound with a left-turn out only manoeuvre allowed at poplars Avenue.
 - iii. Poplars Avenue stopped up west of Cotswold Avenue and the proposed access road.
 - iv. A bus gate provided to prevent traffic from the development travelling to and from the area of Poplars Avenue to the south (see **Figure 2.1**).
- 2.7 The Blackbrook Avenue access will be as per the original access strategy, with a three arm roundabout from Mill Lane (south) linking to the existing Blackbrook Avenue roundabout. An extract of this is shown in **Figure 2.3** below and the full plan is contained at **Appendix 3**.

Figure 2.3 - Extract of main site access at Blackbrook Avenue



3.0 Traffic Flows

Development Profile

3.1 The through route will carry local traffic as well as serve to facilitate access to the following elements of the development profile:

- i. Up to around 850 dwellings.
- ii. Local centre (comprising a food store of up to 2,000sqm GFA plus up to a further 600sqm GFA of local centre type facilities plus a family pub and restaurant of up to 800sqm GFA).
- iii. Up to two-form entry primary school.
- iv. An area of employment land comprising up to 7,500sqm GFA of light industrial units.

3.2 For reference, the remaining development profile is proposed to be served as follows:

- i. Up to 20 dwellings off Birch Avenue.
- ii. Up to 180 dwellings and a 100 bedroomed care home off Poplars Avenue (Central); with a bus gate to prevent general vehicular traffic travelling further north onto the through route.
- iii. Up to 150 dwellings off Mill Lane (north).
- iv. Sports pitches and community uses served from Grasmere Avenue.

Traffic Flows

3.3 Section 3.0 of Technical Note TN/19 (May 2017) is repeated below for ease of reference.

3.4 A summary of the peak hour trip rate data to be used and the resultant trips for each land use are set out below (taken from TN/02/A) as follows:

Table 3.1 – Residential Vehicular Trip Rate and Generation Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
85 th Percentile Trip Rates (per unit)	0.225	0.523	0.495	0.307
Residential Trips (1,200 units)	270	628	594	368

Table 3.2 – Care Home Vehicular Trip Rates and Attraction Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Trip Rates (per bedroom)	0.068	0.068	0.083	0.113
Care Home Trips (100-beds)	7	7	8	8

Table 3.3 – Employment Vehicular Trip Rates and Attraction Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Trip Rates (per 100sqm GFA)	0.919	0.514	0.260	0.621
Employment Trips (7,500sqm GFA)	69	39	20	47
HGV %Proportion	7%	10%	10%	4%

Table 3.4 – Food Store Vehicular Trip Rate and Attraction Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Trip Rates (per 100sqm GFA)	4.615	3.030	9.056	9.550
Food Store Trips (2,000sqm GFA)	92	61	181	191

Table 3.5 – Local Centre Vehicular Trip Rate and Attraction Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Trip Rates (per 100sqm GFA)	5.025	4.780	6.039	6.495
Local Centre Trips (600sqm GFA)	30	29	36	39

Table 3.6 – Primary School Vehicular Trip Rate and Attraction Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Trip Rates (per pupil)	0.269	0.189	0.045	0.063
Primary School Trips (all 420 pupils)	113	79	19	27

- 3.5 The proposed development at Peel Hall will include the existing open space and local authority community buildings and sports area on the land off Windermere Avenue and Grasmere Avenue to the southeast of the site. This will be linked to the site and new sports pitches will be provided to replace those currently located on the HCA land to the east of the site, off Mill Lane.
- 3.6 The facilities will likely include full-sized grass pitches, a multi-use games area, junior grass pitches and changing facilities for up to four teams. The expectation is that these proposals will also include a clubhouse/function room for community use.
- 3.7 The sports pitches will predominantly be used at the weekends and it was agreed at the 2013 Public Inquiry (Appeal ref: APP/M0655/A/13/2192076) that this element of the development proposals would not need to be included within the weekday modelling. Furthermore there will be an offset in trip generation from the current on-site uses at the existing location and from the sports pitches on the HCA land, which are to be relocated.
- 3.8 It is likely that the proposed clubhouse facilities will be used by the local community, for example, by a mother and toddler group, and also that the sports pitches may be used during the evening after 1800 hours. Therefore it was agreed at the 2013 Inquiry that the clubhouse facilities for local community use may attract up to 15 car movements over two-hour time slots during the day between the hours of 0900 and 1800. As this is cannot be accurately modelled within our one hour peak AM and PM time periods, the 15 movements have been concentrated into each peak hour. This is set out on **Table 3.7** below.

Table 3.7 – Sports Pitches and Ancillary Facilities Vehicular Trip Rate and Attraction Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Community Use Trips	10	5	7	8

- 3.9 The size of the family pub was changed in April 2016 as the scheme evolved, reducing to 800sqm GFA. The change in floor area was set out in Technical Note TN/12 and the resulting trips are represented in **Table 3.8** below.

Table 3.8 – Family Pub/Restaurant Vehicular Trip Rate and Attraction Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Trip Rates (per 100sqm GFA)	-	-	2.847	1.845
Family Pub/Restaurant Trips (800sqm GFA)	-	-	23	15

3.10 In summary, the vehicle trips associated with each land use are tabulated below for ease of reference in **Table 3.9**. Please note that no discount has been applied to these figures.

Table 3.9 – Peel Hall Vehicular Trip Generation Summary

Development Traffic	AM Peak Hour		PM Peak Hour	
	Arrival	Departure	Arrival	Departure
Residential Trips	270	628	594	368
Care Home Trips	7	7	8	8
Employment Trips*	69	39	20	47
Food Store Trips	92	61	181	191
Local Centre Shop Trips	30	29	36	39
Primary School Trips	113	79	19	27
Community Uses	10	5	7	8
Family Pub/Restaurant Trips	-	-	23	15
Total Trips	591	848	888	703

* See Table 3.3 for HGV proportion of peak hour traffic

2030 Traffic Flows

- 3.11 It has been agreed that the through route is to be tested in the future year of 2030.
- 3.12 The development trips set out in **Table 3.9** above are to be discounted in line with TN/19 (Section 5.0) as follows for the AM and PM peak hours:
- i. Residential 0%
 - ii. Care Home 0%
 - iii. Employment 0%
 - iv. Food Store 100% (70% discount and 30% pass-by)
 - v. Local Centre 100%
 - vi. Family Pub/Restaurant 0%
 - vii. Primary School 50%
 - viii. Community uses 0%
- 3.13 These discounts have been applied to the figures contained in **Table 3.9** and a revised summary of the proposed Peel Hall development trips for 2030 with a through route is set out on **Table 3.10** below for the relevant access locations.

Table 3.10 – Summary of 2030 Peak Hour Vehicle Trip Numbers at Each Access Location (with discounts applied)

Access	Quantum of Development	AM Arrival	AM Departure	PM Arrival	PM Departure
Poplars Avenue (Central)	180 dwellings	41	94	89	55
	care home	7	7	8	8
	<i>Total</i>	<i>48</i>	<i>101</i>	<i>97</i>	<i>63</i>
Poplars Avenue (West) through to A49 & Mill Lane/Blackbrook Avenue	food store*	28	18	54	57
	local shops	0	0	0	0
	family pub	0	0	23	15
	850 dwellings	191	445	421	261
	primary school	57	40	10	14
	employment land	69	39	20	47
	<i>Total</i>	<i>345</i>	<i>542</i>	<i>528</i>	<i>394</i>
Mill Lane	150 dwellings	34	79	74	46
Birch Avenue	20 dwellings	5	11	10	6
Grasmere Avenue	community uses	10	5	7	8
Total		442	738	716	517

* pass-by trips only

3.14 The through route scenario test for the Peel Hall SATURN model can be carried out with the above vehicle trips and loading.

3.15 It can be seen from **Table 3.10** that there will be up to around an additional 1,200 vehicle trips on the local highway network in each of the weekday peak hours as a result of the Peel Hall development.

Appendix 1

Indicative Through Route Alignment

Appendix 2

Peel Hall Proposed Alignment for Through Route to A49

NOTES:

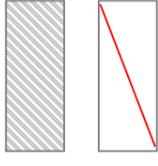
Drawing based on Appletons Opportunities & Constraints plan 1820_21 dated 21/10/14.

PRELIMINARY

KEY

New on-street parking bays

Red line boundary



ISSUE REASON FOR REVISION DATE

PROJECT:

PEEL HALL,
WARRINGTON

CLIENT:

SATNAM MILLENNIUM
LTD

PROJECT REFERENCE:
1107

DRAWING NUMBER:
52/A

SCALE:
1:1,250 @ A3

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TITLE:

PEEL HALL PROPOSED ALIGNMENT
FOR THROUGH ROUTE TO A49

DATE:

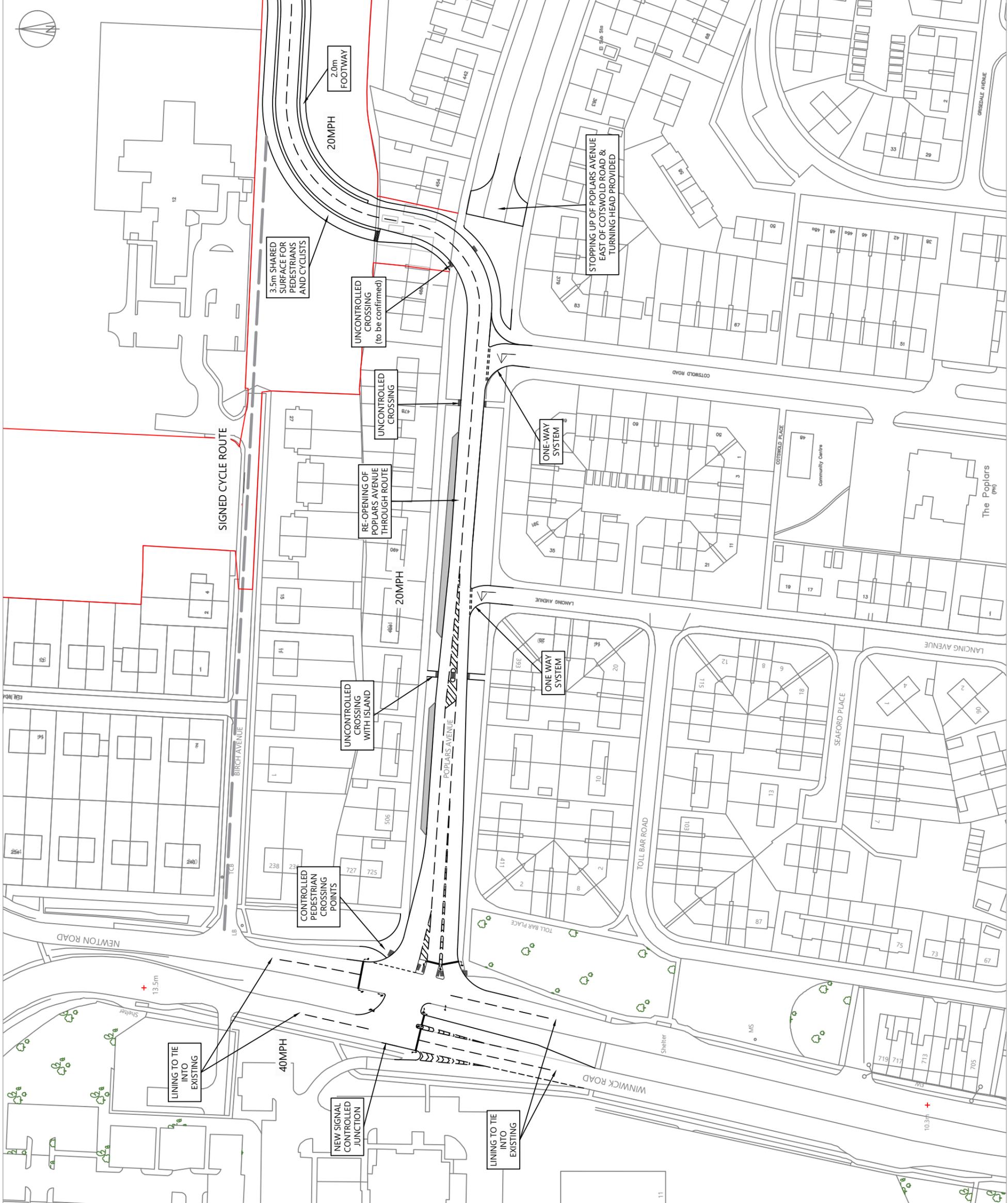
13/06/17

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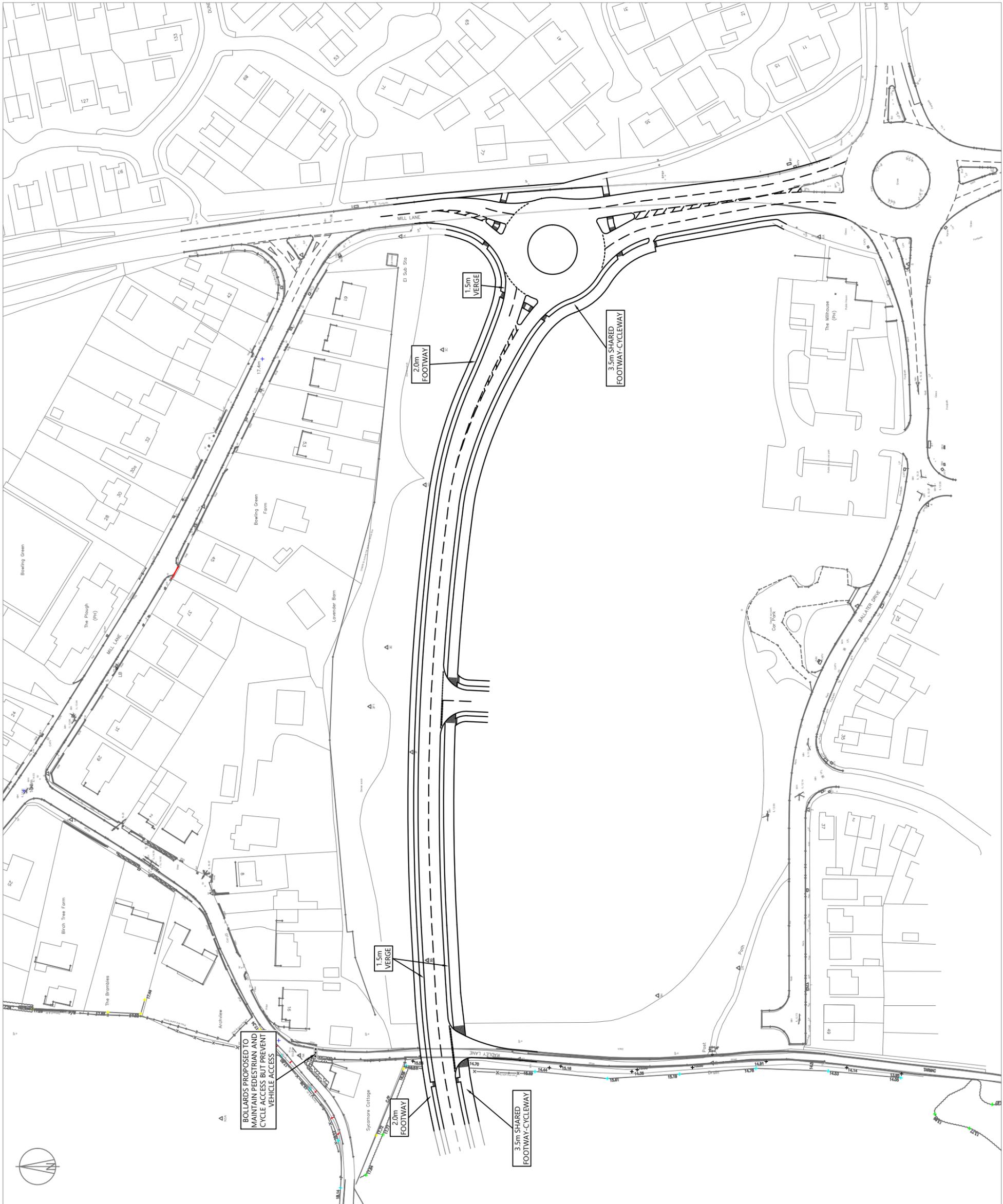
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Appendix 3

Proposed Main Site Access at Blackbrook Avenue



NOTES: Drawing based on Powers & Tiltman topographical survey 6297/01 dated 25/07/11 and Geomatic Surveys Ltd topographical survey 01532/01 dated 27/07/15. © Crown copyright and database rights 2015 OS Licence 100035409.	ISSUE	REASON FOR REVISION	DATE

PROJECT: PEEL HALL, WARRINGTON	CLIENT: SATNAM MILLENNIUM LTD	PROJECT REFERENCE: 1107	DRAWING NUMBER: 10/L	SCALE: 1:1,250 @ A3
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