

54-58 Queen's Road, Reading

02/08/2019

Reference number BWREDE22



TRANSPORT NOTE ADDENDUM



SYSTRA

54-58 QUEEN'S ROAD, READING

TRANSPORT NOTE ADDENDUM

IDENTIFICATION TABLE

Client/Project owner	Pinemace Ltd
Project	54-58 Queen's Road, Reading
Study	Transport Note Addendum
Type of document	Report
Date	02/08/2019
Reference number	BWREDE22
Number of pages	16

APPROVAL

Version	Name		Position	Date	Modifications
1	Author	Beth Wilson	Senior Consultant	29/07/2019	Client Comments
	Checked by	Jamshid Soheili	Project Director	29/07/2019	
	Approved by	Jamshid Soheili	Project Director	29/07/2019	
2	Author	Beth Wilson	Senior Consultant	01/08/2019	
	Checked by	Jamshid Soheili	Project Director	02/08/2019	
	Approved by	Jamshid Soheili	Project Director	02/08/2019	

TABLE OF CONTENTS

1.	INTRODUCTION	5
1.1	CONTEXT	5
1.2	POLICY CONSIDERATIONS	5
1.3	REPORT STRUCTURE	5
2.	EXISTING CONDITIONS	7
2.1	INTRODUCTION	7
2.2	PEDESTRIAN AND CYCLE NETWORK	7
2.3	BUS AND RAIL CONNECTIONS	7
2.4	LOCAL AMENITIES	8
2.5	PERSONAL INJURY ACCIDENT DATA	8
2.6	SUMMARY	9
3.	PROPOSED REDEVELOPMENT	10
3.2	ACCESS ARRANGEMENTS	10
3.3	CAR AND CYCLE PARKING PROVISION	10
3.4	DELIVERIES AND SERVICING	12
3.5	CONSTRUCTION	12
4.	VEHICLE TRIP GENERATION	13
4.2	EXISTING OFFICE VEHICLE TRIP GENERATION	13
4.3	PRIOR APPROVAL CONSENT USE AT 54-58 QUEENS ROAD	13
4.4	PROPOSED DEVELOPMENT AT LAND TO THE REAR OF 54-58 QUEENS ROAD	14
4.5	NET TRIP GENERATION	14
4.6	PERSON TRIP GENERATION AND MODAL SPLIT	14
4.7	SUMMARY	15
5.	SUMMARY AND CONCLUSION	16

LIST OF TABLES

Table 2-1	Summary of Bus Routes from London Road	7
Table 2-2	Summary of Walking and Cycling Distances to Local Amenities	8
Table 3-1	Site Accommodation Schedule	10
Table 3-2	Car Parking Requirements	11
Table 4-1	Existing Office Trip Generation	13
Table 4-2	Prior Approval Consented Site Trip Generation	13
Table 4-3	Proposed Site Trip Generation	14
Table 4-4	Net Trip Generation	14
Table 4-5	Census Travel to Work Modal Split	15

APPENDICES

- Appendix A – Consented Application Transport Note
- Appendix B – Proposed Site Plan
- Appendix C – Proposed Site Access Arrangements
- Appendix D – Swept-path Analysis of Car Parking Bays

1. INTRODUCTION

1.1 Context

- 1.1.1 This Transport Note Addendum (TN) has been prepared by SYSTRA Ltd on behalf of Pinemace Limited to support a planning application for 9 residential units on land to the rear of 54-58 Queen's Road, Reading. This portion of the site currently comprises a private surface level car park for occupiers of 54-58 Queen's Road.
- 1.1.2 The site is located on the corner of Queen's Road and Sidmouth Street, approximately 500m to the south east of Reading Town Centre. The site is bordered by Queen's Road to the north, Sidmouth Street to the east, Trinity Hall student accommodation to the south and 52 Queen's Road to the west. The local planning and highway authority is Reading Borough Council (RBC).
- 1.1.3 The building at 54-58 Queens Road gained approval in July 2018 (Ref: 18/0982) for a Prior Notification Application (PNA) for the change of use of the building as an Office block, to 20 residential flats comprising 16 one bedroom and 4 two bedroom units. A Transport Note was produced by SYSTRA which included details of the existing site conditions and site accessibility, net trip generation, car and cycle parking and servicing arrangements at the site. The Transport Note is included as **Appendix A**.
- 1.1.4 The proposed development seeks to provide an extension to the recently approved application to provide 9 additional units comprising one one-bedroom unit, seven two-bedroom units and one three-bedroom unit. The existing site access location is to be moved 6m to the south of its' current location and a total of 17 parking spaces (including one disabled bay and two indicative visitor spaces) will be provided. The proposed ground floor site layout is included as **Appendix B**.
- 1.1.5 This TN has been produced to support the full extension application at the site to highlight that there will still be a net reduction in vehicle trips resulting from the entire residential use on the site (including the previous PNA application and this proposed application) compared to the existing site use and therefore that the site will have negligible impact in highway terms. This Addendum should be read in conjunction with the previous Transport Note prepared by SYSTRA.

1.2 Policy Considerations

- 1.2.1 This TN has taken into consideration key policy at National, Regional and Local level. The key policy documents considered are listed below;
- National Planning Policy Framework (February 2019);
 - National Planning Practice Guidance (NPPG) 'Travel Plans, Transport Assessments and Statements in Decision-Taking' (March 2014);
 - Submission Draft Reading Borough Local Plan (2018);
 - Reading Core Strategy (2008; amended 2015); and
 - Reading Local Transport Plan 3 (2011).

1.3 Report Structure

- 1.3.1 This TN is set out as follows:

Queen's Road, Reading	
Transport Note Addendum	BWREDE22
Report	02/08/2019

- **Section 2:** Review of the existing transport conditions of the site and surrounding transport networks and updated information to previous application where relevant;
- **Section 3:** Analysis of the redevelopment proposal in respect of access and parking arrangements compared with the previous prior approval application;
- **Section 4:** Outlines the existing, consented and proposed vehicle trip generations and the proposed person trips; and
- **Section 5:** Summary of the findings of this Transport Note Addendum.

2. EXISTING CONDITIONS

2.1 Introduction

- 2.1.1 This section considers any updated information in relation to the existing sustainable modes of transport available in close proximity to the development site since the previous application was approved in July 2018. Further details can be found in the previous Transport Note (**Appendix A**).

2.2 Pedestrian and Cycle Network

- 2.2.1 The previous Transport Note provided a detailed review of the local walking and cycling network. Being within 500m of Reading Town Centre, it is clear that the site is well connected for pedestrians and cyclists, including suitably wide footways and a signal controlled crossing in the immediate vicinity of the site.
- 2.2.2 Within the town centre, a full network of footways, crossing and pedestrianised zones are present as well as both on and off-road cycle routes, cycle parking and Readybike docking stations (with the nearest located on London Street close to Oracle Riverside).
- 2.2.3 There have been no recent changes to the local walking and cycling network in this area since the detailed review undertaken as part of the previous application at the site. The local pedestrian and cycle network is considered high quality, with a comprehensive network of infrastructure available in the vicinity of the site to encourage travel by sustainable modes and to support this proposed application.

2.3 Bus and Rail Connections

- 2.3.1 The nearest bus stops to the site are located on the A327 London Street, and London Road; 300m to the west and south of the site respectively. These bus stops are served by a number of services providing various routes to leisure, school and employment destinations. Most are available 7 days per week, with some providing 24-hour services up to every 4-8 minutes. Whilst some minor changes to routes and timetables have taken place since the previous application, it is clear that the bus network in the immediate vicinity of the site is comprehensive, as expected given the central location of this site.
- 2.3.2 A summary of the services available from the nearest stops is detailed in Table 2-1.

Table 2-1 Summary of Bus Routes from London Road

Service Number	Route Summary	Daytime Frequency		
		Monday-Friday	Saturday	Sunday
5, 6/6a	Central Reading – Whitley Wood	Every 4-10 minutes (24 Hour Service)	Every 10 minutes (24 Hour Service)	Every 20 minutes First Bus: 06:47 Last Bus: 03:47
7	Reading– Three Mile Cross – Riseley - Fleet	One per hour First Bus: 05:22 Last Bus: 22:47	One per hour First Bus: 06:30 Last Bus: 22:47	Four per day: 10:03, 12:03, 16:03, 18:03
11	Central Reading – Coley Park	Every 20 minutes First Bus: 05:48 Last Bus: 23:48	Every 20 minutes First Bus: 05:48 Last Bus: 23:48	Every 20 minutes First Bus: 08:18 Last Bus: 22:23
19a/ 19c	Central Reading – Loddon Bridge	One per hour First Bus: 06:35 Last Bus: 19:00	One per hour First Bus: 06:35 Last Bus: 19:45	No Service
21/21a	Central Reading – University – Lower Early	Every 7-8 minutes (24 Hour Service)	Every 15 minutes (24 Hour Service)	Every 20 minutes First Bus: 07:02 Last Bus: 03:02

- 2.3.3 Reading Railway Station is located 900m to the north west of the site which is accessible via an 11 minute walk or a 5 minute cycle. Being a transport hub, Reading Railway Station provides frequent services both locally and further afield, including to London Paddington, London Waterloo, Gatwick Airport, Cardiff, Bournemouth and Bristol Temple Meads, amongst many others.
- 2.3.4 The level of accessibility to frequent bus and rail services to a wide range of locations ensures that travel to and from the site by bus and rail are viable options and could form part of a multi-modal journey from the site to wider afield.

2.4 Local Amenities

- 2.4.1 Being within just 500m of Reading Town Centre, a wide range of facilities and amenities are located well within the 'preferred maximum' walking distance recommended by IHT. These include (but are not limited to); The Oracle Shopping Centre, restaurants, pubs, Vue Cinema, churches, recreation facilities, car parks, libraries and offices. A summary of nearby local amenities and their associated walking and cycling distance included as Table 2-2.

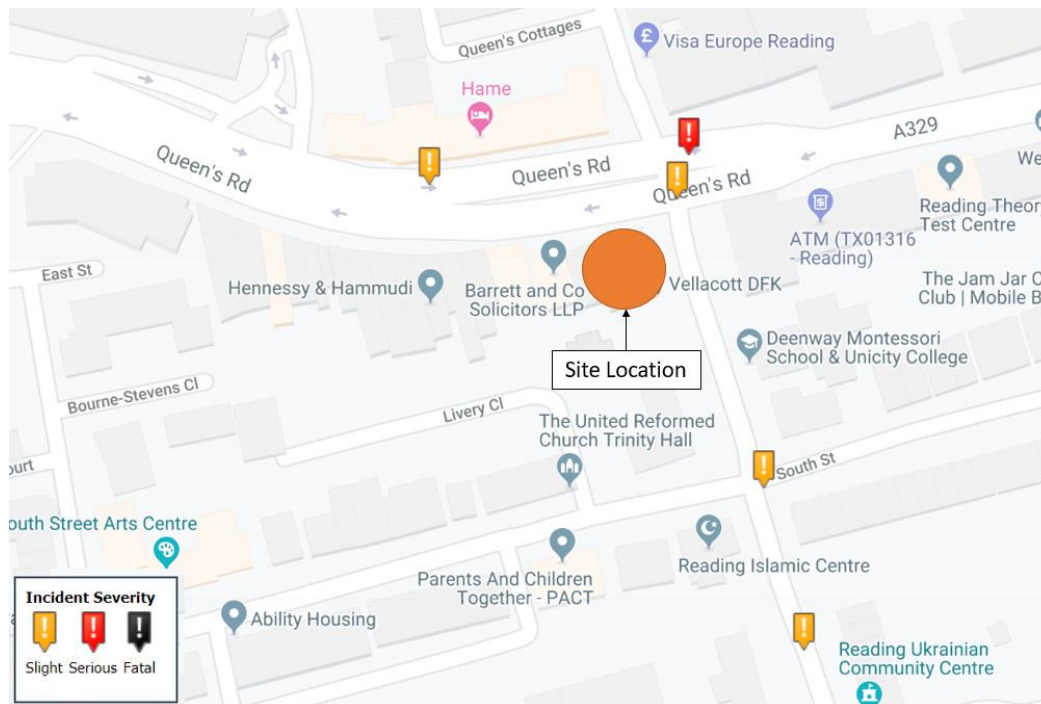
Table 2-2 Summary of Walking and Cycling Distances to Local Amenities

Amenity	Distance (metres)	Walking Time (Minutes)	Cycling Time (minutes)
Retail			
Reading Town Centre	500m	7	3
Broad Street	700m	9	5
Forbury Retail Park	850m	11	6
Schools and Universities			
Kendrick School	350m	5	2
University of Reading (London Road Campus)	500m	7	3
The Abbey School	650m	8	5
Reading College	750m	10	4
Reading School	1.1km	14	7
Healthcare			
Kendrick View Dental Practice	350m	5	2
Boots Pharmacy	500m	7	3
Melrose Doctor's Surgery	500m	7	3
Royal Berkshire Hospital	850m	11	6

2.5 Personal Injury Accident Data

- 2.5.1 An updated review of recent Personal Injury Accidents (PIA)s has been undertaken in the vicinity of the site using the Crashmap database, for the latest available three year period (2016-2018). The results are shown on Figure 2.1.

Figure 2.1. PIA Incidents in the Vicinity of the Site (2016-2018)



Source: Crashmap (23.07.2019)

- 2.5.2 As indicated in Figure 2.1 there have been two reported incidents at the junction of Queen's Road and Sidmouth street, of which one was classified as 'serious' and the other as 'slight' in nature.
- 2.5.3 In the previous application Technical Note (**Appendix A**) a cluster of 'slight' incidents was recorded at the junction of South Street and Sidmouth Street, to the south of the site. All but one of these incidents occurred in 2015, and only one incident has been recorded in the latest three-year period; in 2017.
- 2.5.4 With a total of five PIA incidents occurring in the vicinity of the site over a three year period, compared to the previous three-year period (2015-2017) where eleven incidents were reported, it is not considered that a trend is identified that may worsen as a result of the development proposals, particularly when considering the busy nature of both Queen's Road and Sidmouth Street and that the development proposals are likely to result in a decrease of both vehicle and pedestrian trips to and from the site.

2.6 Summary

- 2.6.1 This section has demonstrated that, as demonstrated in the previous application, the site is extremely accessible with high quality pedestrian and cycle links into Reading Town Centre, located just 500m away. The closest bus stops to the site provide regular services to the town centre and further afield, including local schools and employment and Reading Railway Station is a transport hub with numerous, frequent services to a wide range of destinations.
- 2.6.2 An array of local amenities and facilities including employment, healthcare and educational facilities are located within short walking and cycling distance of the site. A review of the latest available PIA incidents indicates no trend that may worsen as a result of the development proposals. The site is therefore still considered accessible in highways terms.

3. PROPOSED REDEVELOPMENT

- 3.1.1 The extension proposal is for the addition of 9 residential flats comprising one one-bedroom unit, seven two-bedroom units and one three-bedroom units on land at 54-58 Queen's Road, Reading. The proposed site layout plans are attached as **Appendix B**.
- 3.1.2 As previously described this application follows a recently approved PNA for 20 residential units. If this extension application for 9 units is approved, the total number of residential units at the site would equal 29. Table 3-1 provides a summary of the total site accommodation schedule.

Table 3-1 Site Accommodation Schedule

	Approved	Proposed Extension	TOTAL
1 Bed	16	1	17
2 Bed	4	7	11
3 Bed	-	1	1
TOTAL	20	9	29

3.2 Access Arrangements

- 3.2.1 Existing access to the site is taken from Sidmouth Street via a bellmouth arrangement, located c.31m from the junction with Queen's Road to the north. Access to the site will remain in its' existing form, but will be moved c.6m south, away from the junction with Queen's Road.
- 3.2.2 The proposed access will measure 4.5m in width to facilitate two cars passing in accordance with Manual for Streets (MfS) guidance. A 1.5m wide footway will also be provided alongside the access (a footway is not provided at present) which will increase permeability for pedestrians into the site. The proposed access arrangement, including swept-path analysis showing a car entering and exiting the site, is demonstrated in **Appendix C**.
- 3.2.3 Sidmouth Street is subject to a 30mph speed limit, although speeds outside the site access are observed to be substantially lower due to the existing signal controlled junction to the north. Nonetheless, to demonstrate that the proposed site access is safe and suitable for use, visibility of 2.4m x 43m has been demonstrated as achievable to both the north and south as shown in **Appendix C**.
- 3.2.4 The primary pedestrian access will be via the existing entrance off Queens Road, as per the previous application, with pedestrian access also provided via Sidmouth Street via the aforementioned 1.5m wide footway.

3.3 Car and Cycle Parking Provision

- 3.3.1 The car parking standards for RBC are set out within their 'Reading Borough Local Development Framework Revised Parking Standards and Design' supplementary planning document (SPD) (October 2011). The parking standards are based upon a zonal approach, for which this site lies on the boundary of Zone 1 and Zone 2, with Zone 1 covering the areas to the north of Queens Road and Zone 2 covering the area to the south of Queens Road.
- 3.3.2 Zone 1 is classified as being the '*very heart of Reading Borough*', defined as having the best transport hubs and the largest proportion of public car parking spaces. Zone 2 is classified as the '*primary core area*' extending to a 2km walking distance from the centre of Reading.

- 3.3.3 Based on this zonal approach, the Council's requirements for 1-2 bedroom flats are 0.5 spaces per dwelling (Zone 1) and 1 space per dwelling (Zone 2). Requirements for 3+ bedroom flats are 1 space per dwelling (Zone 1) and 1.5 spaces per dwelling (Zone 2).
- 3.3.4 The previous application at 54-58 Queens Road was granted approval with a total of 10 car parking spaces, due to its' sustainable location within the centre of Reading and is therefore considered to be in Zone 1. One condition relating to the approval was that *'the occupiers of the residential units would not be entitled to an on-street car parking permit'*.
- 3.3.5 Table 4-2 provides a summary of the total development, including this application, and the car parking requirements.

Table 3-2 Car Parking Requirements

Number of Beds	Units	Car Parking Stanard (Per Unit) Zone 1	Car Parking Requirements
1 Bed	17	0.5	8.5
2 Bed	11	0.5	5.5
3 Bed	1	1	1
TOTAL	29		15

- 3.3.6 Table 4-2 demonstrates a requirement for 15 car parking spaces to serve the total development, including this proposed extension. As shown on **Appendix B**, the site provides 15 resident spaces and therefore resident car parking is provided in accordance with RBC's requirements.
- 3.3.7 Swept-path analysis is attached at **Appendix D** to demonstrate an 85th percentile car entering and exiting Bay 9 and Bay 10 (to the rear of the car park). All other bays within the proposed car park have also been analysed to ensure that they can be suitably manoeuvred.
- 3.3.8 RBC's parking standards also state that one visitor space per 10 residential units is required for sites within Zone 2, whilst no visitor parking is required for sites within Zone 1. It has been established through the previous application that this site is classified as falling within Zone 1, and therefore no visitor parking is required. However in order to ensure that no overspill parking is made onto the surrounding road network, it is proposed to provide space for up to two vehicles in a layby within the site. Again, swept-path analysis in **Appendix D** demonstrates that these indicative visitor bays are manoeuvrable.
- 3.3.9 The standards also provide *minimum* requirements for cycle parking, which state a requirement for 0.5 spaces per 1-2 bedroom flat and 1 space per 3 bedroom flat. These can be provided in the form of communal cycle parking, and must be conveniently located, easy to use, secure and covered.
- 3.3.10 The proposed development seeks to provide a total of 27 cycle parking spaces at ground floor level in a secure sheltered internal shared cycle store. In addition to this an additional 27 spaces will be provided at first floor level resulting in a total provision of 54 cycle parking spaces (1.9 spaces per unit). The first floor level cycle parking is located within close proximity of the lift and stairs. The cycle parking is accessible from both the front and rear of the site as shown on **Appendix B**.
- 3.3.11 The over-provision of cycle parking will further enhance the sites' accessibility credentials and will encourage residents to travel to and from the site in a sustainable manner rather than relying on the private car.

3.4 Deliveries and Servicing

3.4.1 Access to the site for servicing and deliveries would primarily comprise the following:

- Refuse vehicles accessing the residential units;
- Post and mail deliveries and collections to the residential units;
- Delivery of shopping and goods to the residential units; and
- Maintenance vehicles.

3.4.2 There would also be the occasional removals vehicle when residents move into / out of properties. This will be most notable when the development is first occupied; subsequent to which these will be infrequent movements.

3.4.3 A refuse store is proposed to be located in the south eastern corner of the site, directly adjacent to the vehicle entrance. The refuse store will still be served in accordance with the existing servicing arrangements with refuse vehicles collecting bins from the roadside on Sidmouth Street.

3.4.4 The refuse store is located less than 10m from the roadside, within the curtilage of the proposed development and no further than from the previously approved apartment block and is therefore in accordance with Manual for Streets (MfS) required carry distances for both residents and collectors.

3.4.5 Mailboxes are provided within the Entrance Lobby off Queens Road for residents.

3.5 Construction

3.5.1 The details of construction for the proposed redevelopment (number of staff, length of works, operational hours etc) are yet to be finalised, however given that much of the works will be associated with the internal refurbishment of the adjacent 54-58 Queens Road site to provide residential accommodation it is considered that the scale of the construction works and their associated impact will be minimal.

3.5.2 All construction routes to the site will be agreed with RBC prior to construction. The contractor would aim to employ local companies and workers to further reduce the impact of construction on the highway network, as well as providing economic benefits to the local area.

3.5.3 Positive action would be taken to reduce the number of heavy construction vehicles entering and exiting the site. This will include 'Backloading' vehicle operation, where site delivery vehicles are utilised to remove waste materials from the site as part of the same trip.

3.5.4 It is not anticipated that there will be any abnormal loads, but if these are required the route and hours will be agreed in advance with RBC.

3.5.5 The above measures will help to ensure that construction works are organised and delivered in a manner that minimises the impact of the construction traffic on the local highway network in terms of highway safety and amenity.

4. VEHICLE TRIP GENERATION

- 4.1.1 To demonstrate that the proposed development will have no detrimental impact on the existing local road network, the TRICS database has been interrogated to determine the likely trip generation of the existing Office, the consented 20 residential units and the combined development of 29 units (with the additional 9 units resulting from the proposed development).

4.2 Existing Office Vehicle Trip Generation

- 4.2.1 The TRICS database has been interrogated for sites with similar characteristics to the existing use as a 1,402m² office building. The following parameters were used:

- 'Employment', 'Office' Use;
- Sites in England and Wales Only (with sites in Greater London excluded);
- GFAs of 500-3,000m²;
- Surveys undertaken Monday- Friday only;
- Sites located in 'Town Centre' and 'Edge of Town Centre' only.

- 4.2.2 A total of 12 sites were selected in the calculation with the TRICS outputs included within the previous Transport Note (**Appendix A**). The trip rates and trips generated by the existing office building are outlined in Table 4-1 below.

Table 4-1 Existing Office Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			TOTAL Daily
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way	
Vehicle Trip Rate	2.145	0.288	2.349	0.293	1.768	2.061	16.759
Vehicle Trips	30	4	34	4	25	29	235

- 4.2.3 Based on the TRICS trip rates, the assessment shows that the existing office building is likely to generate 34 two way vehicle trips in the AM Peak period (0800-0900), 29 two way vehicle trips in the PM Peak period (1700-1800) and 235 two way vehicle trips across a 12 hour period.

4.3 Prior Approval Consent Use at 54-58 Queens Road

- 4.3.1 The site received consent for the conversion of the existing office to 20 residential units, for which a Transport Note was produced by SYSTRA (see **Appendix A**). The approved trip rates and resulting trip generation are outlined in Table 4-2 below.

Table 4-2 Prior Approval Consented Site Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			TOTAL Daily
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way	
Vehicle Trip Rate	0.068	0.149	0.217	0.159	0.115	0.274	2.613
Vehicle Trips	1	3	4	3	2	5	52

- 4.3.2 Based on the TRICS trip rates, the assessment shows that the approved residential development is likely to generate 4 two way vehicle trips in the AM Peak period (0800-0900), 5 two way vehicle trips in the PM Peak period (1700-1800) and 52 two way vehicle trips across a 12 hour period.

4.4 Proposed Development at Land to the Rear of 54-58 Queens Road

- 4.4.1 The additional development proposal for the land to the rear of 54-58 Queens Road seeks to provide 9 additional residential units to the consented 20 unit scheme, as such providing a total of 29 residential units. The trip rates used in the previous application have been used for consistency. The trip rates and trips generated by the proposed residential development of 29 units are outlined in Table 4-3.

Table 4-3 Proposed Site Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			TOTAL Daily
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way	
Vehicle Trip Rate	0.068	0.149	0.217	0.159	0.115	0.274	2.613
Vehicle Trips (9 Units)	1	1	2	1	1	2	24
Total Vehicle Trips (29 units)	2	4	6	5	3	8	76

- 4.4.2 Based on the TRICS trip rates, the assessment shows that the proposed residential development is likely to generate 2 additional vehicle trips in the AM Peak period (0800-0900), 2 additional vehicle trips in the PM Peak period (1700-1800) and 24 additional vehicle trips across a 12 hour period.
- 4.4.3 In total the residential proposals at the site (29 units) would likely to generate 6 two way vehicle trips in the AM Peak period (0800-0900), 8 two way vehicle trips in the PM Peak period (1700-1800) and 76 two way vehicle trips across a 12 hour period.

4.5 Net Trip Generation

- 4.5.1 The total vehicle trips generated by the existing office building has been removed from the total vehicle trips generated by the overall residential development for 29 units at the site in order to calculate the net vehicle trip generation associated with the redevelopment proposal. The net vehicle trips are outlined in Table 4-4.

Table 4-4 Net Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			TOTAL Daily
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way	
Existing Office	30	4	34	4	25	29	235
Total Residential (29 units)	2	4	6	5	3	8	76
Net Trip Generation	-28	0	-28	1	-22	-21	-159

- 4.5.2 Table 4-4 demonstrates that the proposed redevelopment is likely to result in a reduction in vehicle trips compared to the existing office of -28 two way vehicle trips in the AM Peak Period, -21 two way vehicle trips in the PM Peak period and -159 two way vehicle trips across a 12 hour day.

4.6 Person Trip Generation and Modal Split

- 4.6.1 The proposed redevelopment site lies on the border of the Abbey and Katesgrove wards. Census data from 2011 has been used to establish the modal split of person trips in the local area. Table 4-5 demonstrates the modal split and the likely number of trips generated by the total proposed development of 29 units. Given the site location on the border of two wards

an average of the two modal splits taken from the 2011 Census Method of Travel to Work has been used to estimate the person trips.

Table 4-5 Census Travel to Work Modal Split

Mode	AM PEAK			PM PEAK			12 HOUR	Census Modal Split
	IN	OUT	TWO WAY	IN	OUT	TWO WAY		
Train	1	2	3	3	2	5	41	18%
Bus	1	1	2	2	1	3	26	11%
Taxi	0	0	0	0	0	0	1	0%
Motorcycle	0	0	0	0	0	0	1	0%
Car Driver	2	4	6	5	3	8	76	33%
Car Passenger	0	0	0	0	0	0	7	3%
Bicycle	0	1	1	1	0	1	10	4%
On foot	2	4	6	4	3	7	68	30%
Other	0	0	0	0	0	0	1	1%
TOTAL	6	12	18	15	9	24	232	100%

- 4.6.2 The results show that the total proposed development could generate between 18 and 24 person trips during the peaks and up to 232 person trips over a day. Overall the data shows that a high proportion (29%) of trips generated by the development are likely to use public transport (18% train and 11% bus) with a further 30% travelling on foot and 4% travelling by bicycle; equating to a total of 62% of trips using sustainable modes of travel.
- 4.6.3 The proximity of Reading Town Centre 500m to the north, as well as the high quality pedestrian, cycle and public transport links in the immediate vicinity of the site, will help to encourage residents to travel by public transport. The provision of a sheltered and secure cycle store coupled with high quality cycle parking in the town centre and at Reading Railway Station will help to encourage the take-up of cycling to and from the site.

4.7 Summary

- 4.7.1 The redevelopment proposal is therefore not considered to result in an adverse impact upon the local highway network, pedestrian and cycle infrastructure or public transport networks given that the proposals are likely to generate a reduction of -159 vehicle trips per 12-hour day. It is therefore considered that the development would have a beneficial reduction in vehicle trips and would therefore not result in a 'severe' impact in accordance with the NPPF.

5. SUMMARY AND CONCLUSION

- 5.1.1 SYSTRA Ltd has been commissioned by Pinemace Ltd to produce a Transport Note Addendum to support a planning application on land to the rear of 54-58 Queens Road, Reading. The site currently comprises a surface level car park for 54-58 Queens Road, which has been recently received approval for the change of use of the existing office space to 20 residential units.
- 5.1.2 This proposal seeks to slightly amend the site access, cycle, car parking and refuse store arrangements previous proposed, and provide a total of 9 additional units. The total units on the site would therefore equate to 29, with 17 car parking spaces and 54 cycle parking spaces.
- 5.1.3 The site's accessibility was assessed in the original Transport Note and a review has been undertaken to identify any recent changes. The site is in an extremely accessible location with high quality pedestrian and cycle links into Reading Town Centre, with an array of local amenities and facilities including employment, healthcare and educational facilities located within short walking and cycling distance. An updated review of PIA incidents in the vicinity of the site demonstrates just five recorded incidents in the latest three-year period.
- 5.1.4 Vehicle access to the proposed development onto Sidmouth Street will be relocated c.6m to the south of its' existing location, further from the junction with Queen's Road. The form will remain unchanged from the existing office access arrangements and visibility splays and swept-path analysis demonstrate that the proposed access relocation is suitable for this proposed development. Pedestrian access will be provided from both Queen's Road and Sidmouth Street.
- 5.1.5 A total of 17 car parking spaces are proposed, including 15 resident bays (which includes one disable bay) and two indicative visitor spaces. The proposed car parking provision is in accordance with RBC's requirements for residents, and the visitor layby will ensure that no overspill parking occurs on the surrounding road network. A total of 54 cycle parking spaces will be provided in two secure sheltered internal shared cycle stores, which is above RBC's requirements and will encourage the uptake of cycling to and from the site.
- 5.1.6 A refuse store is proposed to be located in the south eastern corner of the site, immediately adjacent to the site access. The refuse store would be served in accordance with existing on-street servicing arrangements with carry distances for both residents and collectors provided in accordance with MfS guidance.
- 5.1.7 The total proposed residential development is likely to result in a reduction of approximately -28 two way vehicle trips in the AM Peak Period, -21 two way vehicle trips in the PM Peak period and -159 two way vehicle trips across a 12 hour day compared to the existing use as an office. Therefore, the proposed development is not considered to result in a negative impact on the local highway network.
- 5.1.8 The proposed redevelopment is therefore not considered to result in an adverse impact upon the local highway network, pedestrian and cycle infrastructure or public transport networks. It is therefore considered that the development would not result in a severe residual impact in accordance with the NPPF.

54-58 Queen's Road, Reading

22/05/2018

Reference number KMSCDE36



TRANSPORT NOTE



SYSTRA

54-58 QUEEN'S ROAD, READING

TRANSPORT NOTE

IDENTIFICATION TABLE

Client/Project owner	Pinemace Ltd
Project	54-58 Queen's Road, Reading
Study	Transport Note
Type of document	Report
Date	22/05/2018
Reference number	KMSCDE36
Number of pages	25

APPROVAL

Version	Name		Position	Date	Modifications
2	Author	Beth Wilson	Senior Consultant	03/05/2018	22/05/2018 Updated Site Layout
	Checked by	David Fletcher	Associate	04/05/2018	
	Approved by	Richard Stacey	Director	04/05/2018	

TABLE OF CONTENTS

1.	INTRODUCTION	5
1.1	CONTEXT	5
1.2	POLICY CONSIDERATIONS	5
1.3	REPORT STRUCTURE	5
2.	EXISTING CONDITIONS	6
2.1	INTRODUCTION	6
2.2	SITE LOCATION AND EXISTING USE	6
2.3	SITE PLANNING HISTORY	7
2.4	PEDESTRIAN AND CYCLE NETWORK	7
2.5	BUS AND RAIL CONNECTIONS	10
2.6	LOCAL AMENITIES	12
2.7	PERSONAL INJURY ACCIDENT DATA	13
2.8	SUMMARY	14
3.	PROPOSED REDEVELOPMENT	15
3.2	ACCESS ARRANGEMENTS	15
3.3	CAR AND CYCLE PARKING PROVISION	15
3.4	DELIVERIES AND SERVICING	16
3.5	CONSTRUCTION	17
4.	VEHICLE TRIP GENERATION	18
4.2	EXISTING OFFICE VEHICLE TRIP GENERATION	18
4.3	PROPOSED RESIDENTIAL USE VEHICLE TRIP GENERATION	18
4.4	NET TRIP GENERATION	19
4.5	PERSON TRIP GENERATION AND MODAL SPLIT	19
4.6	SUMMARY	20
5.	SUMMARY AND CONCLUSION	21

LIST OF FIGURES

Figure 2.1. Existing Site Conditions (from Queen's Road)	6
Figure 2.2. Existing Site Conditions (from Sidmouth Street)	6
Figure 2.3. Footway Conditions on Queen's Road	8
Figure 2.4. Footway Conditions on Sidmouth Street	8
Figure 2.5. Signalised Pedestrian Crossing on Queen's Road	9
Figure 2.6. Reading Cycle Routes	9
Figure 2.7. Readybike Docking Stations at Riverside	10
Figure 2.8. Southbound Bus Stop on London Street	11
Figure 2.9. Oracle Shopping Centre	12
Figure 3.1. Existing Access onto Sidmouth Street	15

LIST OF TABLES

Table 2-1 Acceptable Walking Distances (metres)	8
Table 2-2 Summary of Bus Routes from London Road	11
Table 2-3 Summary of Walking and Cycling Distances to Local Amenities	12
Table 4-1 Existing Office Trip Generation	18
Table 4-2 Proposed Site Trip Generation	19
Table 4-3 Net Trip Generation	19
Table 4-4 Census Travel to Work Modal Split	20

APPENDICES

Appendix A – Proposed Site Plan
Appendix B – Office TRICS Trip Rates
Appendix C – Residential TRICS Trip Rates

1. INTRODUCTION

1.1 Context

- 1.1.1 SYSTRA Ltd has been commissioned by Pinemace Ltd to produce a Transport Note to support a Prior Notification Application (PNA) for the change of use at 54-58 Queen's Road, Reading from 1,402m² of B1 Office space to 20 residential units. The proposed redevelopment will provide 10 car parking spaces together with 10 cycle parking spaces. The proposed site layout is included as **Appendix A**.
- 1.1.2 The site is located on the corner of Queen's Road and Sidmouth Street, approximately 500m to the south east of Reading Town Centre. The site is bordered by Queen's Road to the north, Sidmouth Street to the east, Trinity Hall student accommodation to the south and 52 Queen's Road to the west. The local planning and highway authority is Reading Borough Council (RBC).

1.2 Policy Considerations

- 1.2.1 This Transport Note has taken into consideration key policy at National, Regional and Local level. The key policy documents considered are listed below;
- National Planning Policy Framework (March 2012);
 - Draft Revised National Planning Policy Framework (March 2018);
 - National Planning Practice Guidance (NPPG) 'Travel Plans, Transport Assessments and Statements in Decision-Taking' (March 2014);
 - Reading Borough Council Draft Local Plan (2017);
 - Reading Core Strategy (2008; amended 2015); and
 - Reading Local Transport Plan 3 (2011).

1.3 Report Structure

- 1.3.1 This Transport Note is set out as follows:
- **Section 2 Existing Situation:** Review of the existing transport conditions of the site and surrounding transport networks;
 - **Section 3 Proposed Development:** Analysis of the development proposal in respect of access, parking arrangements and servicing;
 - **Section 4 Proposed Trip Generation:** Sets out the level of trips that are likely to be generated by all modes of travel as well as outlining the net increase in trips;
 - **Section 5 Summary:** Summary of the findings of this Transport Note.

2. EXISTING CONDITIONS

2.1 Introduction

- 2.1.1 This section considers the site location in relation to the existing highway network and sustainable modes of transport available in close proximity to the development site. It is informed by desk-based research and a site audit undertaken on 24th April 2018.

2.2 Site Location and Existing Use

- 2.2.1 The site is located at 54-58 Queen's Road, approximately 500m east of Reading Town Centre. The site provides approximately 1,402m² of B1 office space with Unit 54 occupied by Barrett & Co LLP (a solicitors firm), Unit 58 occupied by Moore Stephens LLP (a tax and accounting firm) whilst Unit 56 is part occupied by UNISON (Trade Union). The existing site has a total of 31 car parking spaces whilst no formal cycle parking is currently provided. The existing site is demonstrated in Figure 2.1 and Figure 2.2.

Figure 2.1. Existing Site Conditions (from Queen's Road)



Figure 2.2. Existing Site Conditions (from Sidmouth Street)



2.3 Site Planning History

2.3.1 Whilst 54-58 Queen's Road is not subject to any recent, relevant planning applications, a number of similar applications have been recently approved on Queen's Road, including the following in the near vicinity of the site:

- 38 Queen's Road. *Change of use from B1 offices to 6 self-contained flats.* Application number 170164 (permitted May 2017).
- 52 Queen's Road. Proposed conversion of office into 4 self-contained residential units. Application number 110380 (permitted May 2012).
- 60 Queens Road. *Change of use of ground, first and second floors from Class B1(a) (offices) to C3 (dwelling houses) to comprise 8 x 2-bed flats and 22 x 1-bed flats.* Application number 141834 (permitted January 2015).
- Clarendon House 59-75 Queen's Road. *Change of use of building from Class B1(a) (offices) to C3 (dwelling houses) to comprise 49 residential units.* Application number 170905 (permitted July 2017).
- Havell House 62-66 Queen's Road. *Change of use of first floor from Class B1(a) (offices) to C3 (dwelling houses) to comprise 4 no. one bed flats.* Application number 160026 (permitted June 2016).

2.3.2 No objection was recommended by the Local Highway Authority to any of the above applications. It is worth noting that an informative was given for application number 141834 and 170905 which stated;

'The occupiers of the residential units will not be entitled to an on-street car parking permit in the interests of the proper management of parking, and to ensure that the development does not harm the existing amenities of the occupiers of the neighbouring residential properties by adding to the already high levels of on street car parking in the area in accordance with Core Strategy Policy CS24 and Sites and Detailed Policies document Policy DM12.'

2.3.3 The applicant would be happy to impose a similar restriction on future residents at the proposed residential conversion.

2.4 Pedestrian and Cycle Network

2.4.1 To enable an assessment of the viability of walking between the site and key destinations in the local area it is appropriate to establish the maximum distance that people are generally prepared to walk and the destinations that exist within these distances.

2.4.2 The Institute of Highways and Transportation's (IHT) guidance, Guidelines for Providing for Journeys on Foot (2000), states in paragraph 3.32 that the preferred maximum walking distance to facilities and local services is two kilometres. The distances for various land uses, are summarised in Table 2-1.

Table 2-1 Acceptable Walking Distances (metres)

Definition	Town Centres	Commuting/School	Elsewhere
Desirable	200m	500m	400m
Acceptable	400m	1,000m	800m
Preferred Maximum	800m	2,000m	1,200m

Source: *Providing for Journeys on Foot (IHT, 2000)*

- 2.4.3 Being within 500m of Reading Town Centre, the site is well connected in terms of footways and cycleways. Footways measuring approximately 2.5m in width are provided on both sides of the carriageway on Queen's Road which facilitate access to the town centre. The footways on Queen's Road are shown in Figure 2.3.

Figure 2.3. Footway Conditions on Queen's Road



- 2.4.4 Footways on Sidmouth Street, to the south of the site, are approximately 2.0m wide and are shown in and Figure 2.4 below.

Figure 2.4. Footway Conditions on Sidmouth Street



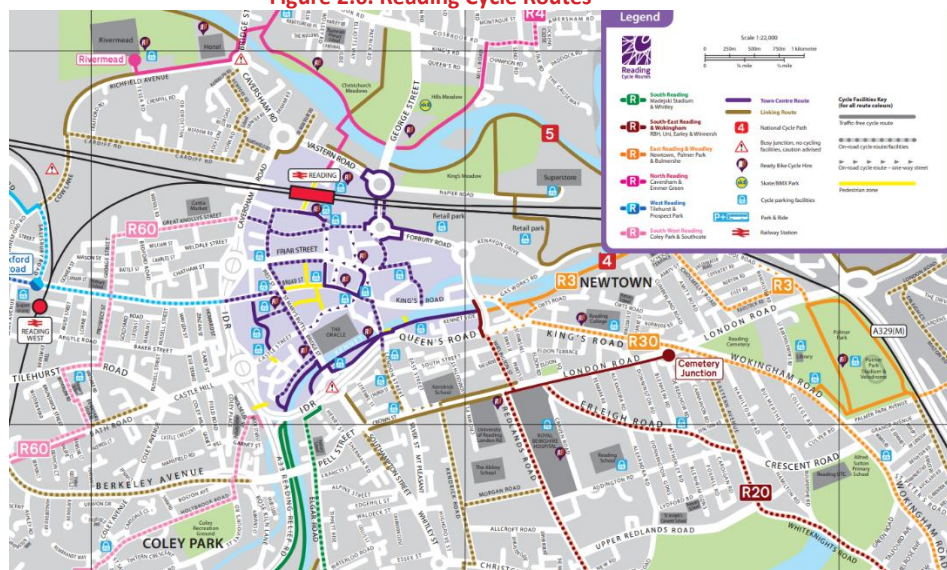
- 2.4.5 As shown in Figure 2.5, to the immediate north of the site on Queen's Road a signalised junction with pedestrian crossings is provided which enables movement to the northern side of the carriageway and into the town centre, as well as across Sidmouth Street to the east. Within the town centre a full network of footways, crossings and pedestrianised zones are available to facilitate pedestrian movement.

Figure 2.5. Signalised Pedestrian Crossing on Queen's Road



- 2.4.6 Cycling is considered an important mode of sustainable travel and is generally considered suitable for distances of up to 3 miles (4.8km) for regular journeys in urban areas, and 5 miles (8.0km) for commuting journeys (source: LTN 2/08, Cycle Infrastructure Design).
- 2.4.7 Being within the town centre, the local road network is conducive to travel by cycle with various routes in the vicinity of the site. National Cycle Route 4 is also located to the north of the site, providing an off-road route in the vicinity of the site along the River Kennet and into the town centre. RBC have produced a town centre cycle routes map which is shown below in Figure 2.6.

Figure 2.6. Reading Cycle Routes



Source: Reading Borough Council

- 2.4.8 Cycle parking is available throughout the Reading Town Centre, with the nearest public cycle racks located at Oracle Riverside within 400m from the site.
- 2.4.9 Readybike docking stations are located throughout Reading Town Centre and offer people the opportunity to rent a bike on a pay as you go basis. Readybike provides a 24 hour bike share service in Reading and the nearest docking station is located on London Street close to Oracle Riverside as shown in Figure 2.7.

Figure 2.7. Readybike Docking Stations at Riverside



- 2.4.10 The local pedestrian and cycle network is considered high quality, with a comprehensive network of infrastructure available in the vicinity of the site to encourage travel by sustainable modes.

2.5 Bus and Rail Connections

- 2.5.1 The nearest bus stops to the site are located on the A327 London Street, 300m to the west as shown in Figure 2.8. These bus stops are served by a number of services providing various routes to leisure, school and employment destinations including Reading Town Centre, Reading Railway Station, Farnborough, Coley Park, Lower Earley, Reading University, Whitley and Madejski Stadium, amongst others. An additional stop is provided on London Road approximately 300m south of the site.

Figure 2.8. Southbound Bus Stop on London Street



2.5.2 Services are available 7 days per week, with some services available up to every 10 minutes 24 hrs per day. A summary of the services available from this stop is detailed in Table 2-2.

Table 2-2 Summary of Bus Routes from London Road

Service Number	Route Summary	Daytime Frequency		
		Monday-Friday	Saturday	Sunday
3B	Bracknell – Aborfield – Reading	One per hour First Bus: 07:23 Last Bus: 23:56	One per hour First Bus: 07:21 Last Bus: 23:56	One per hour First Bus: 09:41 Last Bus: 19:43
5, 6/6a	Central Reading – Whitley Wood	Every 8-10 minutes (24 Hour Service)	Every 10 minutes (24 Hour Service)	Every 20 minutes First Bus: 06:47 Last Bus: 03:47
7	Reading Station – Three Mile Cross – Hartley Wintney - Fleet	One per hour First Bus: 05:25 Last Bus: 18:58	One per hour First Bus: 06:18 Last Bus: 18:31	No Service
9	Shinfield Park – Whitley – Reading	One per hour First Bus: 06:21 Last Bus: 20:22	One per hour First Bus: 07:21 Last Bus: 20:22	No Service
10a	Wokingham – Aborfield – Reading	Three per hour First Bus: 05:47 Last Bus: 23:26	Three per hour First Bus: 06:41 Last Bus: 23:26	One per hour First Bus: 09:11 Last Bus: 00:07
11	Central Reading – Coley Park	Every 20 minutes First Bus: 05:48 Last Bus: 23:48	Every 20 minutes First Bus: 05:48 Last Bus: 23:48	Every 20 minutes First Bus: 08:18 Last Bus: 22:23
12	Woodley – Earley – Reading	One per hour First Bus: 07:38 Last Bus: 20:15	One per hour First Bus: 09:08 Last Bus: 20:08	No Service
21/21a	Central Reading – University – Lower Early	Every 8 minutes (24 Hour Service)	Every 15 minutes	Every 20 minutes First Bus: 07:02 Last Bus: 03:02
22	Lower Earley – Central Reading – Caversham Heights	One per hour First Bus: 05:33 Last Bus: 20:44	One per hour First Bus: 07:27 Last Bus: 20:39	No Service

Source: Traveline (Checked 04/05/17)

- 2.5.3 Reading Railway Station is located 900m to the north west of the site which is accessible via an 11 minute walk or a 5 minute cycle. Reading Railway Station is managed by Network Rail and served by Great Western Railway, CrossCountry and South Western Railway services. Being a transport hub, Reading Railway Station provides frequent services both locally and further afield, including to London Paddington, London Waterloo, Gatwick Airport, Cardiff, Bournemouth and Bristol Temple Meads, amongst many others.
- 2.5.4 The level of accessibility to frequent bus and rail services to a wide range of locations ensures that travel to and from the site by bus and rail are viable options and could form part of a multi-modal journey from the site to wider afield.

2.6 Local Amenities

- 2.6.1 Being within just 500m of Reading Town Centre, a wide range of facilities and amenities are located well within the 'preferred maximum' walking distance recommended by IHT. These include (but are not limited to); The Oracle Shopping Centre, restaurants, pubs, Vue Cinema, churches, recreation facilities, car parks, libraries and offices. The Oracle Shopping Centre is demonstrated in Figure 2.9, with a summary of nearby local amenities and their associated walking and cycling distance included as Table 2-3.

Figure 2.9. Oracle Shopping Centre



Table 2-3 Summary of Walking and Cycling Distances to Local Amenities

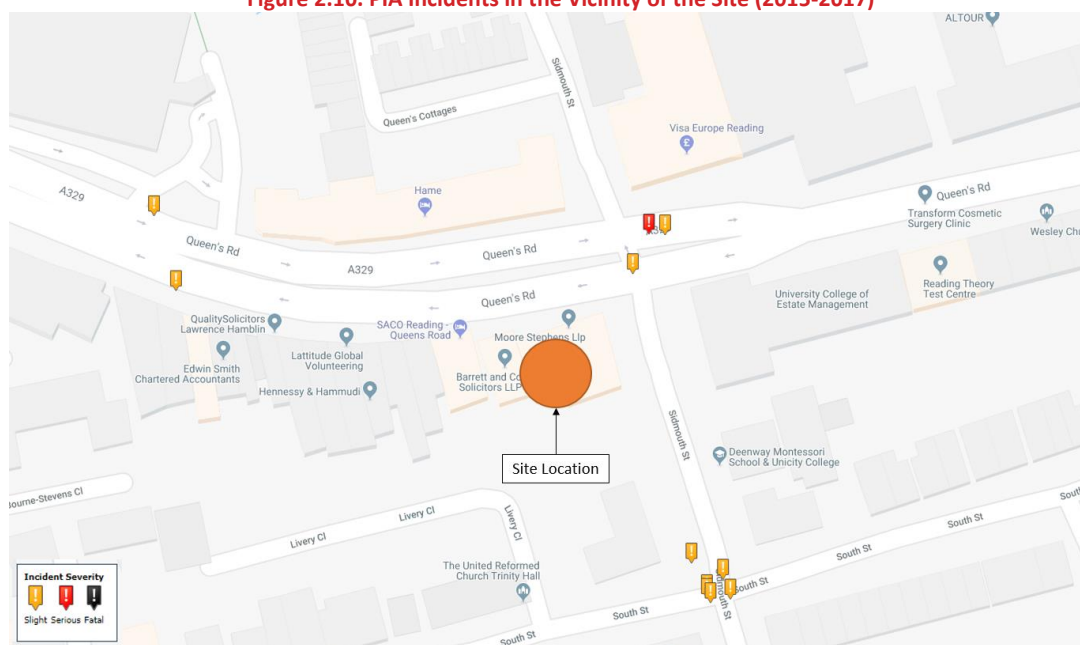
Amenity	Distance (metres)	Walking Time (Minutes)	Cycling Time (minutes)
Retail			
Reading Town Centre	500m	7	3
Broad Street	700m	9	5
Forbury Retail Park	850m	11	6
Schools and Universities			
Kendrick School	350m	5	2
University of Reading (London Road Campus)	500m	7	3
The Abbey School	650m	8	5
Reading College	750m	10	4
Reading School	1.1km	14	7
Healthcare			
Kendrick View Dental Practice	350m	5	2
Boots Pharmacy	500m	7	3
Melrose Doctor's Surgery	500m	7	3
Royal Berkshire Hospital	850m	11	6

- 2.6.2 In terms of education, a variety of schools (both primary and secondary) are located within the ‘preferred maximum’ walking distance recommended by IHT. These include (but are not limited to) Kendrick School (350m away), Reading University London Road Campus (500m away), The Abbey School (650m away), Reading College (950m away) and Reading School (1.1km away).
- 2.6.3 The site is also well connected in terms of health provision, with Royal Berkshire Hospital (providing Accident and Emergency facilities) located less than 1km away.

2.7 Personal Injury Accident Data

- 2.7.1 A review of recent Personal Injury Accidents (PIA)s has been undertaken in the vicinity of the site using the Crashmap database, for the latest available three year period (2015-2017). The results are shown on Figure 2.10.

Figure 2.10. PIA Incidents in the Vicinity of the Site (2015-2017)



Source: Crashmap

- 2.7.2 As indicated in Figure 2.10 there have been three reported incidents at the junction of Queen’s Road and Sidmouth Street, of which one was classified as ‘serious’ and two as ‘slight’ in nature. There has also been a cluster of ‘slight’ incidents at the junction of South Street with Sidmouth Street, to the south of the site. A review of these incidents has verified that two of the recorded eleven incidents in the site’s vicinity have involved pedestrians, and none have involved cyclists. It is therefore most likely that the ‘slight’ incidents have occurred as a result of rear shunting at the junctions.
- 2.7.3 With a total of eleven PIA incidents occurring in the vicinity of the site over a three year period, and with the vast majority recorded as ‘slight’ in nature, it is not considered that a trend is identified that may worsen as a result of the development proposals, particularly when considering the busy nature of both Queen’s Road and Sidmouth Street and that the development proposals are likely to result in a decrease of both vehicle and pedestrian trips to and from the site.

2.8 Summary

- 2.8.1 This section has demonstrated that the site is extremely accessible with high quality pedestrian and cycle links into Reading Town Centre, located just 500m away. The closest bus stops to the site provide regular services to the town centre and further afield, including local schools and employment and Reading Railway Station is a transport hub with numerous, frequent services to a wide range of destinations.
- 2.8.2 An array of local amenities and facilities including employment, healthcare and educational facilities are located within short walking and cycling distance of the site. A review of PIA incidents indicates no trend that may worsen as a result of the development proposals. The site is therefore considered accessible in highways terms.

3. PROPOSED REDEVELOPMENT

- 3.1.1 The proposed PNA is for the change of use of the existing 1,402m² office building at 54-58 Queen's Road, Reading to provide 20 residential units. The proposed development will comprise 16 x one bedroom flats and 4 x two bedroom flats with associated car and cycle parking. The existing and proposed site layout plans are attached as **Appendix A**.

3.2 Access Arrangements

- 3.2.1 Vehicle access to the proposed residential units will remain unchanged from the existing office access arrangements, which are demonstrated in Figure 3.1.

Figure 3.1. Existing Access onto Sidmouth Street



- 3.2.2 Vehicle access to the development is taken to the south eastern corner of the site onto Sidmouth Street, via a barrier entrance. Given the existing use of the site versus the proposed, and the resulting decrease in trip generation as a result of the proposals (see **Section 4**), the existing access is considered safe and suitable to accommodate all vehicular traffic associated with the site.
- 3.2.3 The primary pedestrian access will be via the existing entrance off Queens Road. This will provide access to an Entrance Lobby with a corridor provided through the centre of the building through to the rear parking courtyard. A lift is provided to all floors ensuring that level access is provided to each of the units. As previously described the existing pedestrian network in the immediate vicinity of the site is suitable to accommodate all pedestrian traffic.

3.3 Car and Cycle Parking Provision

- 3.3.1 The car parking standards for RBC are set out within their 'Reading Borough Local Development Framework Revised Parking Standards and Design' supplementary planning

Queen's Road, Reading	
Transport Note	KMSCDE36
Report	22/05/2018

document (SPD) (October 2011). The parking standards are based upon a zonal approach, for which this site lies on the boundary of Zone 1 and Zone 2, with Zone 1 covering the areas to the north of Queens Road and Zone 2 covering the area to the south of Queens Road.

- 3.3.2 Zone 1 is classified as being the ‘*very heart of Reading Borough*’, defined as having the best transport hubs and the largest proportion of public car parking spaces. Zone 2 is classified as the ‘*primary core area*’ extending to a 2km walking distance from the centre of Reading.
- 3.3.3 Based on this zonal approach, the Council’s requirements for 1-2 bedroom flats are 0.5 spaces per dwelling (Zone 1) and 1 space per dwelling (Zone 2). Sites within Zone 2 also require an additional 1 space per 10 dwellings for visitor parking. No additional visitor spaces are required for sites within Zone 1.
- 3.3.4 Applying these figures to the proposed development would equate to 10-22 spaces being required to serve the development. Whilst the site is located in Zone 2 it is considered that the area more reflects the characteristics of Zone 1 and therefore in accordance with policy objectives at a local and national level the site presents a good opportunity to reduce the level of parking and promote sustainable modes of transport over the use of the car.
- 3.3.5 As such the proposed development will provide a total of 10 spaces. It is considered that the level of parking reflects the sustainable location of the site (on the edge of Zone 1) whilst still providing sufficient parking provision to ensure that vehicles can park safely on the site, without overspill onto the local road network.
- 3.3.6 It is also noted that the restriction of resident parking on surrounding permitted streets is likely to be imposed, and therefore the proposed parking arrangements will ensure that no overspill parking will occur. It is also recognised that, being within 500m of the town centre, various car parks are in place in the immediate vicinity of the site (including the Queen’s Road car park and the Oracle car park) for visitor parking.
- 3.3.7 The standards also provide *minimum* requirements for cycle parking, which state a requirement for 0.5 spaces per 1-2 bedroom flat. These can be provided in the form of communal cycle parking, and must be conveniently located, easy to use, secure and covered.
- 3.3.8 To accommodate cycles a dedicated cycle store is proposed on the ground floor; accessible from both the front and rear of the site as shown on **Appendix A**. The cycle store provides five Sheffield cycle stands to accommodate 10 cycles in accordance with RBC’s minimum requirements.

3.4 Deliveries and Servicing

- 3.4.1 Access to the site for servicing and deliveries would primarily comprise the following:
 - Refuse vehicles accessing the residential units;
 - Post and mail deliveries and collections to the residential units;
 - Delivery of shopping and goods to the residential units; and
 - Maintenance vehicles.
- 3.4.2 There would also be the occasional removals vehicle when residents move into / out of properties. This will be most notable when the development is first occupied; subsequent to which these will be infrequent movements.

- 3.4.3 A refuse store is proposed to be located in the south eastern corner of the site, directly adjacent to the main vehicle entrance. The refuse store will be served in accordance with the existing servicing arrangements with refuse vehicles collecting bins from the roadside.
- 3.4.4 The refuse store is located 10m from the roadside and 25m from the apartment block and is therefore in accordance with Manual for Streets (MfS) required carry distances for both residents and collectors.
- 3.4.5 Mailboxes are provided off the Entrance Lobby for residents.

3.5 Construction

- 3.5.1 The details of construction for the proposed redevelopment (number of staff, length of works, operational hours etc) are yet to be finalised.
- 3.5.2 All construction routes to the site will be agreed with RBC prior to construction. The contractor would aim to employ local companies and workers to further reduce the impact of construction on the highway network, as well as providing economic benefits to the local area.
- 3.5.3 Construction workers will be encouraged to travel to the site via sustainable means. **Section 2** of this Transport Note describes the vast array of sustainable transport options to/ from the site.
- 3.5.4 Positive action would be taken to reduce the number of heavy construction vehicles entering and exiting the site. This will include 'Backloading' vehicle operation, where site delivery vehicles are utilised to remove waste materials from the site as part of the same trip.
- 3.5.5 It is not anticipated that there will be any abnormal loads, but if these are required the route and hours will be agreed in advance with RBC.
- 3.5.6 The above measures will help to ensure that construction works are organised and delivered in a manner that minimises the impact of the construction traffic on the local highway network in terms of highway safety and amenity.
- 3.5.7 A Construction Traffic Management Plan (CTMP) can be conditioned and submitted if required. The CTMP could provide measures to minimise the impact of the proposals at the development stage with mitigation measures suggested where appropriate.

4. VEHICLE TRIP GENERATION

- 4.1.1 This Transport Note has been prepared to demonstrate that the access arrangements are safe and satisfactory and that sustainable forms of travel such as pedestrian, cycle and public transport trips can be suitably catered for and encouraged.
- 4.1.2 To demonstrate that the proposed redevelopment will have no detrimental impact on the existing local road network, the TRICS database (version 7.5.1) has been interrogated to determine the likely trip generation of both the existing and the proposed development.

4.2 Existing Office Vehicle Trip Generation

- 4.2.1 The TRICS database has been interrogated for sites with similar characteristics to the existing use as a 1,402m² office building. The following parameters were used:
- 'Employment', 'Office' Use;
 - Sites in England and Wales Only (with sites in Greater London excluded);
 - GFAs of 500-3,000m²;
 - Surveys undertaken Monday- Friday only;
 - Sites located in 'Town Centre' and 'Edge of Town Centre' only.
- 4.2.2 A total of 12 sites were selected in the calculation with the TRICS outputs attached as **Appendix B**. The trip rates and trips generated by the existing office building are outlined in Table 4-1 below.

Table 4-1 Existing Office Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			TOTAL Daily
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way	
Vehicle Trip Rate	2.145	0.288	2.349	0.293	1.768	2.061	16.759
Vehicle Trips	30	4	34	4	25	29	235

- 4.2.3 Based on the TRICS trip rates, the assessment shows that the existing office building is likely to generate 34 trips in the AM Peak period (0800-0900), 29 trips in the PM Peak period (1700-1800) and 235 two-way trips across a 12 hour period.

4.3 Proposed Residential Use Vehicle Trip Generation

- 4.3.1 The proposed change of use seeks to provide a total of 20 residential flats comprising of 16 one bedroom units and 4 two bedroom units. To assess the likely future trip generation from the proposed site, the following parameters were used:
- 'Residential - Flats Privately Owned';
 - Multimodal Surveys
 - Sites in England and Wales Only (with sites in Greater London excluded);
 - Sites with less than 100 units;
 - Surveys undertaken Monday- Friday only;
 - Sites located in 'Town Centre' and 'Edge of Town Centre' only.

- 4.3.2 A total of 3 sites were selected in the calculation with the TRICS outputs attached as **Appendix C**. The trip rates and trips that are likely to be generated by the proposed site are outlined in Table 4-2 below.

Table 4-2 Proposed Site Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			TOTAL Daily
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way	
Vehicle Trip Rate	0.068	0.149	0.217	0.159	0.115	0.274	2.613
Vehicle Trips	1	3	4	3	2	5	52

- 4.3.3 Based on the TRICS trip rates, the assessment shows that the proposed residential development is likely to generate 4 trips in the AM Peak period (0800-0900), 5 trips in the PM Peak period (1700-1800) and 52 two-way trips across a 12 hour period.

4.4 Net Trip Generation

- 4.4.1 The total vehicle trips generated by the existing office building has been removed from the total vehicle trips generated by the proposed residential development in order to calculate the net vehicle trip generation associated with the redevelopment proposal. The net vehicle trips are outlined in Table 4-3.

Table 4-3 Net Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			TOTAL Daily
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way	
Existing Office	30	4	34	4	25	29	235
Proposed Residential	1	3	4	3	2	5	52
Net Trip Generation	-29	-1	-30	-1	-23	-24	-183

- 4.4.2 Table 4-3 demonstrates that the proposed redevelopment is likely to result in a reduction in vehicle trips compared to the existing office of -30 in the AM Peak Period, -23 in the PM Peak period and -183 across a 12 hour day.

4.5 Person Trip Generation and Modal Split

- 4.5.1 The proposed redevelopment lies on the border of the Abbey and Katesgrove wards. Census data from 2011 has been used to establish the modal split of person trips in the local area. Table 4-4 below demonstrates the modal split and the likely number of trips generated by the proposed development. Given the site location on the border of two wards an average of the two modal splits taken from the 2011 Census Method of Travel to Work has been used to estimate the person trips.

Table 4-4 Census Travel to Work Modal Split

Mode	AM PEAK			PM PEAK			12 HOUR	Census Modal Split
	IN	OUT	TWO WAY	IN	OUT	TWO WAY		
Train	1	2	3	2	1	3	28	18%
Bus	0	1	1	1	1	2	18	11%
Taxi	0	0	0	0	0	0	1	0%
Motorcycle	0	0	0	0	0	0	1	0%
Car Driver	1	3	4	3	2	5	52	33%
Car Passenger	0	0	0	0	0	0	5	3%
Bicycle	0	0	0	0	0	0	7	4%
On foot	1	3	4	3	2	5	46	30%
Other	0	0	0	0	0	0	1	1%
TOTAL	3	9	12	9	6	15	159	100%

- 4.5.2 Journey to work data shows that a high proportion (29%) of trips generated by the development are likely to use public transport (18% train and 11% bus) with a further 30% travelling on foot and 4% travelling by bicycle; equating to a total of 62% of trips using sustainable modes of travel.
- 4.5.3 The proximity of Reading Town Centre 500m to the north, as well as the high quality pedestrian, cycle and public transport links in the immediate vicinity of the site, will help to encourage residents to travel by public transport. The provision of a sheltered and secure cycle store coupled with high quality cycle parking in the town centre and at Reading Railway Station will help to encourage the take-up of cycling to and from the site.

4.6 Summary

- 4.6.1 The redevelopment proposal is therefore not considered to result in a negative impact upon the local highway network, pedestrian and cycle infrastructure or public transport networks given that the proposals are likely to generate a reduction of 199 vehicle trips per 12-hour day. It is therefore considered that the development would not result in a severe residual impact in accordance with the NPPF.

5. SUMMARY AND CONCLUSION

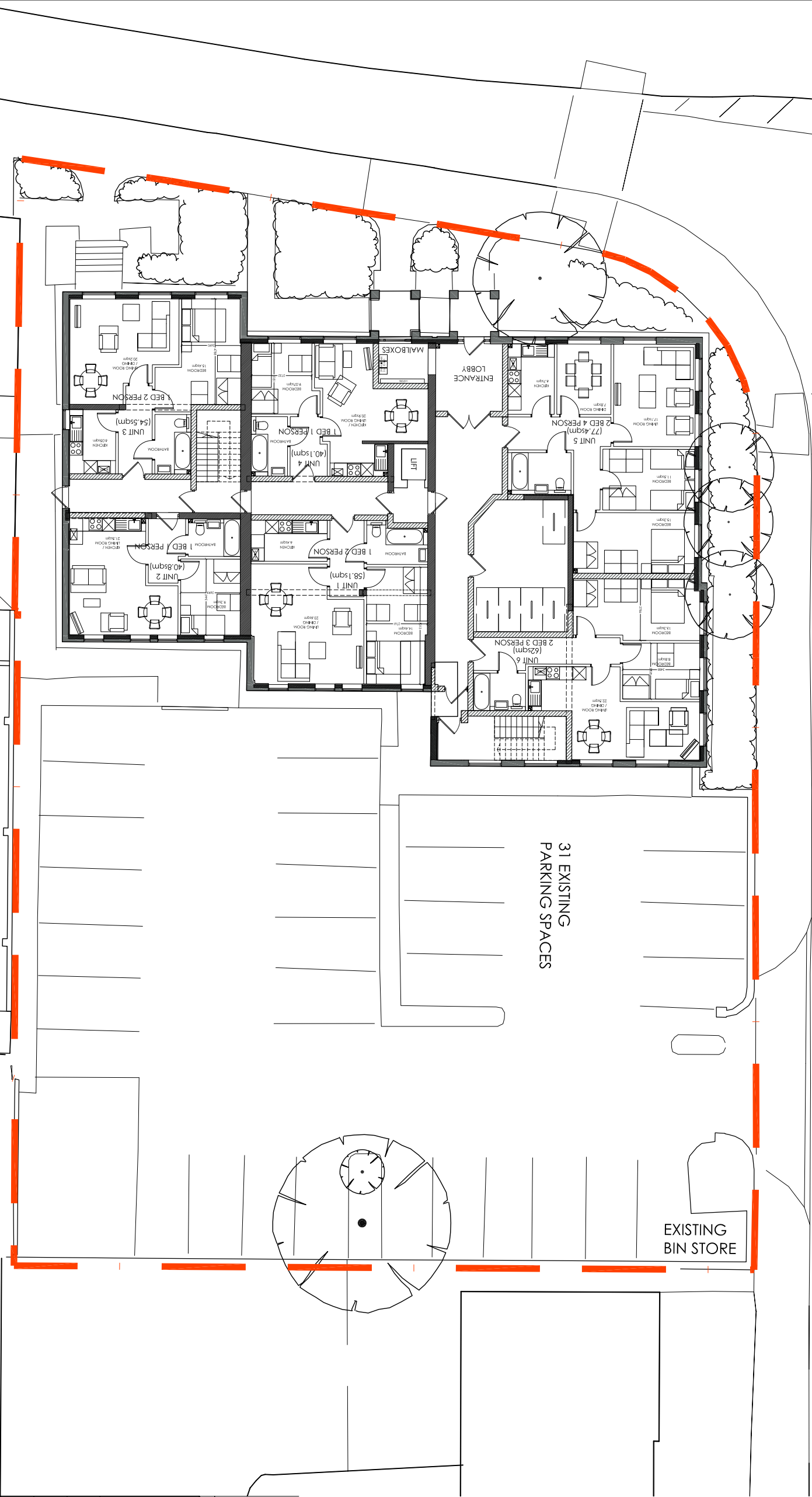
- 5.1.1 SYSTRA Ltd has been commissioned by Pinemace Ltd to produce a Transport Note to support a PNA for the change of use at 54-58 Queen's Road, Reading from 1,402m² of B1 Office space to 20 residential units. The proposed redevelopment will provide 10 car parking spaces and 10 cycle parking spaces. The proposed residential development will comprise of 16 one bedroom units and 4 two bedroom units. The site layout plans are attached as **Appendix A**.
- 5.1.2 The site is extremely accessible with high quality pedestrian and cycle links into Reading Town Centre, with an array of local amenities and facilities including employment, healthcare and educational facilities located within short walking and cycling distance. The closest bus stops to the site provide regular services to Reading Town Centre, Reading Railway Station and further afield, including local schools and employment. Reading Railway Station is a transport hub with numerous, frequent services to a wide range of destinations. A review of PIA incidents indicates no injury accident trends that may be exacerbated as a result of the development proposals.
- 5.1.3 Access to the proposed development will remain unchanged from the existing office access arrangements. Vehicle access to the site is taken from Sidmouth Street, with pedestrian access to both the front and rear of the site.
- 5.1.4 Car and cycle parking arrangements would be provided in accordance with RBC's requirements, with 10 car parking spaces provided to the rear of the site. A cycle store would be provided on the ground floor of the apartment building, providing space for 10 cycles. It is considered that the level of parking reflects the sustainable location of the site whilst still providing sufficient parking provision to ensure that vehicles can park safely on the site, without overspill onto the local road network.
- 5.1.5 A refuse store is proposed to be located in the south eastern corner of the site, immediately adjacent to the site access. The refuse store would be served in accordance with existing on-street servicing arrangements with carry distances for both residents and collectors provided in accordance with MfS guidance.
- 5.1.6 The proposed residential development is likely to result in a reduction of approximately -30 in the AM Peak Period, -23 in the PM Peak period and -183 across a 12 hour day compared to the existing use as an office. Therefore, the proposed development is not considered to result in a negative impact on the local highway network.
- 5.1.7 The proposed redevelopment is therefore not considered to result in an adverse impact upon the local highway network, pedestrian and cycle infrastructure or public transport networks. It is therefore considered that the development would not result in a severe residual impact in accordance with the NPPF.

APPENDIX A – Proposed Site Plan



SIDMOUTH STREET

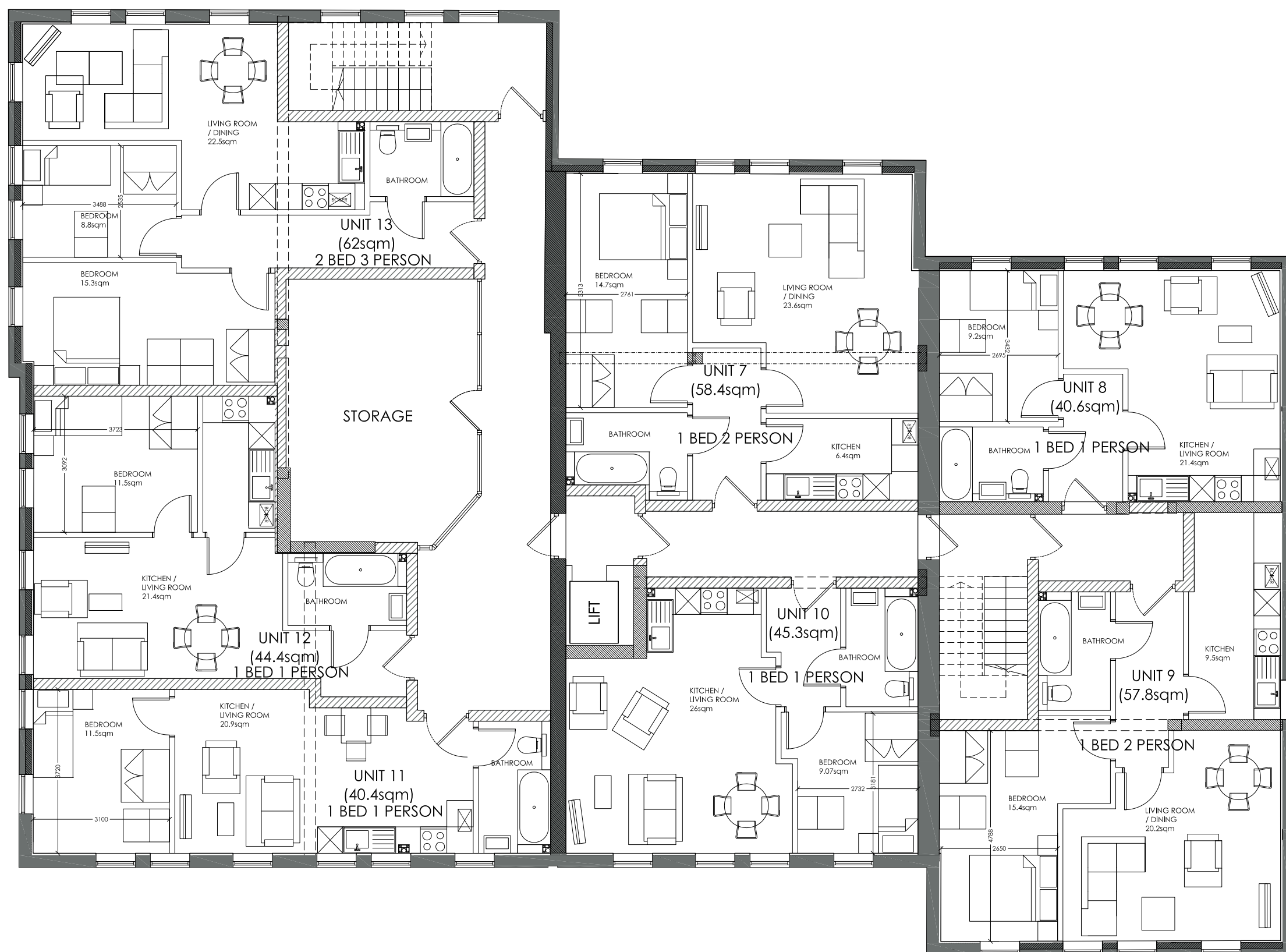
PERMITTED DEVELOPMENT		
UNIT / FLOOR	SIZE OF UNIT	BED / PERSON
GROUND FLOOR		
UNIT 1	58.1sqm	1 BED - 2 PERSON
UNIT 2	40.8sqm	1 BED - 1 PERSON
UNIT 3	54.5sqm	1 BED - 2 PERSON
UNIT 4	40.1sqm	1 BED - 1 PERSON
UNIT 5	77.4sqm	2 BED - 4 PERSON
UNIT 6	62sqm	2 BED - 3 PERSON
FIRST FLOOR		
UNIT 7	58.1sqm	1 BED - 2 PERSON
UNIT 8	40.8sqm	1 BED - 1 PERSON
UNIT 9	54.5sqm	1 BED - 2 PERSON
UNIT 10	40.1sqm	1 BED - 1 PERSON
UNIT 11	40.4sqm	1 BED - 1 PERSON
UNIT 12	44.4sqm	1 BED - 1 PERSON
UNIT 13	62sqm	2 BED - 3 PERSON
SECOND FLOOR		
UNIT 14	58.1sqm	1 BED - 2 PERSON
UNIT 15	40.8sqm	1 BED - 1 PERSON
UNIT 16	54.5sqm	1 BED - 2 PERSON
UNIT 17	40.1sqm	1 BED - 1 PERSON
UNIT 18	40.4sqm	1 BED - 1 PERSON
UNIT 19	44.4sqm	1 BED - 1 PERSON
UNIT 20	62sqm	2 BED - 3 PERSON



																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----



www.harrispartnership.com



The floor plan illustrates a three-unit residential building layout. The units are distributed across the plan, with their respective areas and occupancies as follows:

- Unit 1 (58.1 sqm):** 1 bed, 2 person. Located in the upper right section.
- Unit 2 (40.8 sqm):** 1 bed, 1 person. Located in the middle right section.
- Unit 3 (54.5 sqm):** 1 bed, 2 person. Located in the lower right section.
- Unit 4 (40.1 sqm):** 1 bed, 1 person. Located in the lower middle section.
- Unit 5 (77.4 sqm):** 2 bed, 4 person. Located in the lower left section.
- Unit 6 (62 sqm):** 2 bed, 3 person. Located in the upper left section.

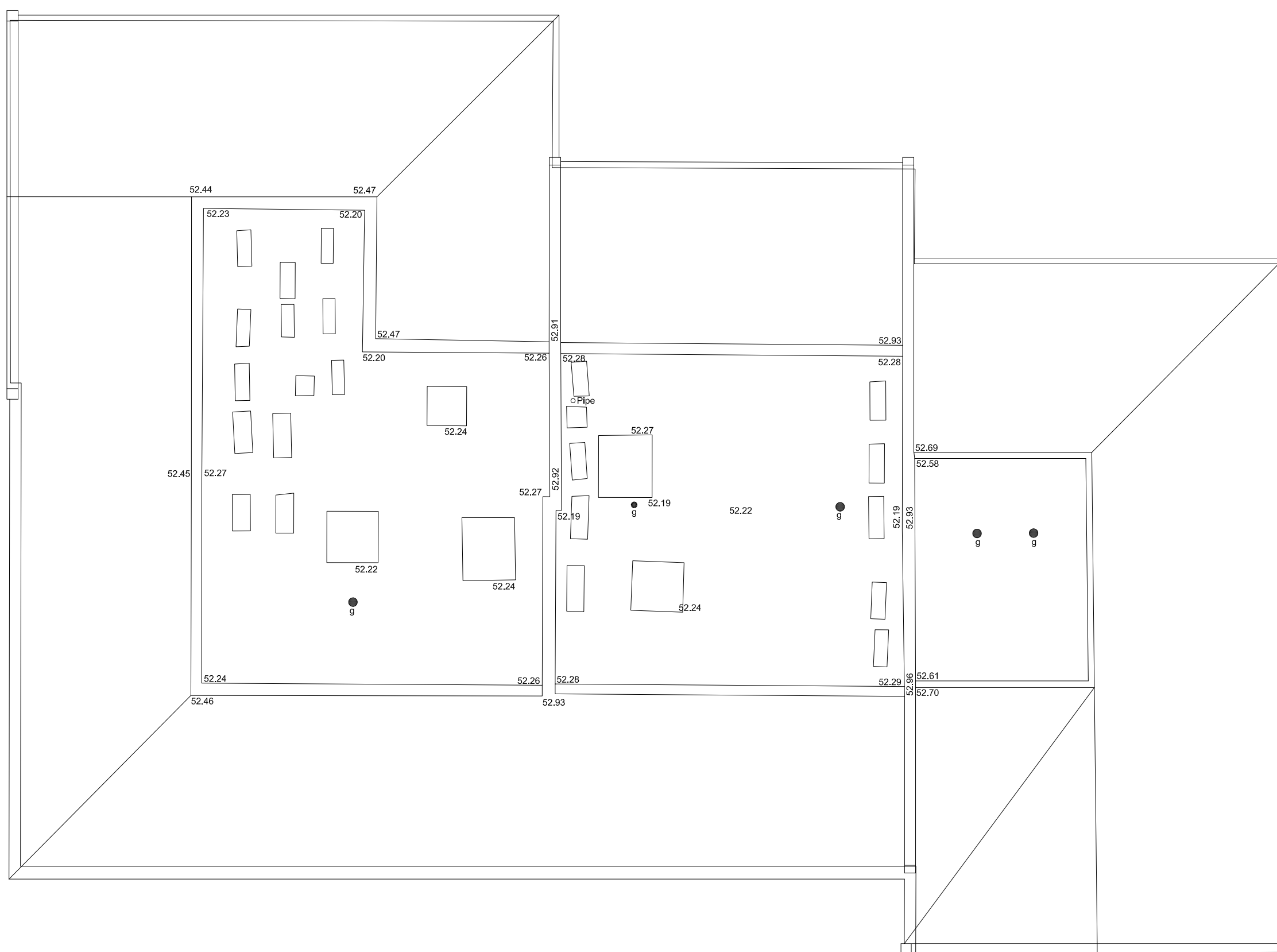
Common areas and other features include:

- Entrance Lobby:** Located at the bottom center.
- Mailboxes:** Located near the entrance lobby.
- 10 Cycle Spaces:** Located in the center of the plan.
- Bathroom:** Located in the center of the plan, adjacent to the cycle spaces.
- Existing Opening Replaced with Window:** Indicated at the top center and bottom center.
- Existing Door Replaced with Window:** Indicated at the bottom right.

Scale Bar 1:100

1m 2m 3m 4m 5m 6m 7m

Project Title	PROPOSED DEVELOPMENT			
	54-58 QUEENS ROAD READING RG1 4RP			
Client	PINEMACE LTD			
Status	FEASIBILITY			
Scale	1:100		Drawing Size	A2
Date	10/04/2018	Drawn By	BG	Checked TVT



The floor plan illustrates the layout of the 1st floor, featuring six distinct residential units. Each unit is detailed with its room divisions, furniture placement, and specific dimensions. A central lift and a large storage area are also shown.

Unit Details:

- UNIT 14 (58.4sqm):** 1 BED 2 PERSON. Includes a living room (23.6sqm), kitchen (6.4sqm), bedroom (14.7sqm), and bathroom.
- UNIT 15 (40.6sqm):** 1 BED 1 PERSON. Includes a living room / kitchen (21.4sqm), bedroom (9.2sqm), and bathroom.
- UNIT 16 (57.8sqm):** 1 BED 2 PERSON. Includes a living room / dining (20.5sqm), bedroom (15.4sqm), and bathroom.
- UNIT 17 (45.3sqm):** 1 BED 1 PERSON. Includes a living room / kitchen (26.6sqm), bedroom (9.07sqm), and bathroom.
- UNIT 18 (40.4sqm):** 1 BED 1 PERSON. Includes a living room / kitchen (20.9sqm), bedroom (11.5sqm), and bathroom.
- UNIT 19 (44.4sqm):** 1 BED 1 PERSON. Includes a living room / kitchen (21.4sqm), bedroom (11.5sqm), and bathroom.
- UNIT 20 (62sqm):** 2 BED 3 PERSON. Includes a living room / dining (22.5sqm), kitchen, two bedrooms (15.3sqm and 8.8sqm), and a bathroom.

Other Features:

- STORAGE:** A large central storage area.
- LIFT:** A central lift shaft.
- Dimensions:** Various dimensions are marked throughout the plan, including room sizes and overall unit dimensions.

A	10.05/18	COLOURED HATCHING REMOVED						TVT	BG
Rev	Date	Description						Rev By	Chk'd By
Drawing Title		PROPOSED SECOND FLOOR & ROOF PLAN							
Job-Dwrg No		15261-015						Rev	A

Project Title	PROPOSED DEVELOPMENT			
	54-58 QUEENS ROAD READING RG1 4RP			
Client	PINEMACE LTD			
Status	FEASIBILITY			
Scale	1:100		Drawing Size	A2
Date	10/04/2018	Drawn By	BG	Checked TVT

- ☐ 2 St. Johns North,
Wakefield, WF1 3QA
t. 01924 291800
- ☐ Carvers Warehouse, 77 Dale Street,
Manchester, M1 2HG
t. 0161 2388555
- ☐ The Old Rectory, 79 High Street,
Newport Pagnell, MK16 8AB
t. 01908 211577
- ☒ 101 London Road,
Reading, RG1 5BY
t. 0118 9507700
- ☐ 10 Gees Court, St Christophers Place,
London, W1U 1JJ
L0207 4091215



ARCHITECTS
www.harrispartnership.com

This drawing is copyright and may not be reproduced in whole or part without written authority. Do not scale off this drawing.

APPENDIX B – Office TRICS Trip Rates

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : A - OFFICE
 MULTI-MODAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BD BEDFORDSHIRE	1 days
	ES EAST SUSSEX	1 days
	HF HERTFORDSHIRE	1 days
	KC KENT	2 days
	SO SLOUGH	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
09	NORTH	
	CB CUMBRIA	1 days
	TW TYNE & WEAR	1 days
10	WALES	
	SW SWANSEA	1 days

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

Secondary 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: Gross floor area
 Actual Range: 610 to 2900 (units: sqm)
 Range Selected by User: 500 to 3000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 11/09/17

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
Wednesday	3 days
Thursday	4 days
Friday	1 days

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

Selected survey types:

Manual count	12 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:

Town Centre	3
Edge of Town Centre	9

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:

Industrial Zone	1
Commercial Zone	1
Development Zone	1
Built-Up Zone	7
High Street	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B1	12 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 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	7 days

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

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	6 days
250,001 to 500,000	1 days
500,001 or More	2 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	5 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:

Yes	3 days
No	9 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	12 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	BD-02-A-03	OFFICES		BEDFORDSHIRE
	BROMHAM ROAD			
	BEDFORD			
	Edge of Town Centre			
	No Sub Category			
	Total Gross floor area:	1469 sqm		
	Survey date: MONDAY	14/10/13		Survey Type: MANUAL
2	CB-02-A-02	OFFICE		CUMBRIA
	PORT ROAD			
	CARLISLE			
	Edge of Town Centre			
	Industrial Zone			
	Total Gross floor area:	925 sqm		
	Survey date: FRIDAY	24/06/16		Survey Type: MANUAL
3	ES-02-A-07	DISTRICT COUNCIL		EAST SUSSEX
	VICARAGE LANE			
	HAILSHAM			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	2855 sqm		
	Survey date: THURSDAY	31/03/11		Survey Type: MANUAL
4	GM-02-A-09	LEASED OFFICES		GREATER MANCHESTER
	NEW MOUNT STREET			
	MANCHESTER			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	2500 sqm		
	Survey date: MONDAY	26/09/16		Survey Type: MANUAL
5	HF-02-A-03	OFFICE		HERTFORDSHIRE
	60 VICTORIA STREET			
	ST ALBANS			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	610 sqm		
	Survey date: WEDNESDAY	16/10/13		Survey Type: MANUAL
6	KC-02-A-09	COUNCIL OFFICES		KENT
	SANDLING ROAD			
	MAIDSTONE			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	1500 sqm		
	Survey date: WEDNESDAY	19/10/11		Survey Type: MANUAL
7	KC-02-A-10	COUNCIL OFFICES		KENT
	SANDLING ROAD			
	MAIDSTONE			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	2900 sqm		
	Survey date: WEDNESDAY	19/10/11		Survey Type: MANUAL
8	NF-02-A-02	FINANCIAL PLANNERS		NORFOLK
	NORTH QUAY			
	GREAT YARMOUTH			
	Edge of Town Centre			
	Commercial Zone			
	Total Gross floor area:	894 sqm		
	Survey date: MONDAY	11/09/17		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	SO-02-A-01 HIGH STREET	COUNCIL OFFICES	SLOUGH
	SLOUGH Town Centre High Street		
	Total Gross floor area:	1800 sqm	
	Survey date: THURSDAY	27/02/14	Survey Type: MANUAL
10	SW-02-A-02 KINGS ROAD	OFFICE	SWANSEA
	SWANSEA Edge of Town Centre Development Zone		
	Total Gross floor area:	2225 sqm	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
11	TW-02-A-07 MULGRAVE TERRACE	OFFICES	TYNE & WEAR
	GATESHEAD Town Centre Built-Up Zone		
	Total Gross floor area:	2090 sqm	
	Survey date: MONDAY	13/06/16	Survey Type: MANUAL
12	WK-02-A-01 WARWICK ROAD	OFFICES	WARWICKSHIRE
	COVENTRY Town Centre Built-Up Zone		
	Total Gross floor area:	960 sqm	
	Survey date: THURSDAY	17/10/13	Survey Type: MANUAL

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 02 - EMPLOYMENT/A - OFFICE

MULTI-MODAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	1679	0.114	12	1679	0.010	12	1679	0.124
07:30 - 08:00	12	1679	0.576	12	1679	0.045	12	1679	0.621
08:00 - 08:30	12	1679	0.978	12	1679	0.104	12	1679	1.082
08:30 - 09:00	12	1679	1.167	12	1679	0.149	12	1679	1.316
09:00 - 09:30	12	1679	0.894	12	1679	0.139	12	1679	1.033
09:30 - 10:00	12	1679	0.581	12	1679	0.209	12	1679	0.790
10:00 - 10:30	12	1679	0.452	12	1679	0.348	12	1679	0.800
10:30 - 11:00	12	1679	0.343	12	1679	0.348	12	1679	0.691
11:00 - 11:30	12	1679	0.253	12	1679	0.223	12	1679	0.476
11:30 - 12:00	12	1679	0.293	12	1679	0.268	12	1679	0.561
12:00 - 12:30	12	1679	0.278	12	1679	0.343	12	1679	0.621
12:30 - 13:00	12	1679	0.253	12	1679	0.248	12	1679	0.501
13:00 - 13:30	12	1679	0.283	12	1679	0.288	12	1679	0.571
13:30 - 14:00	12	1679	0.402	12	1679	0.338	12	1679	0.740
14:00 - 14:30	12	1679	0.223	12	1679	0.218	12	1679	0.441
14:30 - 15:00	12	1679	0.243	12	1679	0.333	12	1679	0.576
15:00 - 15:30	12	1679	0.174	12	1679	0.338	12	1679	0.512
15:30 - 16:00	12	1679	0.194	12	1679	0.343	12	1679	0.537
16:00 - 16:30	12	1679	0.243	12	1679	0.774	12	1679	1.017
16:30 - 17:00	12	1679	0.189	12	1679	0.933	12	1679	1.122
17:00 - 17:30	12	1679	0.204	12	1679	1.187	12	1679	1.391
17:30 - 18:00	12	1679	0.089	12	1679	0.581	12	1679	0.670
18:00 - 18:30	12	1679	0.055	12	1679	0.367	12	1679	0.422
18:30 - 19:00	12	1679	0.020	12	1679	0.124	12	1679	0.144
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:	8.501			8.258			16.759		

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	610 - 2900 (units: sqm)
Survey date range:	01/01/10 - 11/09/17
Number of weekdays (Monday-Friday):	12
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.

APPENDIX C – Residential TRICS Trip Rates

Calculation Reference: AUDIT-700702-180504-0520

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED
 MULTI-MODAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	2 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
09	NORTH	
	CB CUMBRIA	1 days

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

Secondary 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: Number of dwellings
 Actual Range: 6 to 94 (units:)
 Range Selected by User: 0 to 100 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 18/09/17

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:

Tuesday	2 days
Thursday	3 days
Friday	1 days

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

Selected survey types:

Manual count	6 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:

Town Centre	2
Edge of Town Centre	4

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	2
Built-Up Zone	4

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	6 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®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

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

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

Population within 5 miles:

50,001 to 75,000	2 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days
500,001 or More	1 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	1 days
1.1 to 1.5	5 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	6 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	6 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	CB-03-C-01	BLOCK OF FLATS		CUMBRIA
	KING STREET			
	CARLISLE			
	Town Centre			
	Built-Up Zone			
	Total Number of dwellings:	40		
	Survey date: THURSDAY	12/06/14	Survey Type: MANUAL	
2	EX-03-C-01	FLATS		ESSEX
	WESTCLIFF PARADE			
	WESTCLIFF			
	SOUTHEND-ON-SEA			
	Edge of Town Centre			
	Residential Zone			
	Total Number of dwellings:	6		
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL	
3	EX-03-C-02	BLOCK OF FLATS		ESSEX
	WESTCLIFF PARADE			
	WESTCLIFF			
	SOUTHEND-ON-SEA			
	Edge of Town Centre			
	Residential Zone			
	Total Number of dwellings:	94		
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL	
4	GM-03-C-03	BLOCK OF FLATS		GREATER MANCHESTER
	FAIRFIELD STREET			
	MANCHESTER			
	Town Centre			
	Built-Up Zone			
	Total Number of dwellings:	20		
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL	
5	NF-03-C-01	BLOCKS OF FLATS		NORFOLK
	PAGE STAIR LANE			
	KING'S LYNN			
	Edge of Town Centre			
	Built-Up Zone			
	Total Number of dwellings:	51		
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL	
6	SF-03-C-01	BLOCKS OF FLATS		SUFFOLK
	STATION HILL			
	BURY ST EDMUNDS			
	Edge of Town Centre			
	Built-Up Zone			
	Total Number of dwellings:	85		
	Survey date: THURSDAY	18/12/14	Survey Type: MANUAL	

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/C - FLATS PRIVATELY OWNED

MULTI-MODAL 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	6	49	0.054	6	49	0.105	6	49	0.159
08:00 - 09:00	6	49	0.068	6	49	0.149	6	49	0.217
09:00 - 10:00	6	49	0.078	6	49	0.088	6	49	0.166
10:00 - 11:00	6	49	0.115	6	49	0.142	6	49	0.257
11:00 - 12:00	6	49	0.115	6	49	0.098	6	49	0.213
12:00 - 13:00	6	49	0.135	6	49	0.101	6	49	0.236
13:00 - 14:00	6	49	0.135	6	49	0.152	6	49	0.287
14:00 - 15:00	6	49	0.105	6	49	0.115	6	49	0.220
15:00 - 16:00	6	49	0.074	6	49	0.078	6	49	0.152
16:00 - 17:00	6	49	0.142	6	49	0.081	6	49	0.223
17:00 - 18:00	6	49	0.159	6	49	0.115	6	49	0.274
18:00 - 19:00	6	49	0.128	6	49	0.081	6	49	0.209
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.308			1.305			2.613

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	6 - 94 (units:)
Survey date date range:	01/01/10 - 18/09/17
Number of weekdays (Monday-Friday):	6
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.

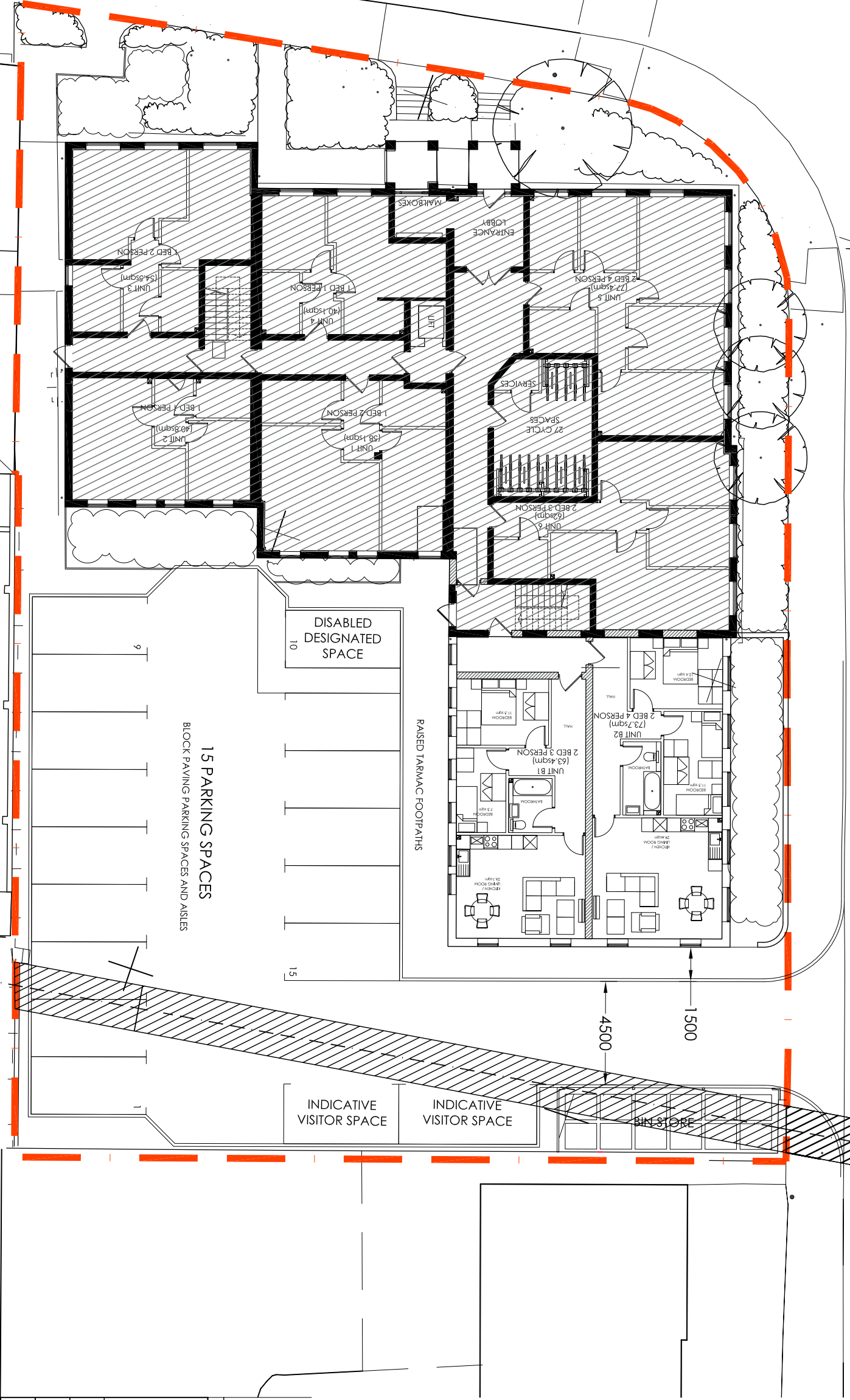
SYSTRA provides advice on transport, to central, regional and local government, agencies, developers, operators and financiers.

A diverse group of results-oriented people, we are part of a strong team of professionals worldwide. Through client business planning, customer research and strategy development we create solutions that work for real people in the real world.

For more information visit www.systra.co.uk

SIDMOUTH STREET

40.0m
300mm FOUR PIPE



Rev	Date	Description	Rev By	CHKD By
A	25/07/19	WALL BY ACCESS REVISED	TVT	PC

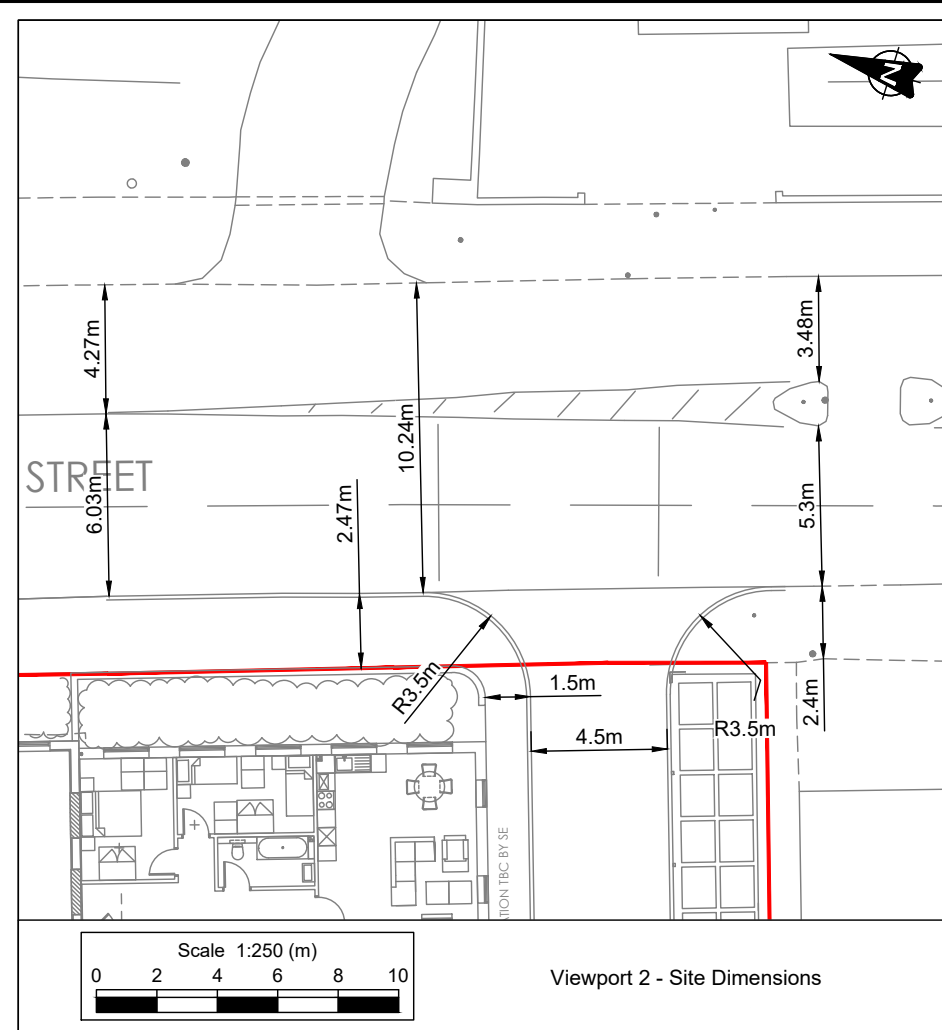
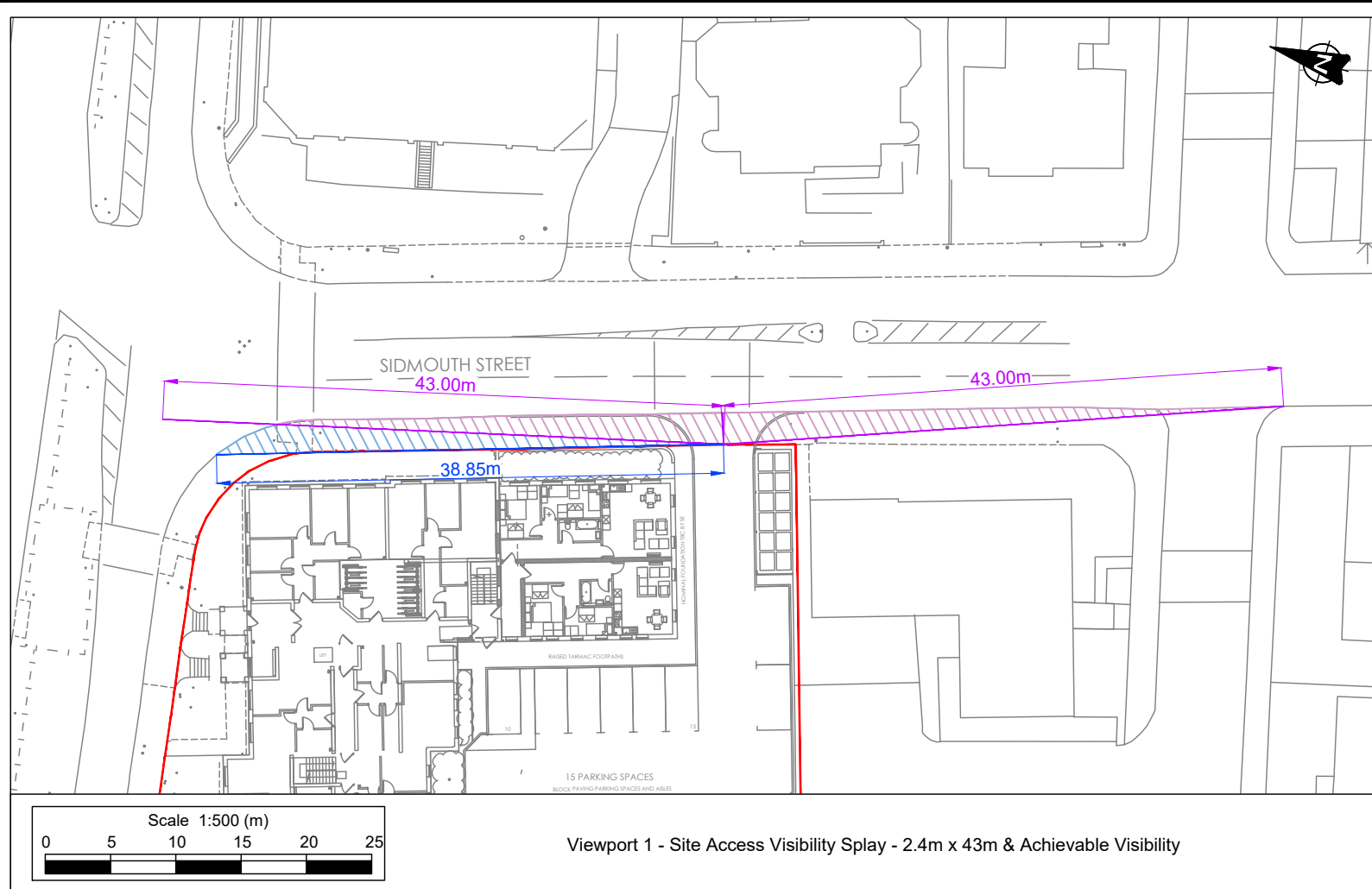
Project Title	PROPOSED RESIDENTIAL EXTENSION
52-58 QUEENS ROAD	
READING	
RG1 4RP	

Client	PINEMACE LTD
Status	PLANNING
Scale	1:200
Drawing Size	A3

Date	19/06/2019	Drawn By	TVT	Checked	LB
Drawing Title	PROPOSED SITE LAYOUT				
Job-Dwg No	15261-111	Rev	A		

- ☐ 2 St. Johns North, Wokingham, W11 3QA
t. 01924 291800
- ☐ Corners Warehouse, 77 Dole Street, Manchester, M1 2HG
t. 0161 2388555
- ☐ The Old Rectory, 79 High Street, Reading, RG1 1JL
t. 01928 211575
t. 0118 3507700
- ☒ 101 London Road, Reading, RG1 1SD
t. 0118 3507700
- ☐ 10 Gees Court, St Christophers Place, London, W1U 1JJ
t. 0207 4071215

APPENDIX C – Proposed Site Access Arrangements



Notes:

1. Do not scale from this drawing. If in doubt refer to the project manager for clarification.
2. All dimensions are shown in metres unless otherwise stated.
3. Layout based on Ordnance Survey MasterMap, © Crown Copyright 2018. All rights reserved. Licence number 100022432.

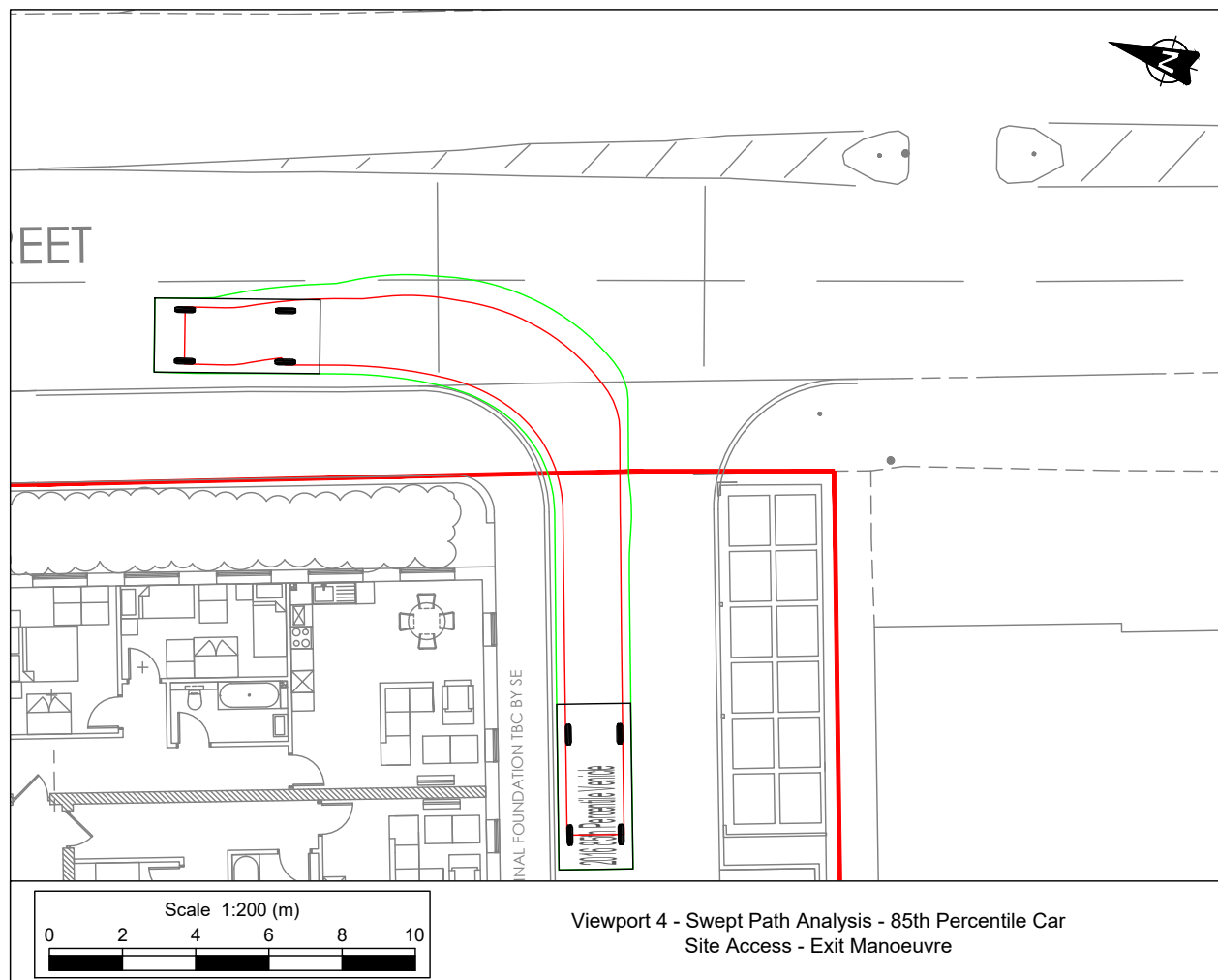
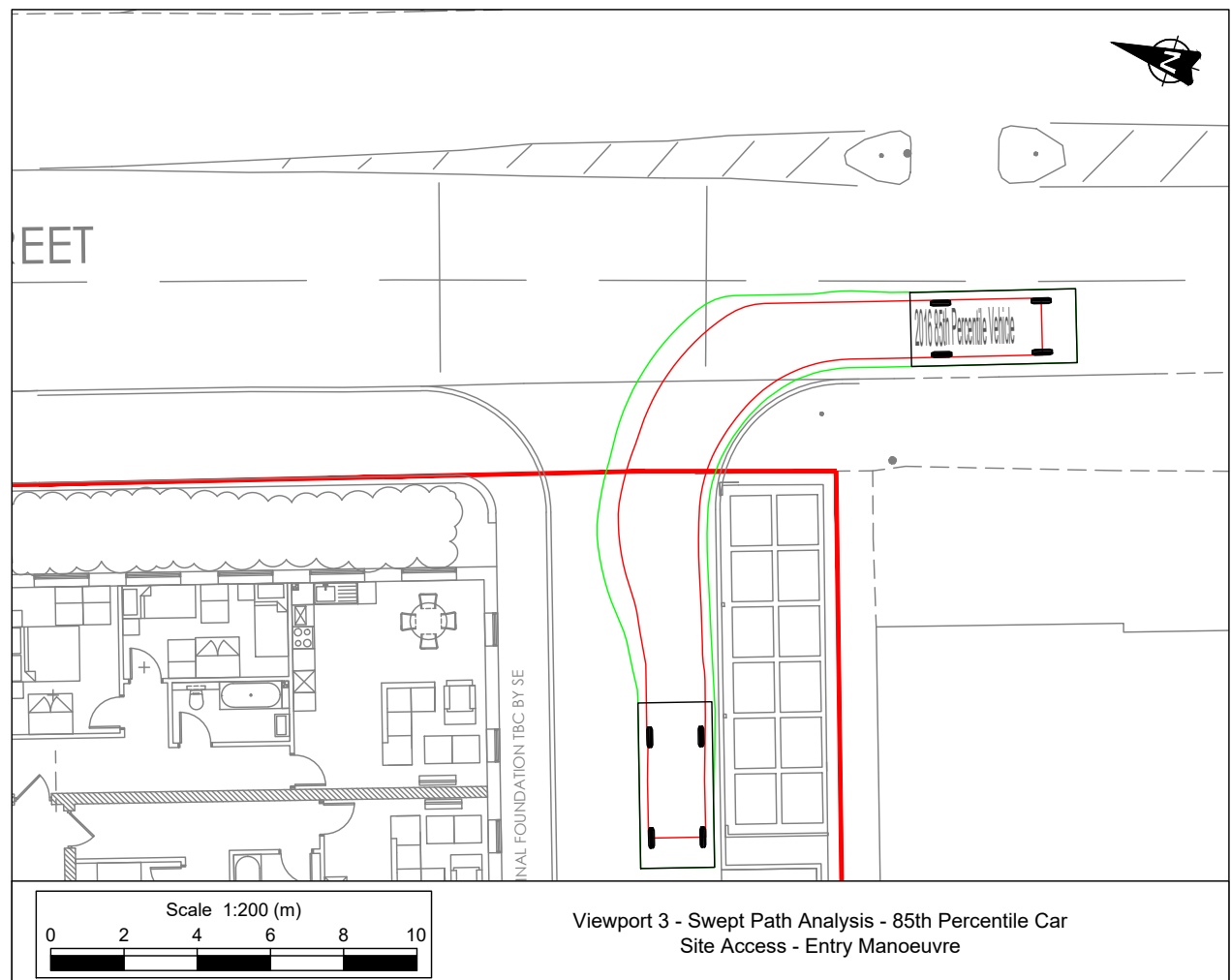
- Key:
- Site boundary
 - Visibility splay as per manual for streets 30mph roads:
Y distance = 2.4m
X distance = 43.0m
 - Achievable visibility splay
 - Area to be kept clear for visibility

- Swept Path Details:
1. Vehicle forward speed: 5kph
 2. Vehicle reverse speed: 2.5kph
 3. No dry steering has been used
- Vehicle wheel outline
 - Vehicle body outline



2016 85th Percentile Vehicle

Overall Length	4.523m
Overall Width	2.022m
Overall Body Height	1.525m
Min Body Ground Clearance	0.223m
Max Track Width	1.560m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	5.728m



Rev	Date	Revision details	Drawn	Check	Review	Approv
-----	------	------------------	-------	-------	--------	--------

© This drawing is the property of SYSTRA Limited and the information can only be reproduced with their prior permission.

5 Old Bailey
London
EC4M 7BA

T 020 3714 4400
E uk_london@systra.com
W www.systra.co.uk

Client

Pinemace Limited

Project

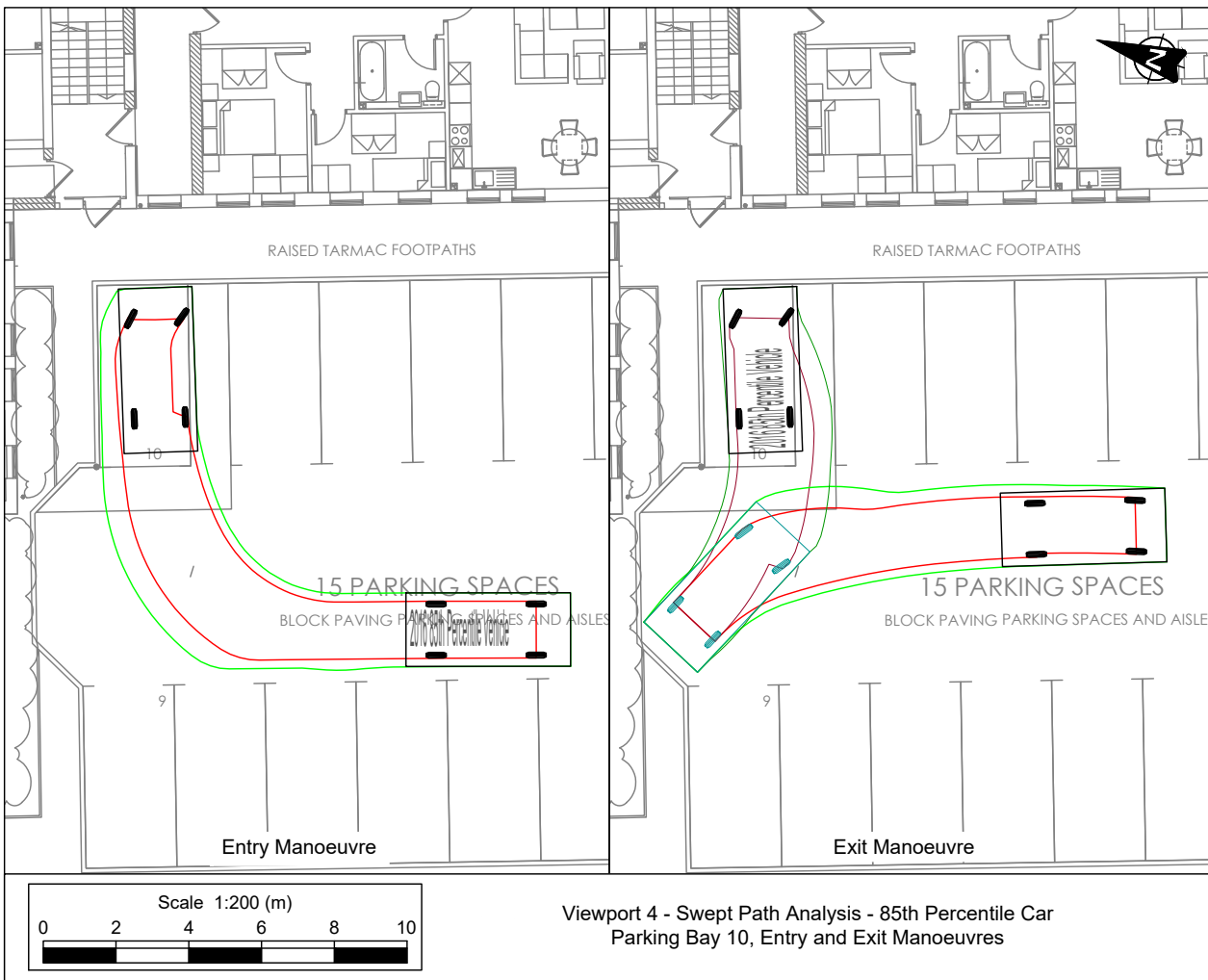
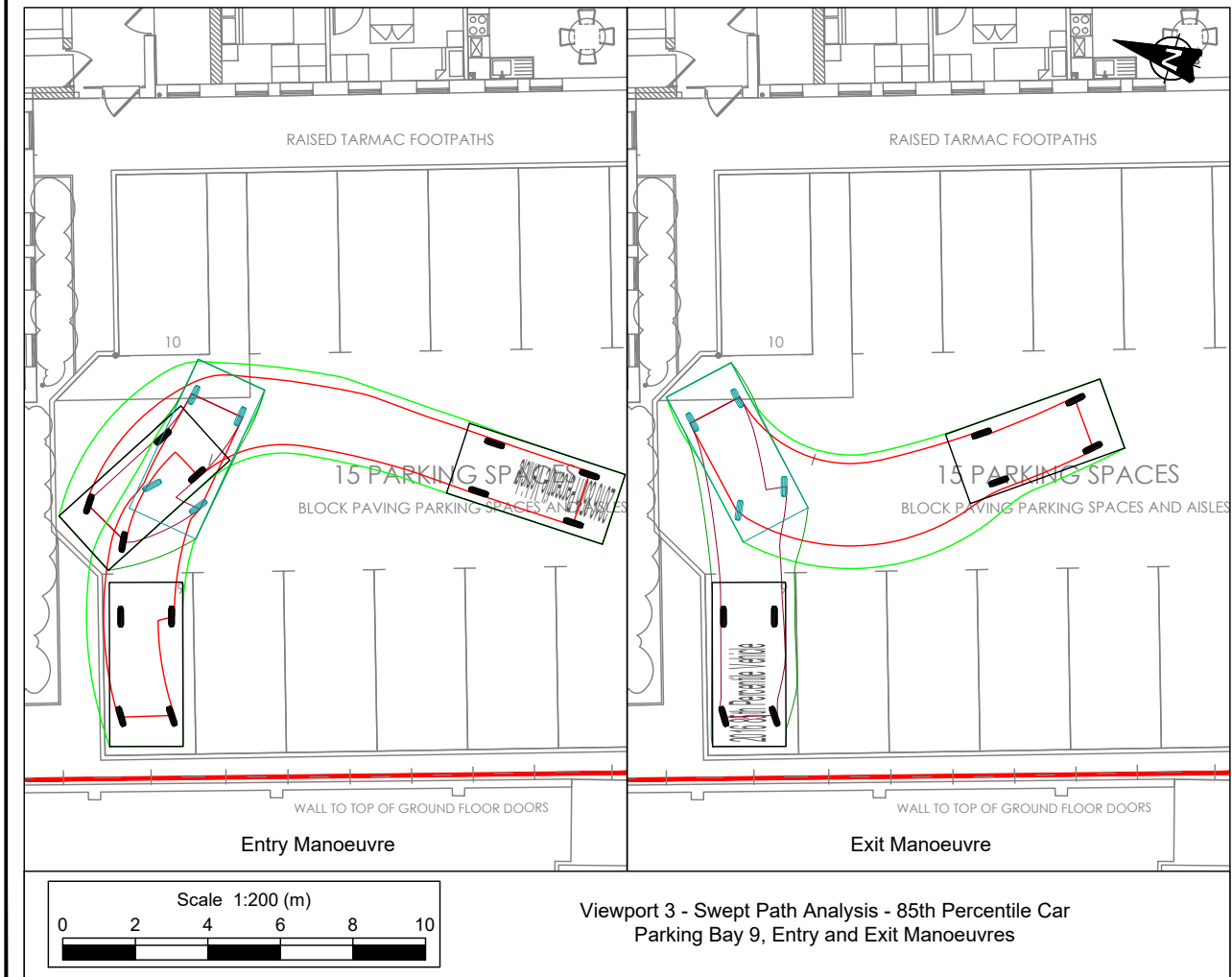
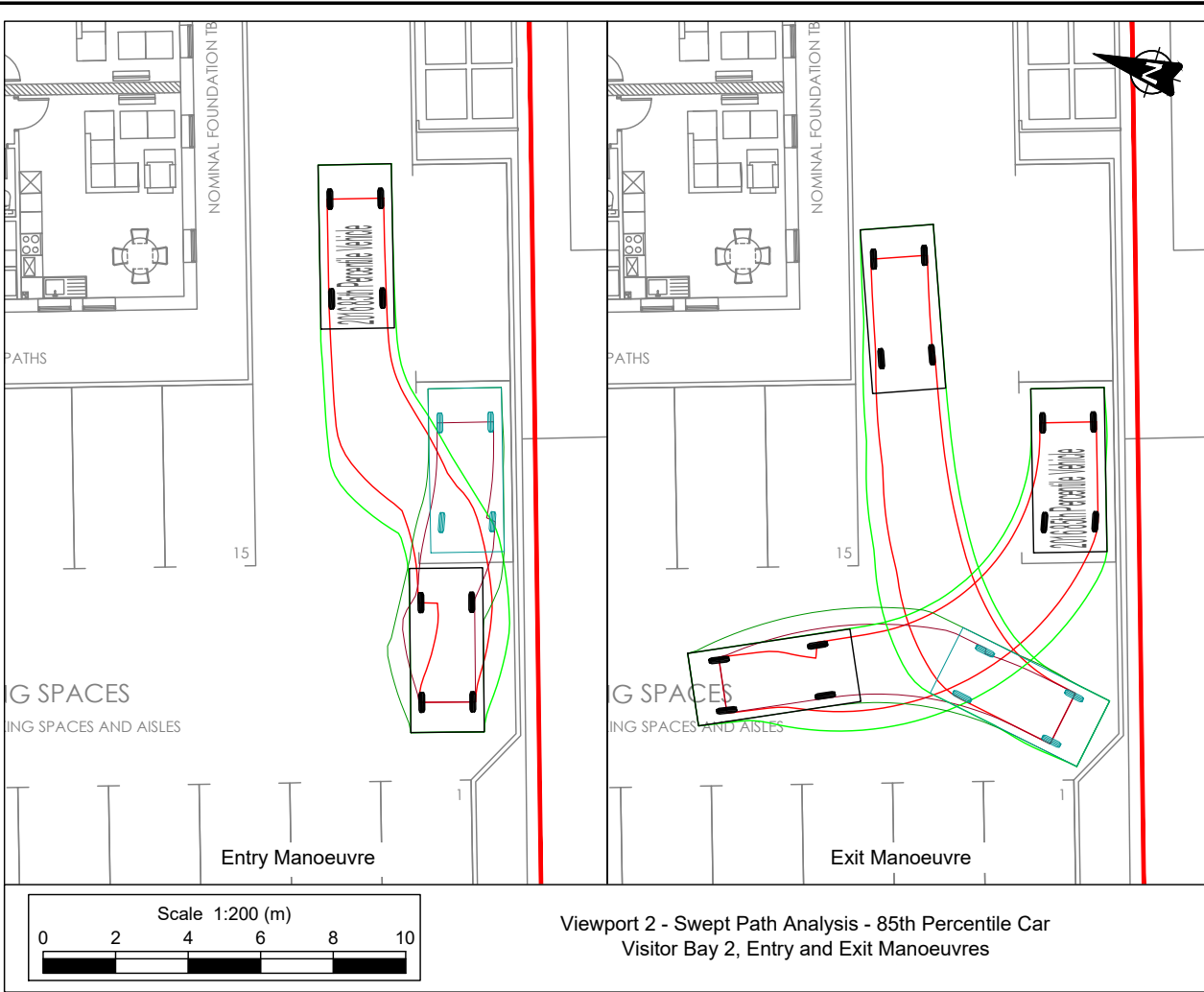
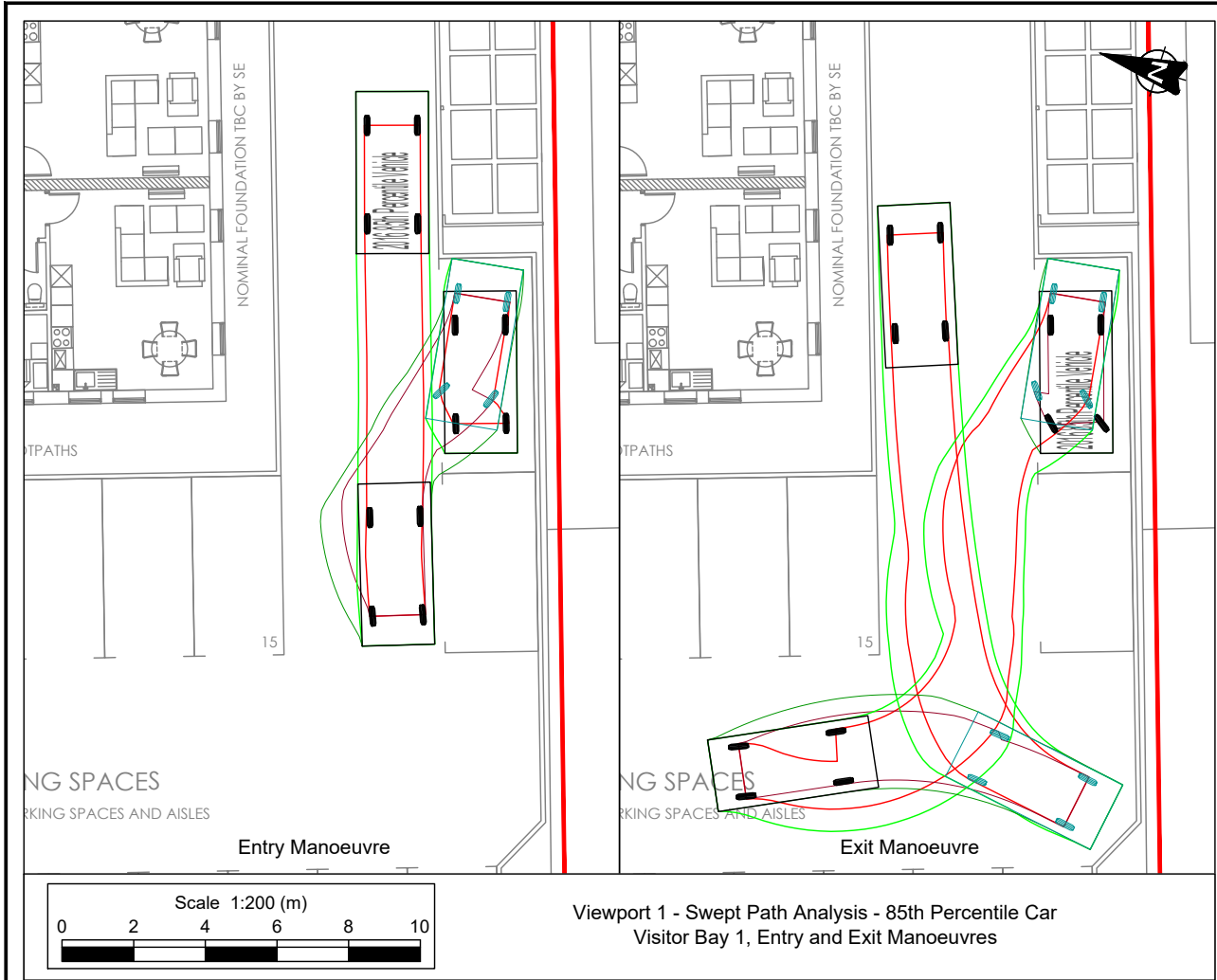
54-58 Queens Road, Reading

Title

**Site Access Visibility Splay;
Site Access Swept Path Analysis -
85th Percentile Car**

Drawn	Checked	Checked	Approved
DH	DM	BW	BW
Original drg. size	Date	Scale	Drawing Status
A3	24-07-2019	As Stated	Information
Drawing Number	BWREDE22-01		Rev.
			-

APPENDIX D – Swept-Path Analysis of Car Parking Bays



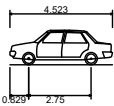
- Notes:
1. Do not scale from this drawing. If in doubt refer to the project manager for clarification.
 2. All dimensions are shown in metres unless otherwise stated.
 3. Layout based on Ordnance Survey MasterMap, © Crown Copyright 2018. All rights reserved. Licence number 100022432.

Key:

— Site boundary

- Swept Path Details:
1. Vehicle forward speed: 5kph
 2. Vehicle reverse speed: 2.5kph
 3. No dry steering has been used

— Vehicle wheel outline
— Vehicle body outline



2016 85th Percentile Vehicle
Overall Length 4.523m
Overall Width 2.022m
Overall Body Height 1.525m
Min Body Ground Clearance 0.223m
Max Track Width 1.560m
Lock to lock time 3.00s
Kerb to Kerb Turning Radius 5.728m

Rev	Date	Revision details	Drawn	Check	Review	Approv
-----	------	------------------	-------	-------	--------	--------

© This drawing is the property of SYSTRA Limited and the information can only be reproduced with their prior permission.

SYSTRA
5 Old Bailey
London
EC4M 7BA
T 020 3714 4400
E uk_london@systra.com
W www.systra.co.uk

Client
Pinemace Limited

Project
54-58 Queens Road, Reading

Title
Site Car Park Swept Path Analysis - 85th Percentile Car

Drawn	Checked	Checked	Approved
DH	DM	BW	BW
Original drg. size	Date	Scale	Drawing Status
A3	24-07-2019	1:200	Information

Drawing Number
BWREDE22-02

SYSTRA provides advice on transport, to central, regional and local government, agencies, developers, operators and financiers.

A diverse group of results-oriented people, we are part of a strong team of professionals worldwide. Through client business planning, customer research and strategy development we create solutions that work for real people in the real world.

For more information visit www.systra.co.uk