

**LAND AT 144 THE BARNS PHASE 2, LOWER ROAD, KNOWSLEY –
PROPOSED RESIDENTIAL DEVELOPMENT**

TRANSPORT STATEMENT



LAND AT 144 THE BARNS PHASE 2, LOWER ROAD, KNOWSLEY – PROPOSED RESIDENTIAL DEVELOPMENT

TRANSPORT STATEMENT

DOCUMENT CONTROL

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LAND AT 144 THE BARNS PHASE 2, LOWER ROAD, KNOWSLEY – PROPOSED RESIDENTIAL DEVELOPMENT

TRANSPORT STATEMENT

1.0 Introduction and Background

- 1.1 This Transport Statement has been prepared on behalf of the Applicant to accompany the planning application for the creation of residential development on land at 144 the Barns Phase 2, Lower Road, Halewood, Knowsley. The residential scheme is proposing to create 6 dwellings. An earlier scheme received planning consent for 12 dwellings includes the means of access (planning application 21/00074/FUL refers).
- 1.2 In preparing this Transport Statement the following has been undertaken :-
- an inspection of the existing site, the highway access and the adjacent local highway network;
 - an interrogation and analysis of the road safety record for the local highway network;
 - a consideration of the relevant national and local policy;
 - an examination of the residential scheme and plans;
 - an assessment of the traffic generating potential of the new residential scheme;
 - an assessment of the traffic and highway impact of the residential development scheme;
 - an assessment of the accessibility of the proposed development by public transport, walking and cycling.

- 1.3 The following Sections describe the analysis and assessment undertaken.

2.0 Site Location and Existing Use

- 2.1 The development site is located on land situated to the north of Lower Road, Halewood. Figure 1 shows the location of the development site in relation to the surrounding road network.

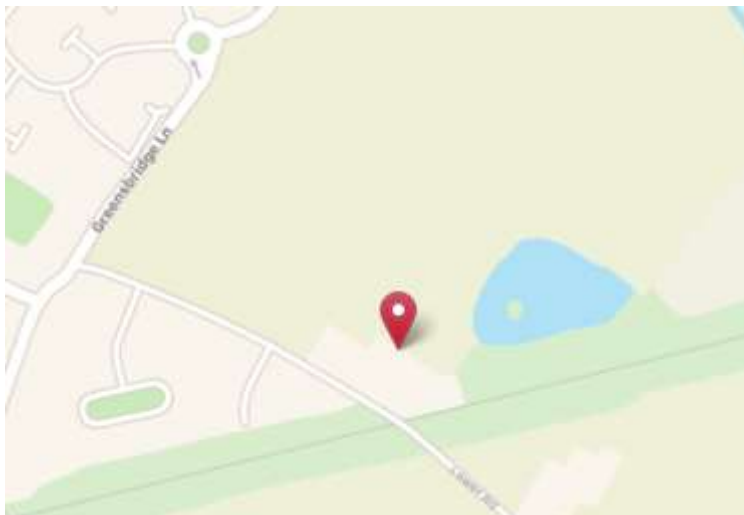


Figure 1 - Location of the Site

- 2.2 The site currently consists of a residential development located close to Lower Road and served by an access located towards the south-easterly boundary of the site. This existing access provides for access into and out of the existing residential development. This access also serves as access for the refuse collection service for the existing residential development. The site access does not have any pedestrian provision in the form of segregated footways. There are car parking spaces located to the rear of the residential dwellings.
- 2.3 An application received consent for the creation of 12 residential dwellings on the site including the use of two access points - one for inbound movements and the other for outbound movements.
- 2.4 A site location plan is contained in **Appendix A**.
- 3.0 Existing Highway Conditions**
- 3.1 Road Layout and Hierarchy**
- 3.2 The proposed development is located on the northerly side of Lower Road, Halewood and situated to the westerly side of the Liverpool – Manchester railway line and railway bridge going over Lower Road.
- 3.3 Lower Road in the vicinity of the proposed residential development site is subject to a speed limit of 30mph. The speed limit on Lower Road does change to a higher speed limit of 40mph to the easterly side of the railway bridge. There is a system of street lighting along Lower Road. There is a footway fronting the site and there is a footway along the southerly side of Lower Road. Lower Road has a single lane in each direction. Along the southerly side of Lower Road there is residential development that extends from the railway bridge to the junction with Greensbridge Lane to the west.
- 3.4 Lower Road connects with Greensbridge Lane as a priority junction. Greensbridge Lane has a single layout in each direction and is subject to a speed limit of 30mph. There are footways located on either side of Greensbridge Lane. Greensbridge Lane connects into the A562 to the south at a roundabout junction.
- 3.5 Lower Road, to the east of the proposed development site, connects into Higher Road at a priority junction. Finch Lane provides a north-south connection between the A562 and Lower Road.
- 3.6 Road Safety Record**
- 3.7 The crashmap database (www.crashmap.co.uk) has been interrogated to assess the road safety record of Lower Road and the adjacent road network in the vicinity of the proposed residential development. The output from the accident interrogation is shown in the Figure below.

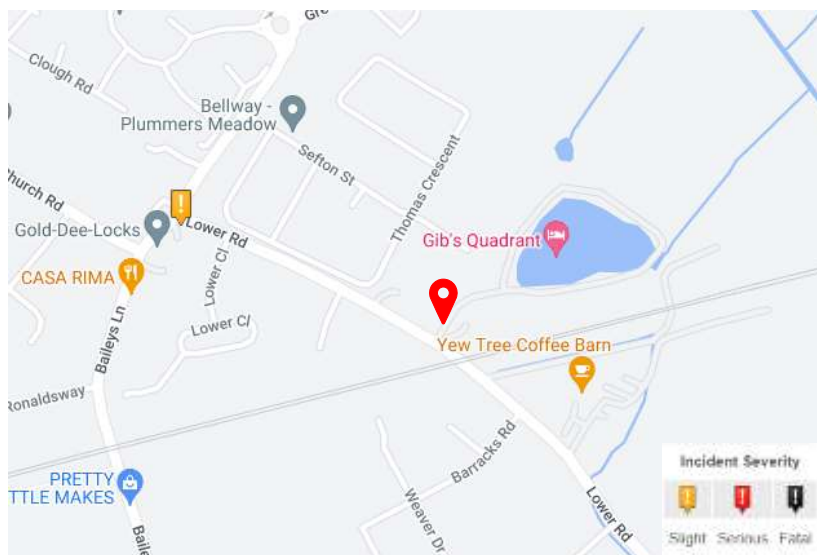


Figure 2 - Road Safety Record near the Development Site (www.crashmap.co.uk)

- 3.8 There have been no injury accidents at the existing site access with Lower Road or along Lower Road in the vicinity of the proposed scheme during the five-year period of the accident analysis. There has been a slight injury accident recorded at the junction of Lower Road with Greensbridge Lane. The road safety record for Lower Road and the site access over a recent five-year period can be considered to be good.
- 3.9 Whilst it is always regrettable when there are any injury accidents in the road network, the road safety record for the location should not represent a material concern in the context of the proposed residential development scheme.
- 3.10 **Public Transport**
- 3.11 The proposed development site is served by public transport. There is a bus stop located within 110 metres of the site access on Lower Road to the west of the development site and near Rawlinson Crescent. The bus stop provides a bus frequency of one bus per hour.
- 3.12 Along Church Road there are at least 11 buses per hour travelling along the road. These services include the 79, 166 and 188 which provide bus connections between Halewood and Liverpool and Belle Vale.

Table 1 - Bus Flows along Church Road (Southbound)

Service No	Route	Services per Hour		
		AM	Off Peak	PM
79	Liverpool – Halewood	5	5	5
166	Belle Vale – Halewood	1	1	1
Total		6	6	6

Table 2 - Bus Flows along Church Road (Northbound)

Service No	Services per Hour
------------	-------------------

	Route	AM	Off Peak	PM
79	Halewood - Liverpool	4	4	4
188	Belle Vale – Halewood	1	1	1
838	Liverpool Freeport	1	0	0
Total		6	5	5

- 3.13 The bus stops in Church Road are located approximately 385 metres away from the site access which is comfortably within the 400-metre ‘desirable’ walking distance recommended for accessing public transport (CIHT, Providing for Journeys on Foot, 2000).



Figure 3 - Bus Map

- 3.14 Cycle Access

- 3.15 In relation to cycling, it is widely recognised that cycling can be a substitute for car trips particularly for journeys under 5km. An assessment has been made of the locations that can be accessed within a 5km cycle ride from the proposed development. The analysis is illustrated below in Figure 4.



Figure 4 - Cycle Map to the Development Site (www.appraveltimeplatform.com)

- 3.16 A map of the local routes is shown in the Figure 5 below. The map below indicates cycle routes in the wider vicinity of the proposed residential development.



Figure 5 - Cycle Map of Routes

3.17 Walking Access

3.18 The National Travel Survey 2019 indicates that in the last 5 years, people in England made 14% more walking trips, and spent 12% longer walking, per year. The Chartered Institution of Highways and Transportation (CIHT) produced their 'Guidelines for Journeys on Foot' in 2000 which suggests a 'preferred maximum' walking distance of 2km.

3.19 An assessment has been made of the locations that can be accessed within a 2km walk from the development site. This analysis is depicted in Figure 6 below.

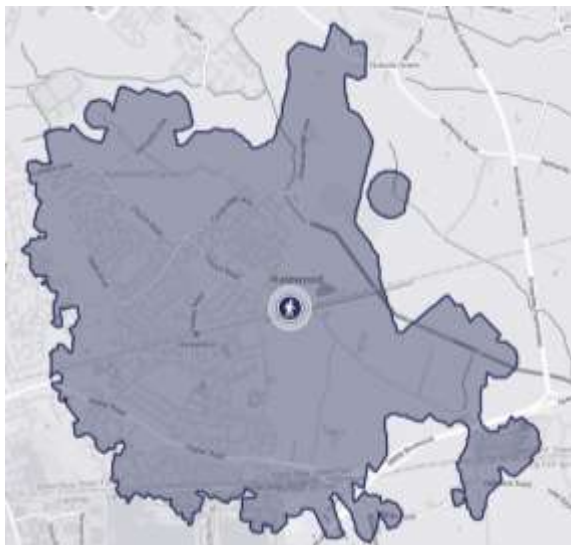


Figure 6 - Walking Access to the Development Site (www.app.traveltimeplatform.com)

3.20 There are footways on either side of Lower Road that provide walking connections to nearby bus stops and Halewood centre.

3.21 The walking distance to existing bus stops is also clearly important in determining the accessibility of a site. As described above, the nearest bus stops are located on

Lower Road to the west of the development and within 110 metres from the development site. These are considered to be an acceptable walking distance to access bus services.

3.22 Minimum Accessibility Standard Assessment

3.23 The Council requested a Minimum Accessibility Standard Assessment (MASA) is performed for the proposed residential development. A MASA has been undertaken and this is provided in **Appendix B**.

3.24 The prepared MASA meets the minimum score requirement for all the sections except for public transport. The shortfall in the minimum score in the public transport element is considered to be due to there being a limited bus frequency in the vicinity of the proposed site. There are though at least 11 bus services per hour accessible in Church Road and within a walking distance of less than 400 metres from the proposed residential development.

4.0 Transport Policy Context

4.1 National Policy

4.2 National Planning Policy Framework (NPPF) (2023)

4.3 The NPPF sets out the Government's economic, environmental and social planning policies for England. The NPPF introduces a set of core land-use planning principles which should underpin both plan-making and decision-taking.

4.4 Section 9 of the NPPF covers 'Promoting sustainable transport'. Relevant elements of this section are summarised as follows.

4.5 **Paragraph 114** - In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- (a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- (b) safe and suitable access to the site can be achieved for all users;
- (c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code [48](#); and
- (d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

4.6 **Paragraph 115.** Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

4.7 **Paragraph 116.** Within this context, applications for development should:

- (a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;

- (b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
 - (c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
 - (d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
 - (e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.
- 4.8 Paragraph 117.** All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.
- 4.9 Local Policy**
- 4.10 Knowsley Core Strategy**
- 4.11 Policy CS7 : Transport Networks**
- 4.12 Location, Design and Management of New Development indicates that :**
- 4.13 New development will be required to be:**
- a) Located and designed to prioritise accessibility and sustainable modes of travel through a choice of walking, cycling, public transport, and incorporate access for private vehicles. Where deficiencies are identified, developer contributions will be required to improve the accessibility of the location;
 - b) Located and designed to ensure that larger scale proposals (attracting a lot of visitors, customers and/or employees) are located in the most accessible locations;
 - c) Where subject to a planning application, accompanied (except in the case of smaller scale proposals) by Transport Assessments and/or Travel Plans;
 - d) In compliance with adopted cycle, car, disabled and service vehicle parking standards for different types and scales of new development;
 - e) Inclusive of measures that will mitigate carbon emissions and improve air quality where appropriate; and
 - f) Consistent with safeguarding arrangements that secure the operational integrity and safety of Liverpool John Lennon Airport.
- 4.14 East of Halewood SPD**
- 4.15** The East of Halewood SPD sets out a vision for the site area and also sets out what subsequent planning application submissions in the SPD area will need to take into account. In terms of transport, the East of Halewood SPD creates a hierarchy of streets each serving a different purpose.
- 4.16 Ensuring a Choice of Travel SPD**
- 4.17** The SPD has been developed to advise developers on the siting of development in appropriate locations to ensure it is accessible by a range of travel modes. The SPD provides a Minimum Accessibility Standard Assessment which developments must be assessed against. The SPD also provides the Council's parking standards for development.

4.18 [Manual for Streets](#)

4.19 Manual for Streets 1 and Manual for Streets 2 provides guidance on a range of highway and transport topics and it focuses on lightly trafficked residential streets including the geometry and layout of those streets. The principles within it can be applied to other situations such as high streets and lightly trafficked lanes in rural areas.

4.20 [Design Manual for Roads and Bridges](#)

4.21 This provides a suite of guidance for application generally on high speed roads managed by Highways England. The principles and approaches though are applied by some local highway authorities on some of its road network.

5.0 **Development Proposals**

5.1 [Proposed Residential Development](#)

5.2 The development proposes to create 6 No dwellings on the land north of Lower Road. The scheme proposes to create the following :-

- 3 No 2 Bed Dwellings
- 3 No 4 Bed Dwellings

5.3 The proposed site plan is contained in **Appendix C**.

5.4 The site access arrangements were approved under an earlier scheme (planning application 21/00074/FUL refers). The current proposals for 6 new dwellings will use the same access arrangements. The development will be served by an internal road layout. The earlier application obtained consent for two points of access on Lower Road but these are proposed to be for single file traffic. The site access located to the westerly edge of the scheme will provide access into the site. The easterly access will be used for outbound traffic movements onto Lower Road. The proposed dwellings will be served by an access layout that was approved under the earlier application.

5.5 The proposed development is suitable to be served by the access set out on the site layout.

5.6 [Footway Widths](#)

5.7 The site layout has been reviewed and the footways within the proposed site layout are predominantly 2.0 metres throughout the site.

5.8 [Site Layout and Signing](#)

5.9 The Council requested in the previously approved scheme that a signing scheme for the access and exit as well as the internal site arrangement was prepared. The signing and marking layout was prepared for the earlier scheme and is included for the current application in **Appendix D**.

6.0 Traffic Generation and Highway Impact

6.1 Car Parking

6.2 The development will provide 3 car parking spaces for each of the 4 Bedroom dwellings and 2 spaces for each of 2 Bedroom dwellings.

6.3 The size requirements are considered to comply with the requirements of the Council.

6.4 Cycle Parking

6.5 The scheme will provide cycle parking within the proposed scheme.

6.6 Traffic Generation

6.7 The traffic generation forecast has used the same trip rates that were approved under application 21/00074/FUL. The traffic generation analysis used privately owned houses and this is considered to provide a robust forecast of the traffic generation for the proposed development. The potential traffic generation for the proposed residential development is shown in Table 3 below.

Table 3 - Traffic Generation of the Proposed Residential Development

Trip Rates							Traffic Generation					
							AM Peak (8.00-9.00)			PM Peak (17:00-18:00)		
Units	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
6	0.175	0.419	0.594	0.327	0.166	0.493	1	3	4	2	1	3
Total Traffic Generation							1	3	4	2	1	3

6.8 TRICS data from the interrogation of the database is contained in **Appendix E**.

6.9 Visibility Splays

6.10 The site access arrangements were approved under an earlier planning application (21/00074/FUL) and as part of the application submission, compliant visibility splays were provided.

6.11 Swept Path Analysis

6.12 The previously approved application tested the site layout with a range of vehicles using swept path analysis. This current application has been tested with a larger refuse vehicle – 11.2m long – and the analysis shows that the vehicle is able to access and egress the site layout. The swept path movements for the refuse vehicle is contained in **Appendix F**.

6.13 Traffic and Highway Safety Impact

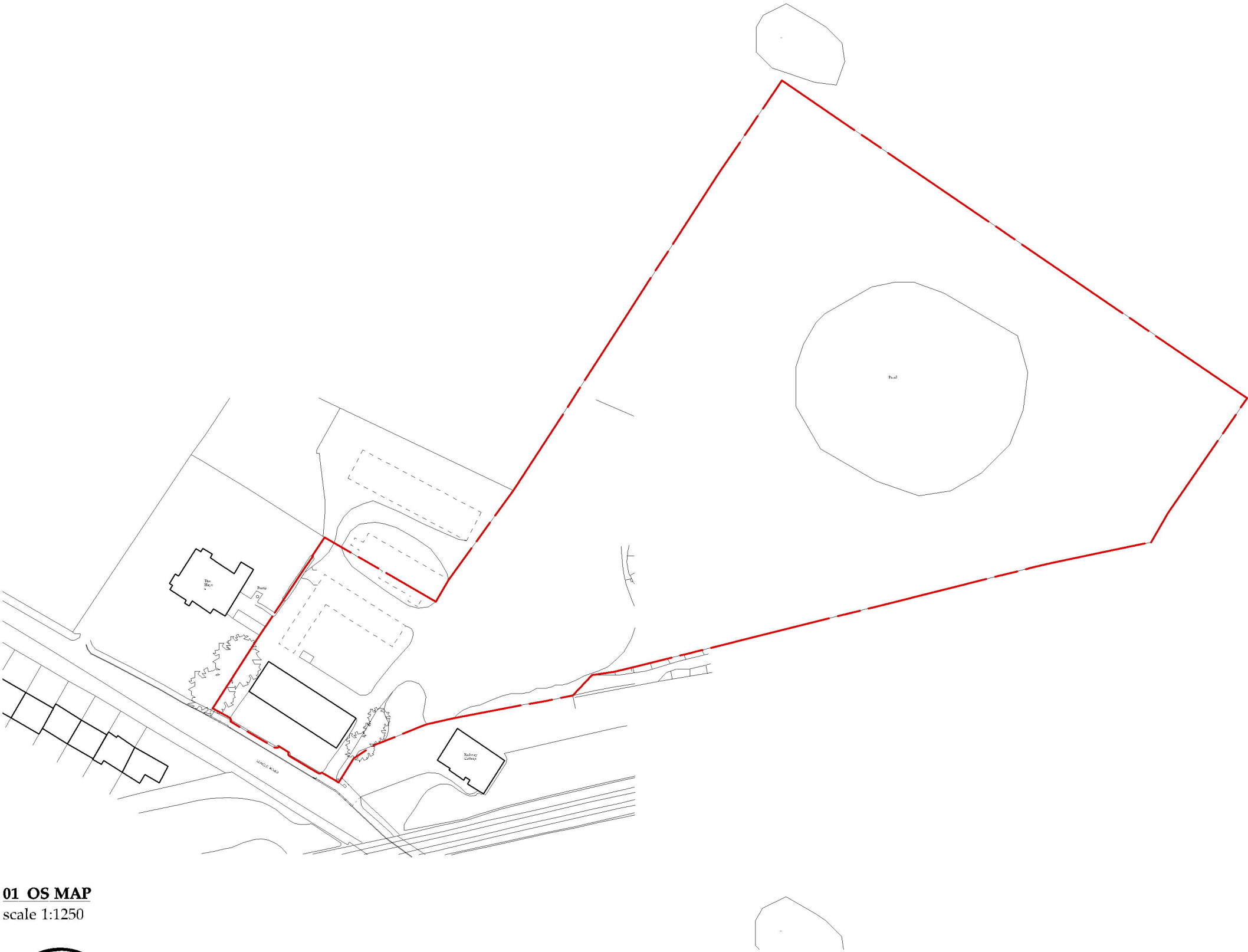
6.14 The proposed residential development is forecast to generate 4 traffic movements in the morning peak period and 3 traffic movements in the evening peak period. The proposed residential development is anticipated to have a negligible impact on highway capacity.

- 6.15 The proposed residential scheme is not anticipated to have the potential to create a worsening in the road safety record.

7.0 Summary and Conclusions

- 7.1 This report has been produced to accompany a planning application to create 6 dwellings on land to the north of Lower Road, Halewood.
- 7.2 The anticipated traffic generation for the morning peak, afternoon peak and during the day is forecast to be relatively low. The scheme provides parking levels that is appropriate for the proposed development.
- 7.3 The previous application which gained consent provided compliant visibility splays in each direction.
- 7.4 The road safety record for Lower Road has been demonstrated to be good and the traffic from the proposed development is predicted to be negligible therefore the potential for a worsening in the road safety record is not anticipated for the proposed residential development.
- 7.5 This Transport Statement has demonstrated the traffic impact of the proposed development will have negligible effect on the operation or capacity of the local highway network and, combined with the good road safety record within the local highway network, then this should mean on highway and traffic grounds the application for the proposed residential development scheme should be approved.

Appendix A



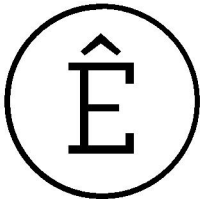
North Point -

Scale Bar -

Application Site Edged in red -

No.	Drawing Title	Scale	Rev
0.001	OS Map & Drawing Schedule	1:1250	E
1.001	Existing Site Plan	1:500	C
1.002	Existing Ground Plan	1:200	C
1.003	Existing First Floor & Roof Plan	1:200	D
1.004	Existing Eleavtions A & B	1:200	D
1.005	Existing Elevations C & D	1:200	C
1.006	Existing Street Elevation E	1:200	D
2.000	Proposed Site Plan	1:1000	C
2.001	Proposed Site Plan	1:500	E
2.002	Proposed Ground Plan	1:200	E
2.003	Proposed First Floor & Roof Plan	1:200	E
2.004	Proposed Eleavtions A & B	1:200	E
2.005	Proposed Elevations C & D	1:200	E
2.006	Proposed Street Elevation E	1:200	E
2.007	Proposed Detail Elevation	1:50	E

01 OS MAP
scale 1:1250



Appendix B

Accessibility Assessment Form

144 The Barns, Lower Road, Halewood, Knowsley

Access on foot			Points	Score	Justification for Scoring
Location	Residential Development: Is the site within 800m of a district or local centre (see Accessibility Maps) OR Non-residential development: Is the density of existing local housing (i.e. within 800m) more than 30 houses per hectare (see Accessibility Maps)	Yes	2	2	450m to local centre
		No	0		
Internal layout	Does ‘circulation’ and access inside the sites reflect direct, safe and easy to use pedestrian routes for all, with priority given to pedestrians when they have to cross roads or cycle routes?	Yes	1	1	2m footway Crossings Dropped crossings
		No	0		
External layout	Are there barriers between site and local facilities or housing, which restrict pedestrian access? Examples include no dropped kerbs at crossings or on desire lines; steep gradients; a lack of a formal crossing where there is heavy traffic; security concerns, e.g. lack of lighting	Yes	-1	1	Street lighting present; dropped crossings outside the development; typical gradient;
		No	1		
	Total Score			4	
	Minimum score required			4	

Comments or action needed to correct any shortfall

Access by Cycle			Points	Score	Justification for Scoring
Location	<u>Residential Development:</u> Is the site within 1500m of a district or local centre (see Accessibility Maps) Or <u>Non-residential development:</u> Is the density of existing local housing (e.g. within 1500m) more than 30 houses per hectare (see Accessibility Maps)	Yes	2	2	450m to local centre; 1.00km to District Centre
		No	0		
Internal layout	Does 'circulation' and access inside the site reflect appropriate and direct cycle routes, with priority given to cyclists where they meet motor vehicles?	Yes	1	0	
		No	0		
External Access	Is the development within 400m of an existing or proposed designated cycle route and/ or proposes to create a link to a cycle route, or develop a route.	Yes	1	1	300m to a proposed cycle route
		No	-1		
Other	Development includes cycle parking, shower facilities, and lockers for cyclists.	Yes	1	1	Cycle parking
		No	0		
	Total Score			4	
	Minimum score required			3	
Comments or action needed to correct any shortfall					

Access by Public Transport			Points	Score	Justification for Scoring
Location and access to public transport	Is the site within a 200m walk of a bus or tram stop, and/or within 400m of a rail station?	Yes	2	2	110m to bus stop
		No	0		
	Are there barriers on direct pedestrian routes to bus or tram stops or rail stations e.g. a lack of dropped kerbs, footpaths less than 2m wide, a lack of formal crossings and / or bus stop infrastructure.	Yes	0	1	
		No	1		
Frequency	High (four or more bus or tram services or trains an hour)		2	0	1 service per hour
	Medium (two or three bus or tram services or trains an hour)		1		
	Low (less than two bus or tram services or trains an hour)		0		
Other	The proposal contributes to bus priority measures serving the site	Yes	1	0	
		No	0		
	The proposal contributes to bus stops, bus interchange, tram facilities or bus or rail stations in the vicinity and/or provides bus stops or bus interchange in the site	Yes	1	0	
		No	0		
	The proposal contributes to an existing or new supported bus service	Yes	1	0	
		No	0		
	Total Score			3	
	Minimum score required			5	
Comments or action needed to correct any shortfall					

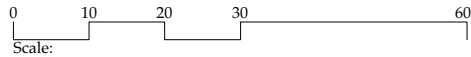
Parking			Points	Score	Justification for Scoring
Parking	The off-street parking provided is as advised in Section 4 for that development type	Yes	1	1	
		No	0		
	The off street parking provided is less than 75% of the amount advised in Section 4 for that development type (or shares parking provision with another development).	Yes	2	0	
		No	0		
	For development in controlled parking zones:				
	Is the proposal for a car free development?	Yes	1		
		No	0		
	Does it supports the control or removal of on-street parking spaces (inc provision of disabled spaces) or contributes to other identified measures in the local parking strategy (including car clubs)	Yes	1		
		No	0		
		Total Score			1
	Minimum score required			1	
Comments or action needed to correct any shortfall.					

Appendix C



THE BARNs No.144

ARCHITECTURAL EMPORIUM Ltd
EMAIL: mail@architectural-emporium.co.uk
WEB: www.architectural-emporium.co.uk
ADDRESS: 13 Hope St, Liverpool, L1 9BQ
PHONE: +44 (0)151 363 0000



North Point -



- Key:**
Application Site
(Previously) Approved Application / Adjacent Land Owned by Client

Plot Schedule:

Existing Houses

Plot No.	House Type:
Ex01 -	N/A (existing)
Ex02 -	N/A (existing)
Ex03 -	N/A (existing)

Proposed Houses House Type:

P101af -	Type 2
P102af -	Type 2
P103 -	Type 2
P104 -	Type 2
P105 -	Type 1a
P106 -	Type 1
P107 -	Type 1
P108 -	Type 1
P109 -	Type 1
P110 -	Type 1
P111 -	Type 3a
P112 -	Type 3b
P113 -	Type 1a
P114 -	Type 1
P115 -	Type 1
P116af -	Type 4
P117af -	Type 4
P118af -	Type 4

af = Affordable Housing Unit

Red = Additional Housing Unit from previous approved Planning Application.

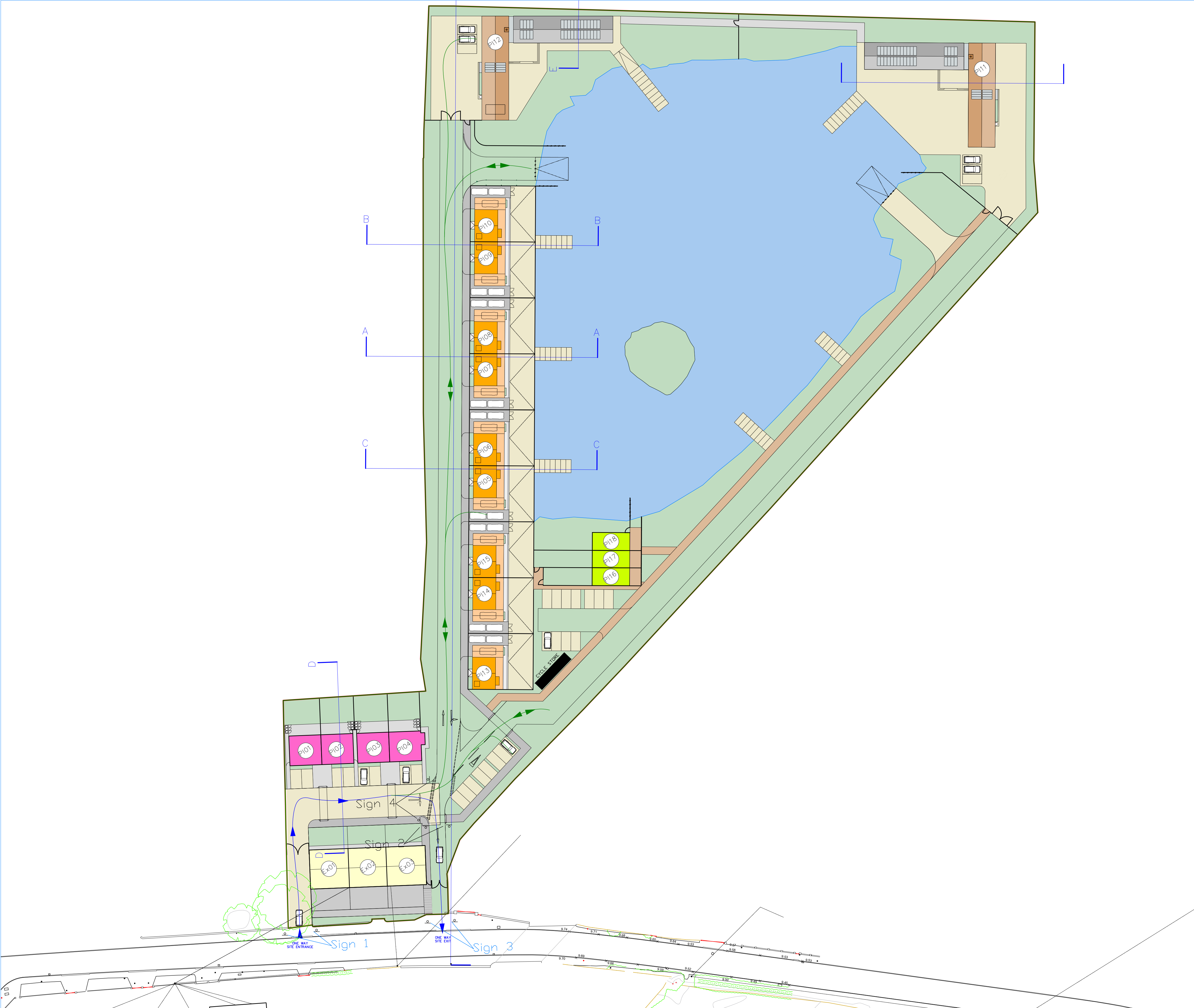
Blue = Repositioned Housing Unit from previously approved Planning Application.

Rev H: 10.06.24
Cycle store added

FOR: PLANNING
CHECKED BY: AJ | DRAWN BY: JB
SCALE: 1:1000
PAPER SIZE: A3
JOB: THE BARNs & No. 144

2.001_RevH
FIRST ISSUE: 25.08.23
PROPOSED SITE PLAN 02

Appendix D



Sign Schedule
Sign Ref 1 - Diag 833 'IN' 300mm wide x 225mm high
Sign Ref 2 - Diag 834 'OUT' 300mm wide x 225mm high
Sign Ref 3 - Diag 836 'NO ENTRY' 300mm wide x 225mm high
Sign Ref 4 - Diag 835 'NO EXIT' 300mm wide x 225mm high
Road Marking Schedule
Ref 1 - Diag 1003A, 200mm wide, 600mm line with 300mm gap
Ref 2 - Diag 1009A, 100mm wide, 600mm line with 300mm gap
Ref 3 - Diag 1004, 100mm wide, 4000mm line with 2000mm gap
Ref 4 - Diag 1023A Triangle 3750mm long
Ref 1 - Diag 1038 Arrows 4000mm long

Revisions
A - cycle store added 1.7.2024

Client
MAC Roofing



Scheme
144 The Barns Phase 2, Lower Road, Halewood

Title
Signing and Markings Layout

Drawn	Checked	Date
N.Peet	M.Peet	4.06.2024
Project	Drawing No	Scale
502-24	502-24-2A	1:500 @ A1

Appendix E

Calculation Reference: AUDIT-756701-201017-1042

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
	WK WARWICKSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	3 days
08	NORTH WEST	
	CH CHESHIRE	2 days
	MS MERSEYSIDE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days
10	WALES	
	VG VALE OF GLAMORGAN	1 days
11	SCOTLAND	
	AG ANGUS	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 7 to 24 (units:)
 Range Selected by User: 5 to 25 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 25/09/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	3 days
Wednesday	3 days
Thursday	2 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	8
Edge of Town	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	13
------------------	----

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories

Secondary Filtering selection:

Use Class:

C3

13 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
10,001 to 15,000	4 days
15,001 to 20,000	4 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	7 days
1.1 to 1.5	6 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

13 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present

13 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	AG-03-A-01 KEPTIE ROAD ARBROATH	BUNGALOWS/ DET.		ANGUS
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		7	
	Survey date: TUESDAY		22/05/12	Survey Type: MANUAL
2	CH-03-A-08 WHITCHURCH ROAD CHESTER BOUGHTON HEATH	DETACHED		CHESHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		11	
	Survey date: TUESDAY		22/05/12	Survey Type: MANUAL
3	CH-03-A-09 GREYSTOKE ROAD MACCLESFIELD HURDSFIELD	TERRACED HOUSES		CHESHIRE
	Edge of Town Residential Zone Total No of Dwellings:		24	
	Survey date: MONDAY		24/11/14	Survey Type: MANUAL
4	LN-03-A-03 ROOKERY LANE LINCOLN BOULTHAM	SEMI DETACHED		LINCOLNSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		22	
	Survey date: TUESDAY		18/09/12	Survey Type: MANUAL
5	MS-03-A-03 BEMPTON ROAD LIVERPOOL OTTERSPOOL	DETACHED		MERSEYSIDE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		15	
	Survey date: FRIDAY		21/06/13	Survey Type: MANUAL
6	NY-03-A-08 NICHOLAS STREET YORK	TERRACED HOUSES		NORTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		21	
	Survey date: MONDAY		16/09/13	Survey Type: MANUAL
7	NY-03-A-11 HORSEFAIR BOROUGHBRIDGE	PRIVATE HOUSING		NORTH YORKSHIRE
	Edge of Town Residential Zone Total No of Dwellings:		23	
	Survey date: WEDNESDAY		18/09/13	Survey Type: MANUAL
8	NY-03-A-13 CATTERICK ROAD CATTERICK GARRISON OLD HOSPITAL COMPOUND	TERRACED HOUSES		NORTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		10	
	Survey date: WEDNESDAY		10/05/17	Survey Type: MANUAL
9	SH-03-A-06 ELLESMERE ROAD SHREWSBURY	BUNGALOWS		SHROPSHIRE
	Edge of Town Residential Zone Total No of Dwellings:		16	
	Survey date: THURSDAY		22/05/14	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

10	TW-03-A-02 WEST PARK ROAD GATESHEAD	SEMI-DETACHED		TYNE & WEAR
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 16 Survey date: MONDAY 07/10/13			
11	VG-03-A-01 ARTHUR STREET BARRY	SEMI-DETACHED & TERRACED		VALE OF GLAMORGAN
	Edge of Town Residential Zone Total No of Dwellings: 12 Survey date: MONDAY 08/05/17			
12	WK-03-A-02 NARBERTH WAY COVENTRY POTTERS GREEN	BUNGALOWS		WARWICKSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 17 Survey date: THURSDAY 17/10/13			
13	WK-03-A-03 BRESE AVENUE WARWICK GUYS CLIFFE	DETACHED HOUSES		WARWICKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 23 Survey date: WEDNESDAY 25/09/19			

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	17	0.092	13	17	0.336	13	17	0.428
08:00 - 09:00	13	17	0.175	13	17	0.419	13	17	0.594
09:00 - 10:00	13	17	0.129	13	17	0.157	13	17	0.286
10:00 - 11:00	13	17	0.157	13	17	0.152	13	17	0.309
11:00 - 12:00	13	17	0.161	13	17	0.198	13	17	0.359
12:00 - 13:00	13	17	0.217	13	17	0.175	13	17	0.392
13:00 - 14:00	13	17	0.180	13	17	0.180	13	17	0.360
14:00 - 15:00	13	17	0.184	13	17	0.235	13	17	0.419
15:00 - 16:00	13	17	0.276	13	17	0.230	13	17	0.506
16:00 - 17:00	13	17	0.272	13	17	0.166	13	17	0.438
17:00 - 18:00	13	17	0.327	13	17	0.166	13	17	0.493
18:00 - 19:00	13	17	0.281	13	17	0.198	13	17	0.479
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.451			2.612			5.063

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	7 - 24 (units:)
Survey date range:	01/01/12 - 25/09/19
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 TAXIS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	17	0.000	13	17	0.000	13	17	0.000
08:00 - 09:00	13	17	0.014	13	17	0.014	13	17	0.028
09:00 - 10:00	13	17	0.000	13	17	0.000	13	17	0.000
10:00 - 11:00	13	17	0.014	13	17	0.014	13	17	0.028
11:00 - 12:00	13	17	0.005	13	17	0.005	13	17	0.010
12:00 - 13:00	13	17	0.000	13	17	0.000	13	17	0.000
13:00 - 14:00	13	17	0.005	13	17	0.005	13	17	0.010
14:00 - 15:00	13	17	0.005	13	17	0.000	13	17	0.005
15:00 - 16:00	13	17	0.005	13	17	0.009	13	17	0.014
16:00 - 17:00	13	17	0.000	13	17	0.000	13	17	0.000
17:00 - 18:00	13	17	0.000	13	17	0.000	13	17	0.000
18:00 - 19:00	13	17	0.005	13	17	0.005	13	17	0.010
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.053			0.052			0.105

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 OGVS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	17	0.000	13	17	0.000	13	17	0.000
08:00 - 09:00	13	17	0.000	13	17	0.000	13	17	0.000
09:00 - 10:00	13	17	0.000	13	17	0.000	13	17	0.000
10:00 - 11:00	13	17	0.005	13	17	0.000	13	17	0.005
11:00 - 12:00	13	17	0.000	13	17	0.000	13	17	0.000
12:00 - 13:00	13	17	0.000	13	17	0.000	13	17	0.000
13:00 - 14:00	13	17	0.000	13	17	0.000	13	17	0.000
14:00 - 15:00	13	17	0.000	13	17	0.000	13	17	0.000
15:00 - 16:00	13	17	0.000	13	17	0.000	13	17	0.000
16:00 - 17:00	13	17	0.000	13	17	0.000	13	17	0.000
17:00 - 18:00	13	17	0.000	13	17	0.000	13	17	0.000
18:00 - 19:00	13	17	0.000	13	17	0.000	13	17	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.005			0.000			0.005

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

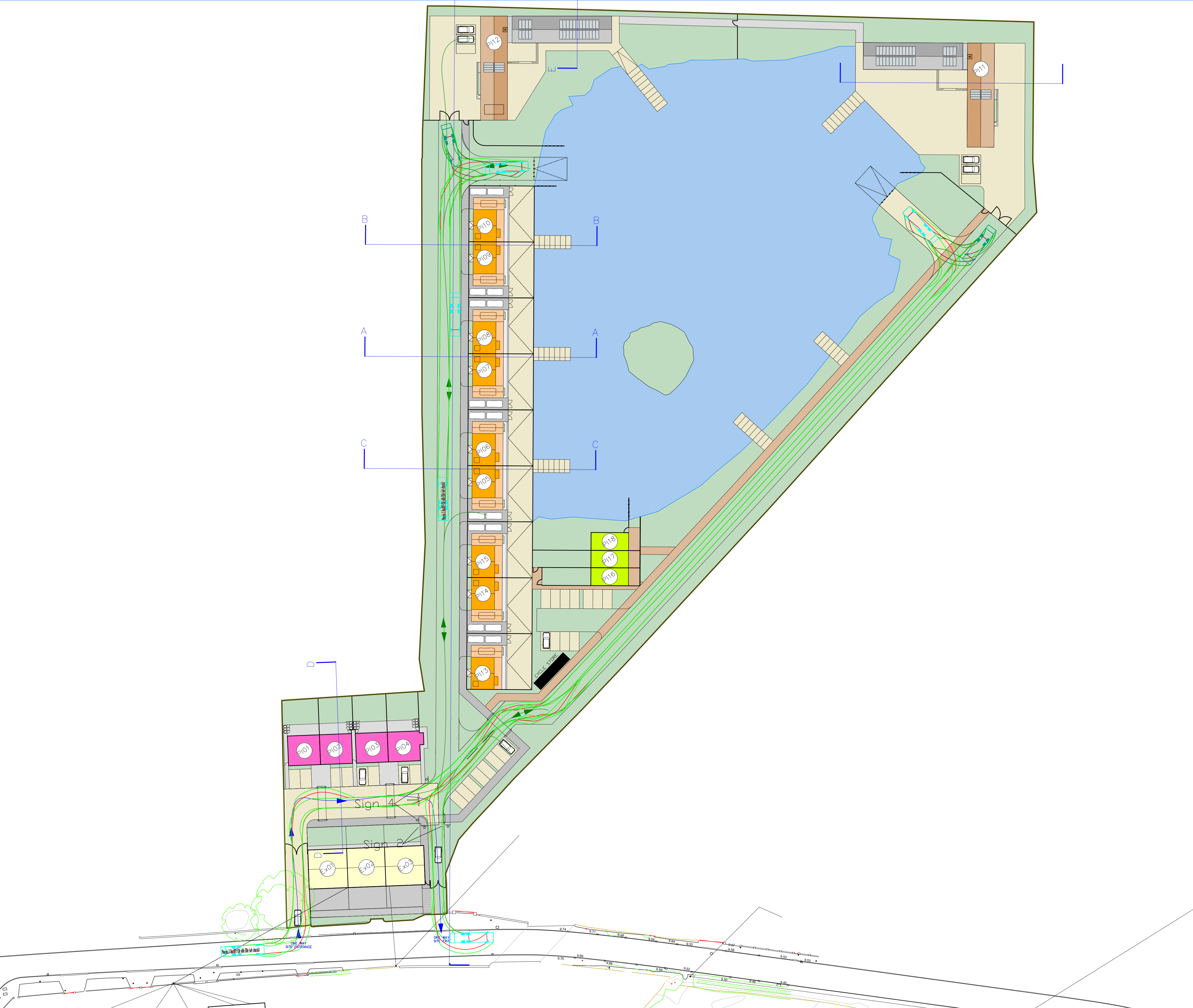
TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 CYCLISTS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	17	0.005	13	17	0.032	13	17	0.037
08:00 - 09:00	13	17	0.009	13	17	0.028	13	17	0.037
09:00 - 10:00	13	17	0.014	13	17	0.009	13	17	0.023
10:00 - 11:00	13	17	0.005	13	17	0.041	13	17	0.046
11:00 - 12:00	13	17	0.000	13	17	0.000	13	17	0.000
12:00 - 13:00	13	17	0.018	13	17	0.014	13	17	0.032
13:00 - 14:00	13	17	0.023	13	17	0.005	13	17	0.028
14:00 - 15:00	13	17	0.000	13	17	0.009	13	17	0.009
15:00 - 16:00	13	17	0.028	13	17	0.005	13	17	0.033
16:00 - 17:00	13	17	0.032	13	17	0.009	13	17	0.041
17:00 - 18:00	13	17	0.028	13	17	0.023	13	17	0.051
18:00 - 19:00	13	17	0.023	13	17	0.000	13	17	0.023
19:00 - 20:00	1	7	0.000	1	7	0.000	1	7	0.000
20:00 - 21:00	1	7	0.000	1	7	0.000	1	7	0.000
21:00 - 22:00	1	7	0.000	1	7	0.000	1	7	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.185			0.175			0.360

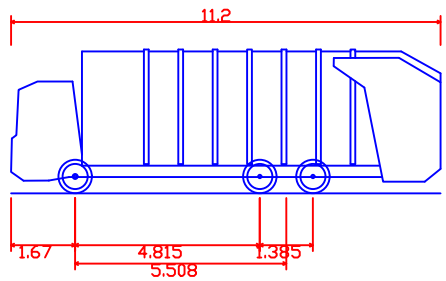
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Appendix F



Vehicle Used in the Swept Path Analysis



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
Overall Length 11.200m
Overall Width 1.67m
Overall Body Height 4.815m
Min Body Ground Clearance 1.395m
Track Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 9.500m

Revisions
A - cycle store added 1.7.2024

Client
MAC Roofing



Scheme
144 The Barns Phase 2, Lower Road, Halewood

Title
Swept Path - Refuse Vehicle

Drawn	Checked	Date
N.Peet	M.Peet	4.06.2024
Project	Drawing No	Scale
502-24	502-24-1A	1:500 @ A1