



TRANSPORT STATEMENT

Newhouse Centre, (Clarendon SEN School),
Buckingham Road, Hampton, TW12 3LT

For

London Borough of Richmond upon Thames

July 2017

Transport Statement

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Hampton, TW12 3LT**

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P3178	Transport Statement, Newhouse Centre, (Clarendon SEN School), Buckingham Road, Hampton, TW12 3LT			
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1.0 Introduction

- 1.1 The Stilwell Partnership has been instructed by London Borough of Richmond upon Thames to undertake a Transport Statement to accompany a Planning Application for the proposed refurbishment of the Newhouse Centre, along Buckingham Road, Hampton, to accommodate 50 children with Special Educational Needs (SEN) and 22 members of staff. 25 of these children are currently accommodated at Clarendon School, Hampton and will be transferred to a separate building at this new site to better meet their needs.
- 1.2 The purpose of this study is to advise the Local Authority, London Borough of Richmond upon Thames of the Transportation Impact that the proposed development could have on the local highway network. Parking Surveys were undertaken in December 2016.
- 1.3 The general limitations of this assessment are that:
- A number of data sources have been used in compiling this report. Whilst The Stilwell Partnership (TSP) believe them to be trustworthy; it is unable to guarantee the accuracy of the information that has been provided by others.
 - This report is based on information available at the time of preparation. There is potential for further information to become available, which may create a need to modify conclusions drawn in this report.
- 1.4 In **Section 2** we detail the Local and National Planning Policies; in **Section 3** we detail the site location in relation to the highway network and describe the existing development. **Section 4** outlines the development proposals. **Section 5** describes the results of the parking survey and **Section 6** outlines the results of a School travel survey. In **Section 7** the highway impact of the development is considered. **Section 8** details the sustainability of the site and **Section 9** concludes the report.

2.0 Planning Policy Context

TRANSPORT WHITE PAPER – CREATING GROWTH, CUTTING CARBON (JANUARY 2011)

- 2.1 Creating Growth, Cutting Carbon' sets out the Government's objectives for a greener and safer transport network that encourages economic growth and improves quality of life for communities.
- 2.2 The White Paper encourages the implementation of sustainable local transport systems and aims to remove the previous top-down approach to transport planning. Local Authorities will have the power to implement and tailor transport systems and schemes based on local needs and behaviour.
- 2.3 The economic aims of the White Paper can be achieved by increasing access to employment and services, reducing carbon emissions, increasing public transport accessibility, and as a by-product, increasing the number of people using safer transport methods with wider health benefits.
- 2.4 The White Paper notes the key role of travel planning in achieving the Government's objectives, as set out below:

"The Government wants to encourage and enable more sustainable transport choices. [...] In transport terms, this might be exemplified by reducing unnecessary signs, posts and other street clutter to improve road safety and encourage walking, by travel planning, or by presenting information in such a way as to encourage choice"
- 2.5 Successful travel planning schemes are noted and used as examples within the White Paper, including Travel Planning for Schools, Cycle Journey Planning and Area-Wide Travel Planning.

NATIONAL PLANNING POLICY FRAMEWORK (2012)

2.6 'On the 27th March 2012 the National Planning Policy Framework was published, which sets out the Government's planning policies for England. The new document is a key part of the Government's reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.

2.7 With regards to sustainable travel NPPF states:

Para 29

2.8 Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives. Smarter use of technologies can reduce the need to travel. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.

Para 30

2.9 Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.

Para 32

2.10 All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people; and
- Improvements can be undertaken within the transport network that will cost-effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Para 36

2.11 A key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan.

RICHMOND CORE STRATEGY – LOCAL PLAN,

2.12 The Core Strategy April 2009 is one of the documents that make up the Local Development Framework, the new development plan for the Borough. It will set out the Strategic Planning Framework for the Borough for the next 15 years. The Core Strategy will supersede the Strategic policies section of the Unitary Development Plan: First Review 2005. The Core Strategy takes account of other plans and strategies and will be the delivery mechanism for the spatial elements of the Community Plan.

2.13 With regards to The Core Strategy states:

The Spatial Strategy: 6.1 A Sustainable Future

Section 6.1.1:

2.14 As an outer London Borough there has always been considerable in and out commuting for work, education, shopping and leisure and this is likely to continue, even if residents are able to carry out most day to day activities locally. To reduce environmental impacts and congestion of such movement, public transport, cycling and walking networks will be improved and promoted, and major new development steered towards areas which have access to good public transport, such as Richmond and Twickenham.

Section 6.1.2:

2.15 To play their role in minimising climate change, measures such as retaining existing buildings where possible and practicable will be considered, but if redevelopment is necessary, sustainable construction and measures to minimise energy use and encourage the use of renewable energy to move towards carbon neutrality will be taken. Adverse impacts of new development will be minimised biodiversity protected and measure taken to ensure sustainable waste management.

2.16 **Section 8.1.5 5.G Sustainable Travel**

- Encourage major employers and schools to develop Green Travel Plans and require these where appropriate with planning applications.
- Require all major developments to submit a Transport Assessment based on TfL's Best Practice Guidance.
- Encourage efficient, safe and sustainable freight transport.
- Encourage river transport through the retention and support for new transport infrastructure.

Policy G13

GREEN TRAVEL PLANS

2.17 Planning applications for major travel generating developments will be expected to be accompanied by Green Travel Plans. In respect of other proposals, the Council will also require applications to be supported by a Green Travel Plan, aimed at delivering sustainable transport objectives. The circumstances in which these will be required are:

1. All major developments comprising jobs, shopping, leisure and services;
2. Smaller developments comprising jobs, shopping, leisure and services which generate unsustainable travel in other locations;
3. Proposals for new and expanded school facilities; and
4. Where the Green travel plan will help to address a particular local traffic problem associated with a planning application, which might otherwise have to be refused on local traffic grounds.

Policy CF4

EXPANSION OF SCHOOLS

2.18 Planning permission will be granted for the expansion of schools providing:

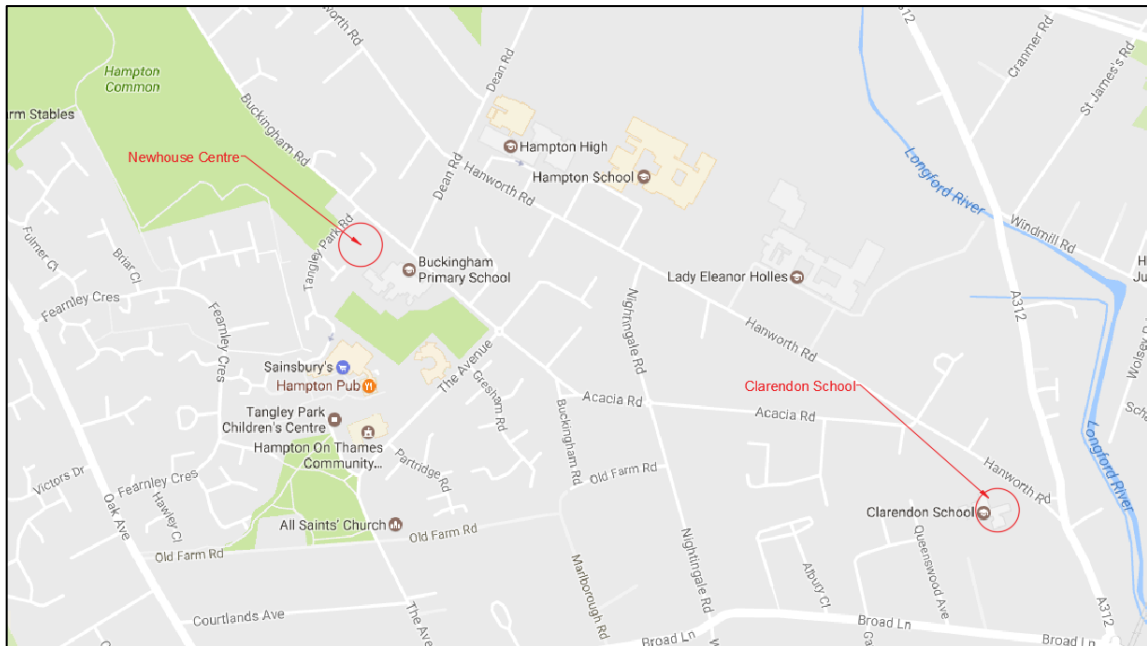
1. Proposals are in compliance with policy R5 protection of open space;
2. The proposed development would not detract from the character and appearance of existing buildings and the surrounding area;
3. There is agreement to the introduction and implementation of a schools green travel plan where appropriate;
4. The highway access, parking, turning and any increased traffic movements can be accommodated satisfactorily.

3.0 Site Location and Existing Development

Existing Site Description and Location

- 3.1 The site is situated in Hampton, South West London which is a suburban area in the London Borough of Richmond upon Thames. The site is situated just south of the junction of Buckingham Road and Tangle Park Road (TW12 3LT) as shown in **Figure 1** below.

Figure 1 – Site Location Plan



Source: Google

- 3.2 The London Borough of Richmond is implementing a number of changes that will enable the Council to deliver its commitment to improve SEN (Special Educational Needs) provision in the borough.
- 3.3 Key objectives are to:
- Provide opportunities for children with Special Educational Needs to have their needs met in mainstream schools wherever possible.
 - Where provision in a special setting is required it should be as local and inclusive as possible.
 - There should be as much choice for parents as possible.
- 3.4 As part of the above commitment the Clarendon School will become an umbrella SEN provider. It is intended that the current site on Hanworth Road will be vacated in September 2018 and extended provision delivered across 3 sites:
- The Gateway Centre adjacent to Twickenham Academy on Percy Road in Twickenham was completed in July 2015 and supports SEN pupils aged 11 – 19 years.
 - The Richmond College Campus will accommodate KS3-4 pupils currently based at the Clarendon School site, from September 2018.
 - Newhouse Centre: LBRuT propose to modify accommodation at this centre to accommodate KS1 and KS2 pupils from September 2017.

- 3.5 This project forms the last part of the strategic plan to increase the capacity of Clarendon School, having already provided upgraded premises at The Gateway and with the development of KS3-4 provision at the Richmond College Campus planned for completion by September 2018.
- 3.6 The Newhouse Centre, which is currently unoccupied, is part of Clarendon School. It was previously used until August 2015 as a specialist KS3-4 provision for 25 pupils with (BESD) needs.

Buckingham Road

- 3.7 Buckingham Road a well-lit, traffic calmed road, local residential road, approximately 7.3 metres in width, with footways on both sides. Most properties have off-street parking, but on-street parking does occur along the north-east side of the road. During the parking survey cars were observed to be parked on both sides of the road near Buckingham Primary School. There are houses on the north-eastern side of the road. Buckingham Primary School is located on the south-western side, just south of the site.

Tangley Park Road

- 3.8 Tangley Park Road is a residential road approximately 5.8 metres in width, with footways on both sides. It connects from Buckingham Road leading to a Sainsbury's Car Park. Behind Sainsbury's store there are residential amenities such as a Community Centre and a Public house. The road is well lit with parking on the eastern side of the road, just south of Buckingham Road. Warner Close connects to the east side approximately 70m from Buckingham Road.

Haslemere Close

- 3.9 Haslemere Close is located north-east of Buckingham Road, just north of the Tangley Park Road junction. It is a residential close with one footway along the west side of the road and a grass verge on the east side. The road is approximately 4.8m wide and most cars park along the western side of the road.

Current Pupil and Staff Postcode Plot

3.10 Pupil and staff postcodes have been obtained and plotted on a Google map to show the catchment and distribution of pupils and staff. The location of pupil home postcodes can be seen in **Figure 2** below and staff home postcodes can be seen in **Figure 3**.

Figure 2 – Pupil Postcode Location Plan

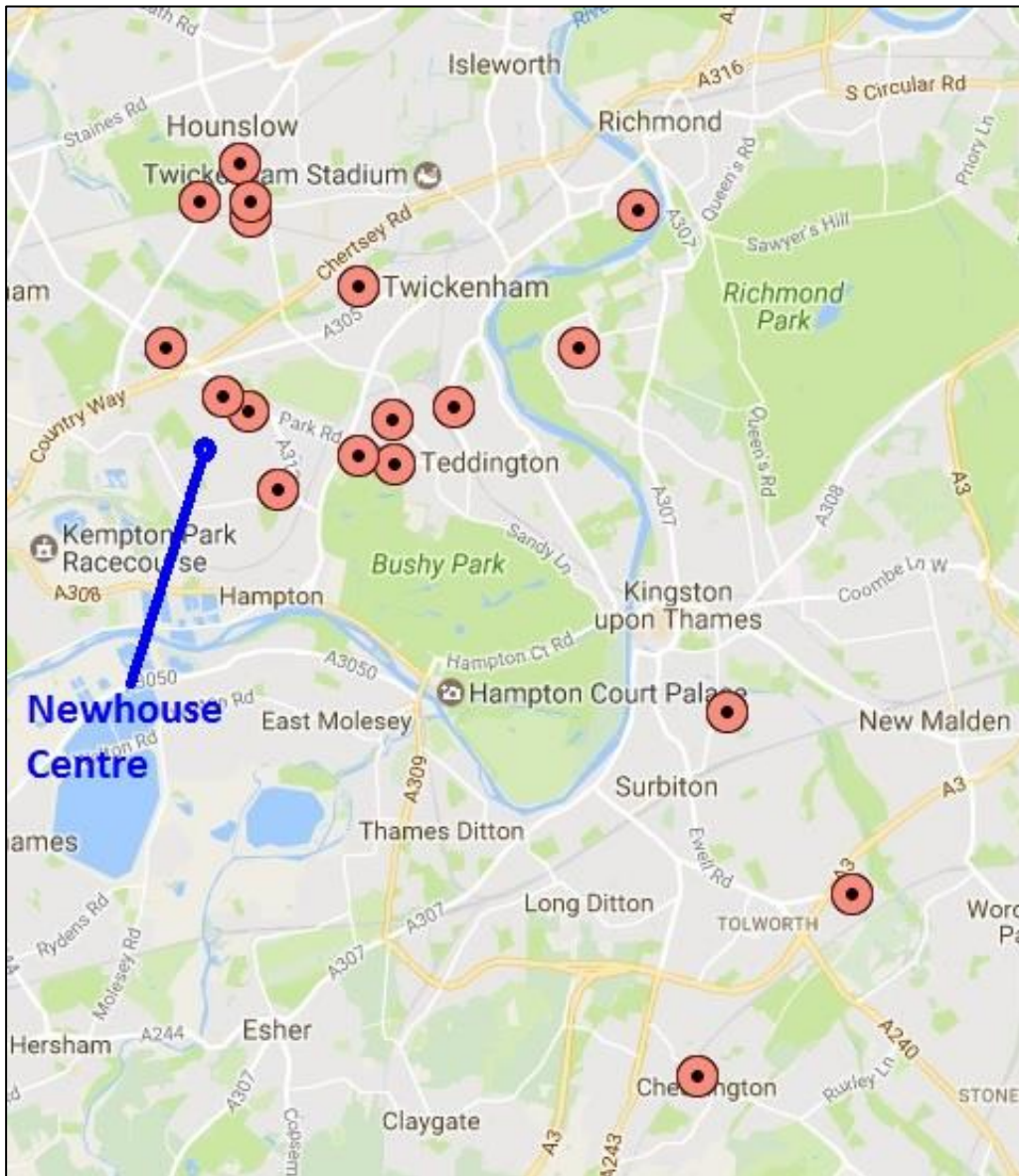
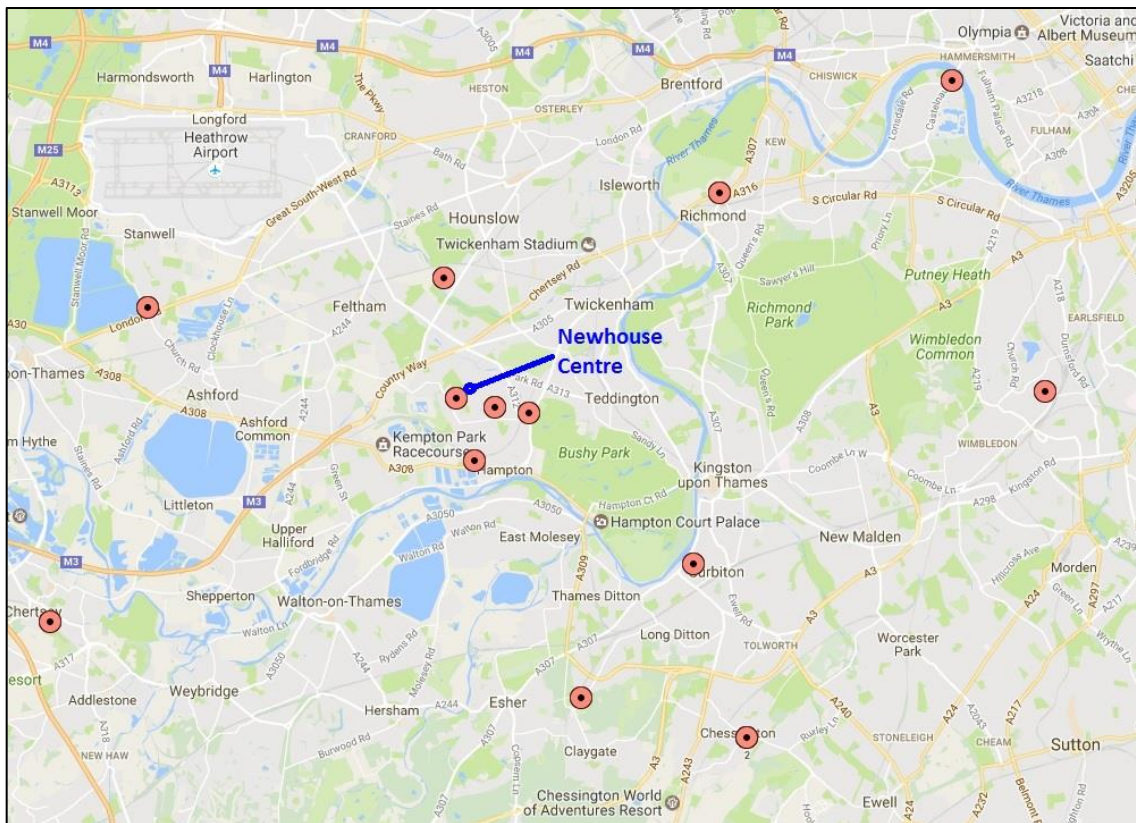


Figure 3 – Staff Postcode Location Plan



3.11 It can be seen from **Figure 2**, that the vast majority of pupils live within the Twickenham and Hounslow area. Staff postcodes can be seen in **Figure 3** above.

Personal Injury Accident Data

3.12 There have been 2 recorded accidents in the vicinity of the site in the 5 years between 2012 and 2016 and these are recorded as “slight” injury accidents. One accident occurred close to the access to Buckingham Primary School in 2014 and the other occurred in 2015, at the junction of Buckingham Road with Tangle Park Road. This is a low number of accidents for a 5 year period and only resulted in slight injuries, requiring minimal treatment.

4.0 Proposed Development

- 4.1 The proposal is to relocate the Primary aged pupils from Clarendon School on Hanworth Road to the Newhouse Centre site. The proposed school at the Newhouse Centre on Buckingham Road will have a minimum of 22 staff and 50 pupils, 26 of which will be transferred from Clarendon School. It will be a Special Educational Needs (SEN) School. The proposed layout plan can be seen in **Appendix A**.
- 4.2 Currently 26 of the pupils attend the Clarendon School at Hanworth Road. They will attend the Newhouse Centre from September 2017, along with another 24 new pupils, which will be accommodated over a period of 2-3 years.
- 4.3 The existing building will be increased in size from 714sqm to 839sqm in footprint. Just 1 car parking space for the headteacher and 1 disabled parking space will be provided within the curtilage of the site. There will also be a permanent space for one of the School mini-buses. Any parents wishing to drive their children to School or other staff driving to School will have to park on-street. Pedestrian and cyclist access to the site will be from Buckingham Road only, via a separate access to vehicles.
- 4.4 Mini-buses will continue to be used to transport pupils from home to the school making it a sustainable option for the proposal. It is estimated that up to 6 mini-buses will be required at drop off/collection times. Currently 56% of the Primary aged pupils which will transfer to the Newhouse Centre take the School mini-bus to School, but the School would like to increase this to 80-90%.
- 4.5 The vehicle egress onto Buckingham Road will be retained and a new access will be formed along Tangle Park Road, approximately 28m south of its junction with Buckingham Road. The new access will be approximately 4.8m wide and have an automated sliding gate. Suitable restrictions or School Keep Clear markings will be provided across the new access. It is proposed that the existing access along Buckingham Road will be used as an exit from the site, whilst the new access will be used as an entrance into the site, with appropriate signage.
- 4.6 The School gates will need to be closed when all pupils are boarding or alighting the mini-buses. Six vehicles will be able to remain within the site, with the gates closed, at any one time. The first mini-bus to arrive will park in the dedicated mini-bus parking bay. The second will park in front of the disabled and headteachers parking bay. The remaining mini-buses will park to the west of this. A traffic marshall will be required to help organise the mini-buses in the morning and afternoon. A pedestrian only zone will be marked out to the west of the building, where it will be safe for pedestrians to wait before boarding their mini-bus.
- 4.7 Swept paths showing a 6.3m long mini-bus entering the site (from Tangle Park Road), parking in various locations and exiting (onto Buckingham Road) in a forward gear, can be seen in **Appendix B**.

5.0 Parking Survey

5.1 Detailed Parking Beat Surveys and on-site observations were undertaken on 14th December 2016 at 08:20am, 08:55am and 09:30am in the morning and 2:30pm, 3:15pm and 4:00pm in the afternoon. The surveys were undertaken along, Buckingham Road, Tangley Park Road, and the adjoining segments of road, Warner Close, Embleton Walk and Haslemere Close. The surveys were undertaken within 100m of the site, which it is reasonable to expect parents to walk with young children from their cars. It also covered the access to Buckingham Primary School.

5.2 A study area plan is included within **Appendix C**. The purpose of this survey was to determine the parking capacity on-street and the impact that the existing Buckingham Primary School, adjacent to the Newhouse Centre, could have on parking availability in the surrounding area.

Methodology

5.3 In order to quantify the existing situation parking beat surveys were undertaken before, during and after the morning and afternoon peak school parking times. The purpose of this is to establish the car parking available, the number of parkers in spaces and to determine which cars were associated with the school parking.

5.4 Following the survey, the data was analysed and detailed parking survey plans recording the actual parking activity on site drawn up. Parked vehicle location plans are located in **Appendix D**. The results have allowed us to identify where there is spare capacity in the surveyed area.

5.5 In order to ascertain whether or not there was any spare capacity within the Study Area, we first of all undertook a survey of all roads and recorded existing dropped kerbs and accesses. From these surveys we were then able to identify the areas in which vehicles could safely park. **Table 1** lists the 'No. of safe parking spaces' for each road, based on 5.5m to 6.0m long parallel parking spaces, in locations which still allow for the normal flow of traffic, as well as maintaining access/egress to the residential properties adjacent.

Table 1 – No. Of Safe Spaces in Each Road

Location	Total spaces in *Safe Location
Buckingham Road	38
Tangley Park Road (incl. Warner Close and Embleton Walk)	34
Haslemere Close	12
ALL ROADS	84

Observations

- 5.6 It was noted from the site observations that the traffic builds up on Buckingham Road during the school drop off and pick up times. The results for these areas are included in **Table 2, 3 and 4** below. Parked vehicle location plans can be found in **Appendix D**.

Table 2 – Results of parking survey for designated area for Buckingham Road

Designated Parking Spaces Buckingham Road				
Time	Total Safe Spaces	Cars Parked	Parking Stress (%)	Spare Safe Spaces
08:20am	38	24	63%	14
08:55am	38	29	76%	9
09:30am	38	24	63%	14
02:30pm	38	20	53%	18
03:15pm	38	20	53%	18
04:00pm	38	19	50%	19

Table 3 – Results of parking survey for designated area for Tangley Park Road (incl Warner Cl & Embleton Walk)

Designated Parking Spaces Tangley Park Road				
Time	Total Safe Spaces	Cars Parked	Parking Stress (%)	Spare Safe Spaces
08:20am	34	10	29%	24
08:55am	34	20	53%	14
09:30am	34	10	26%	24
02:30pm	34	13	34%	21
03:15pm	34	28	74%	6
04:00pm	34	12	32%	22

Table 4 – Results of parking survey for designated area for Haslemere Close

Designated Parking Spaces Haslemere Close				
Time	Total Safe Spaces	Cars Parked	Parking Stress (%)	Spare Safe Spaces
08:20am	12	3	25%	9
08:55am	12	5	42%	7
09:30am	12	3	25%	9
02:30pm	12	3	25%	9
03:15pm	12	4	33%	8
04:00pm	12	3	25%	9

- 5.7 In the morning, the first parent cars began arriving at Tangley Park Road at approximately 8:40am. The parents were observed to be parking predominately on Tangley Park Road. The results for just this area are included in **Table 3** above.
- 5.8 For Buckingham Road as shown in **Table 2**, there was an increase of 5 parked cars at 8:55am (school start time). However, no increase in parked cars between 2:30 am to 3:15am, during the afternoon peak period. However, for Tangley Park Road an increase of 15 cars from 2:30pm to 3:15pm was observed and the parking stress went up from 34% to 74%.

Results Summary

- 5.9 The results of the parking survey for all the roads (Buckingham Road, Tangley Park Road and Haslemere Close) are summarised below in **Table 5**.

Table 5 – Results of parking survey for all on-street spaces

Time	Total Parking Spaces			
	Total Safe Spaces	Cars Parked	Parking Stress (%)	Spare Safe Spaces
08:20am	84	37	44%	47
08:55am	84	54	64%	30
09:30am	84	37	44%	47
02:30pm	84	36	43%	48
03:15pm	84	52	62%	32
04:00pm	84	34	40%	50

- 5.10 As can be seen from **Table 5** above, even at peak school times, the roads surrounding the Newhouse Centre in the study area still had capacity for at least 30 additional cars. The parking beat surveys have shown that there were a total of 30 spare spaces out of 84 in the morning “drop off” peak and 32 in the afternoon “pick up” peak out of 84.

6.0 School Travel Survey

- 6.1 A School Travel Survey was undertaken of the existing primary aged pupils at Clarendon SEN School, in December 2016. A questionnaire was given to all pupils / parents and staff. The questionnaire asked questions about existing travel habits and ideal travel arrangements. We received completed questionnaires from 18 pupils (69%), and 18 members of staff (90%) completed the questionnaire. A summary of the results and brief conclusions are described below.
- 6.2 The results of the survey show that 56% (10 of out of 18) of pupils currently take a School bus (mini-bus) to School; this represents the majority of pupils. 22% (4 out of 18) of pupils walk to and from school whilst the remaining pupils/parents (22%, 4 out of 18) take a car to school. No pupil's cycle or scoot, or take any other form of public transport (i.e. Public Bus/ Rail / Tube etc.) except the mini-bus.
- 6.3 The pupils were asked how they would like to travel to School and 11% said they would like to walk, 83% said they would like to come by School bus (mini-bus) and 6% said they would like to come by car.
- 6.4 In the staff questionnaires, 17% of staff walk to and from School, 6% cycle to School, 17% take the public bus and 60% come by car. When asked "What would be your main reason for choosing this mode of transport?", 67% stated convenience, 11% stated that cost was the factor, 17% stated it was the length of their journey and 6% said that security was an issue. Out of those staff members who use a car, 6 stated that a car is essential for the job, whilst 4 said they drove for childcare reasons.
- 6.5 From the travel survey it can be seen that there is some scope to reduce the number of parents and staff driving to School alone. 50% of staff members said they would be interested in car sharing. Pupils indicated a clear willingness to travel by School bus and it is the Schools aim to accommodate as many pupils as possible into the School mini-buses.

7.0 Highway Impact

7.1 When undertaking a Transport Statement (TS) for a new site, it is normal practice to consider the likely impact of the proposed development in the peak hours, i.e. when the combination of the existing traffic and the proposed is at its highest. We have assessed the impact that the proposed reinstatement of the School at Newhouse Centre could have on the local residential roads in terms of additional parking requirements and availability on-street, and possible remedial measures to help reduce the impact will be discussed in **Section 8.0**.

Existing Trips

7.2 At present there are no trips attracted to the site, because it is unoccupied. However, it does have a current use as a Secondary BESD School, so trips of a similar nature to the proposed would have been attracted to the site in the past.

7.3 The parking surveys undertaken on 14th December 2016 and presented in **Section 5.0**, show that at the busiest time (8:55am) 54 cars were parked on-street within 100m of the Newhouse Centre. There are approximately 84 on-street spaces available within this area, which means that at the busiest time, there were 30 spaces available on-street.

7.4 The travel survey presented in **Section 6.0**, shows that pupils currently travel by the following modes:

Table 6 – How the children currently travel to School (from 2016 Travel Survey)

Mode of Travel	% travelling by mode
Car	22%
Walk	22%
School mini-bus	56%

7.5 The travel survey also showed that staff currently travel by the following modes:

Table 7 – How the staff travel to School (from 2016 Travel Survey)

Mode of Travel	% travelling by mode
Car	60% (11 members of staff)
Walk	17% (3 members of staff)
Public bus	17% (3 members of staff)
Cycle	6% (1 member of staff)

Proposed Trips

- 7.6 As explained previously, 2 off-street parking spaces will be provided on-site, including one disabled bay and one for the headteacher. This means that all other staff will have to park on-street. The travel survey showed that 11 of the 22 members of staff will travel to School by car. However, the School is implementing a Travel Plan and school staff will be encouraged to walk if possible and car share.
- 7.7 In terms of pupil trips, **Table 8** below shows the likely modes of travel based on the Primary aged pupils, which will transfer from Clarendon School. The percentage travelling by each mode has been multiplied by the 50 pupils which will attend the School.

Table 8 – How the children will travel to School (based on 2016 Travel Survey)

Mode of Travel	% travelling by mode
Car	22% (11 pupils)
Walk	22% (11 pupils)
School mini-bus	56% (28 pupils)

- 7.8 As can be seen from **Table 8** above, just 11 pupils will be driven to School. The remaining 39 pupils will travel on foot or by School mini-bus. Up to six School mini-bus will enter the site and will have minimal impact on the on-street parking arrangements. There may be a loss of up to 4 car on-street spaces as a result of the new access. The School has a desire to increase the number of pupils travelling to School by mini-bus to at least 80%, which would equate to approximately 40 pupils. If this is achieved, then just 5 pupils (10%) could be driven to School.
- 7.9 Assuming a worst case scenario and that the travel patterns remain as existing, the surveys show that at most 11 parent cars and 11 staff cars could be attracted to the site. The travel surveys undertaken in December show that there is capacity for approximately 26 additional cars to park on-street (accounting for the approximate 4 lost spaces due to the new access) the busiest time during the morning peak period.
- 7.10 From the above, it can be seen that there is spare capacity for the maximum additional 22 parent and staff cars to park on-street. In reality, far fewer parent cars will be attracted to the school, as the School will be encouraging more use of the School mini-buses and other sustainable forms of transport. Staff will also be encouraged to travel more sustainably, whether that be on foot, public transport or car sharing.

8.0 Sustainable Transport

Pedestrians

- 8.1 Pedestrians will access the site via a gate to the front of the School on Buckingham, as shown in **Appendix A**.
- 8.2 For pedestrians without mobility impairment, the Institution of Highways and Transportation (IHT) in their publication, 'Guidelines for Providing for Journeys on Foot 2000' make a series of suggested acceptable walking distances in relation to some common facilities. **Table 10** below sets out suggested acceptable walking distances in relation to some common facilities.

Table 10 – Suggested Acceptable Walking Distances

	Town Centres, Retail	Employment, School, Tourism	Elsewhere
Desirable	200m	500m	400m
Acceptable	400m	1,000m	800m
Preferred Maximum	800m	2,000m	1,200m

Cyclists

- 8.3 It is widely accepted, as detailed in the recently withdrawn Planning Policy Guidance 13 (PPG13) that for a distance of up to 5,000m 'cycling can reasonably be considered as an alternative to travelling by private car'. On the basis of a relatively slow cycling speed of 15kph, this distance could be achieved in 20 minutes.

On Site Provision

- 8.4 Richmond Borough Councils Parking Standards states that 5 spaces should be provided per classroom, depending on the nature of the School. Staff will be provided with 8 spaces. It will not be suitable for pupils to cycle, due to their SEN status.

Buses

- 8.5 There are currently no buses that stop directly outside the entrance to the proposed school. The IHT document 'Guidelines for Public Transport in Developments' dated March 1999, states that the maximum walking distance to a bus stop should not exceed more than 400m and preferably no further than 300m. Here is a summary of the bus services below. The nearest bus stops are located along Hanworth Road and The Avenue, to the north and east of the site, approximately 350m from the site. Full bus timetables are included within **Appendix E**.

Service 111 – Kingston Station – Heathrow Central Bus Station

- 8.6 The 111 bus runs for 24 hours, between the hours of 05:50am – 19:30pm, it comes every 9 – 10 mins and destinations available using this service include Heathrow, Cranford, Hounslow, Hampton, Hampton Court Green and Kingston. The total bus route journey varies from 1 hour (at midnight) until 1hr 30minutes in the afternoon.

Service 285 – Kingston, Cromwell Road Bus Station to Heathrow Airport Central

- 8.7 The 285 runs for 24 hours, between the hours of 06:10am – 19:20pm, it comes every 10 mins and destinations available using this service include Heathrow, Feltham, Hampton Hill, Teddington, and Kingston. The total bus route journey varies from 45 minutes (at midnight) to 1hr 5 minutes in the evening.

Service R70 – Hampton – Richmond

- 8.8 The R70 runs from approximately 05:40am – 01:35am and destinations available using this service include Hampton, Nurserylands, Hampton Hill, Fulwell, Twickenham and Richmond. The total bus route journey varies from 38 minutes in the morning until 55 minutes in the evening.

PTAL Rating

- 8.9 Public Transport Accessibility Levels (PTALs) are a measure of the accessibility of a given point to the local public transport network, taking into account the walk time and service availability.
- 8.10 The PTAL for the proposed site is 1b. The full results can be found in **Appendix F**.

School Travel Plan

- 8.11 The current School Travel Plan has been updated to support this Application. As part of this process we will be looking at ways of improving school safety, increasing the use of sustainable transport methods for pupil journeys to and from the school.
- 8.12 The final format and content of the School's updated TP will be a matter for further liaison between Clarendon SEN School and the Local Planning & Highways Authority (London Borough of Richmond upon Thames), with the completed plan offered for final approval by the Authority prior to implementation.
- 8.13 The Plan is not intended to be against the use of cars, but will detail the alternative modes of transport available as much as possible. The Plan is designed to encourage pupils, parents and staff to use cars more efficiently where necessary, whilst providing incentives to use alternative modes of transport. It should be noted that the applicant will be contributing towards a number of measures that will encourage pupils and visitors to the site to use alternative modes of transport other than the car.

8.14 In light of the findings in the previous sections and the impact that expanding the School may have on the surrounding environment, in terms of road safety and increased congestion, it will be necessary to promote alternatives to the car. The School has set out a series of measures in their accompanying Travel Plan, which will encourage pupils and parents to walk and take the School bus. These could include:

- Giving advice on personalised travel planning;
- Include advice to parents in newsletters about considerate parking and considering walking their children to School;
- Promoting a Road Safety Week, with the involvement of the parents, at the start of each year and encourage parents to walk with their children to School on that week and beyond;
- Setting up car share schemes for staff and parents;

8.15 None of the pupils will be able to travel independently to School. Many of the pupils have limited or no awareness of the dangers of traffic. The Schools life skills curriculum has 7 travel related expectations. Pupils will be taught travel training skills to promote road safety and awareness of danger. This will include walking safely on the pavement, choosing a safe place to cross and how to use a zebra crossing. Pupils will also be given the opportunity to learn to ride a trike. Those pupils who are able to ride a bike will take part in Bikeability training in year 6.

8.16 In addition to the measures that will be promoted to encourage walking to the School, as an alternative to the car, it is recognised that many children and staff do not live close enough to the School to be able to walk or cycle. In order to allow these children to travel by more sustainable modes, the School has also set out a series of measures in the accompanying Travel Plan, which will promote the use of public transport and School mini-bus, if feasible. These could include;

- Erect information on public transport in key locations within the site;
- Include information on other modes of transport other than the car in welcome packs for visitors and new parents;
- Include on the Schools web site other modes of transport available;
- Consider public transport discounts for staff;
- Set up car share database for staff and consider opt-in database for parents to allow their children to car share.

8.17 Many studies have been carried out by the producers of products or schemes, which aim to reduce car usage and increase walking and/or cycling. For example, Surrey County Councils GoldenBoot Challenge has found that an 11% reduction in car use can be achieved

(<http://www.saferoutestoschools.com/gbcrests/8/gbcchallengerests/>).

(<http://www.dft.gov.uk/publications/bikeability-training/>).

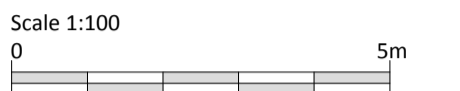
9.0 Conclusions

- 9.1 The Stilwell Partnership has been instructed by London Borough of Richmond upon Thames to undertake a Transport Statement, to support a Planning Application for the proposed SEN Primary School at Newhouse Centre, Buckingham Road, TW12 2LT, accommodating 50 pupils and 22 staff, which will include 25 pupils relocating from Clarendon SEN School.
- 9.2 We have shown that the School at Newhouse Centre would have a manageable impact in terms of increasing congestion in the surrounding roads during School pick-up and drop-off times. The majority of pupils will be dropped off by School mini-bus and many will walk to School.
- 9.3 The school will be implementing an updated School Travel Plan, which shows that there are a number of opportunities for promoting sustainable alternatives to the car.
- 9.4 The impact from the proposed Newhouse Centre development will be minimal. The vast majority of pupils will either travel to School on-foot or by School mini-bus. Between 5 and 11 pupils could be driven to School, for which there is capacity on-street. In addition, up to 11 members of staff could drive to School, although measure such as car sharing will be encouraged.
- 9.5 In summary, we conclude that the proposed development can be accommodated without significant detriment to vehicular flows and road safety on the surrounding highway network.

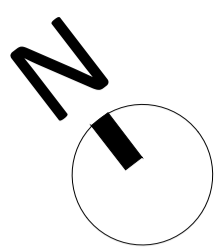
Appendix A

Proposed Layout Plan

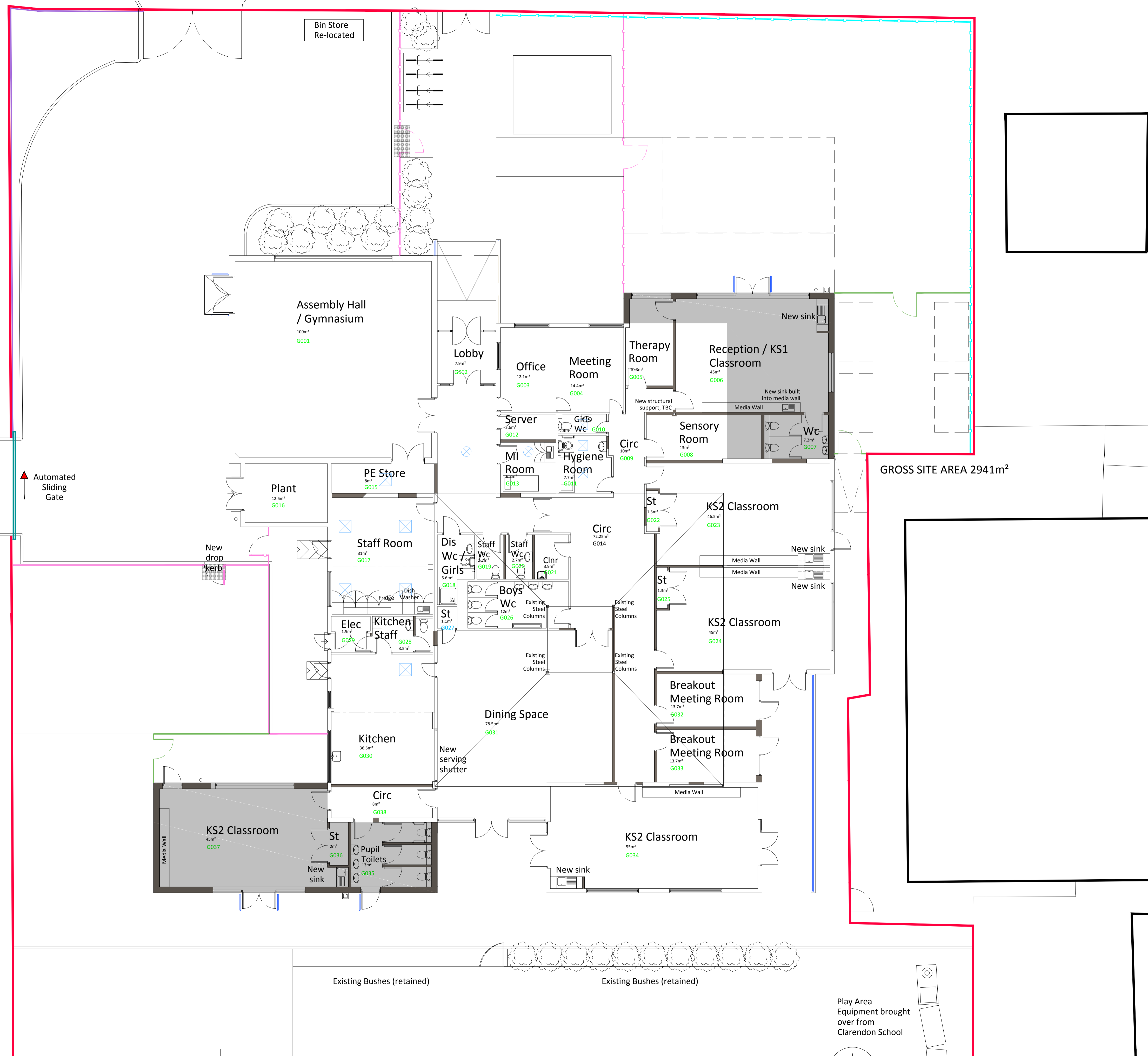
NOTES
 Do not scale dimensions from this drawing except for Local Authority planning purposes.
 The contractor is responsible for checking dimensions, tolerances and references. Any discrepancies to be verified with the Project Manager before proceeding with the works.
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 All current drawings and specifications for the project must be read in conjunction with the designers hazard and environment assessment record.



WORKS KEY
 Deletion
 Proposed New walls



TANGLEY PARK ROAD



GROSS SITE AREA 2941m²

P1	21.07.17	Submitted For Planning	MC
PO	23.12.16	Initial Scheme	MC
Rev	Date	Description	Chk

243 Brooklands Road
 Weybridge
 Surrey, KT13 0RH

T 01932 850100
 W www.dhpuk.co.uk

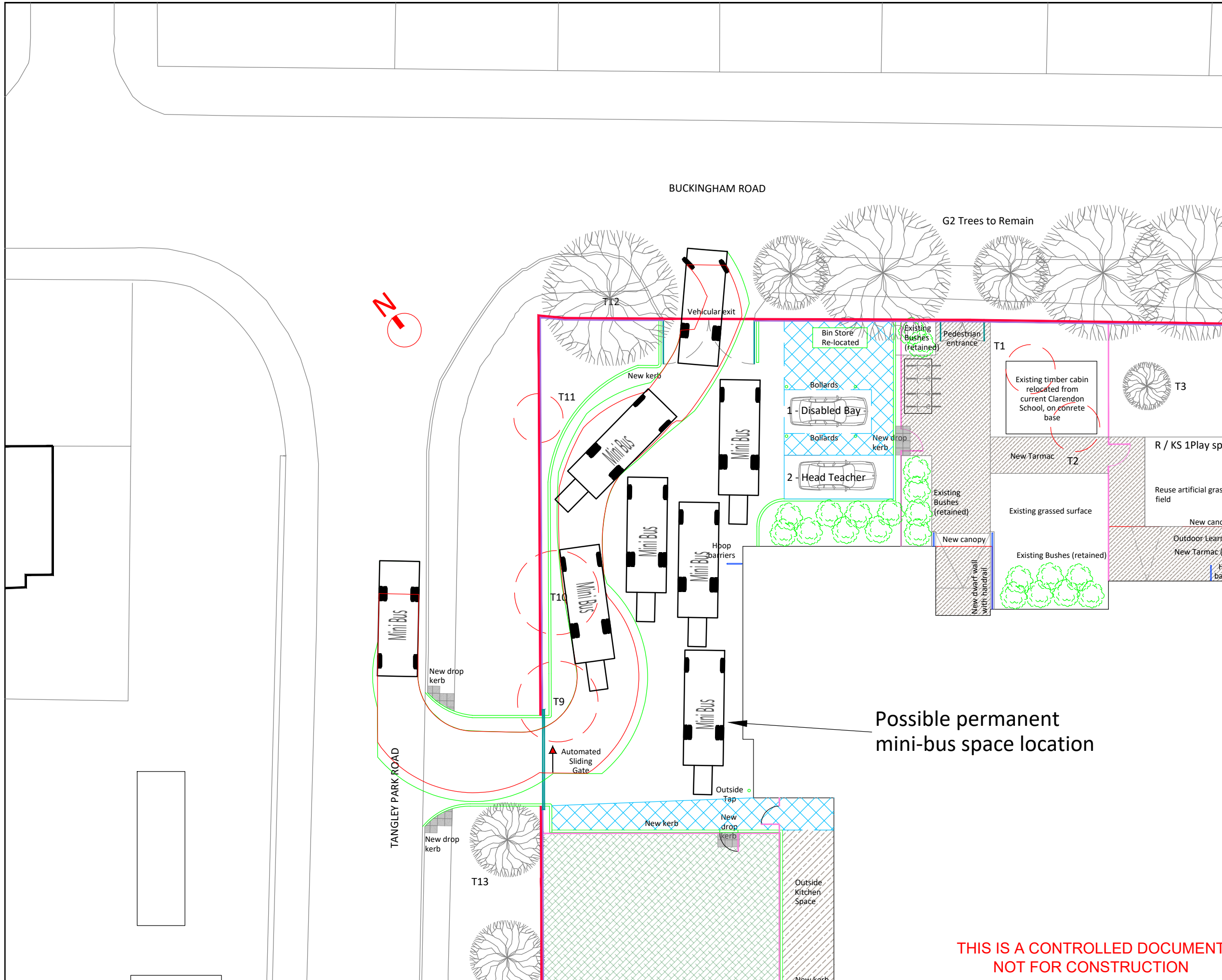
Project
 Newhouse Centre
 Buckingham Road
 Hampton
 TW12 3LT

Drawing
 Proposed Ground Floor Plan

Drawn By	JW	Date	04.11.2016
Project Manager	MC	Scale	1:100
Project No.	5455	Drawing No.	2100
		Stage/Rev	P1

Appendix B

Mini-bus and delivery vehicle swept paths



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Rev	Description	Drw	Chkd	Date
A	FIRST ISSUE	JB	DB	29/06/17



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 Web: www.stilwell-ltd.co.uk

Client:
**LONDON BOROUGH
 OF RICHMOND
 UPON THAMES**

Project:
 NEWHOUSE CENTRE, HAMPTON

Title:
 MINI-BUS SWEEPED PATHS -
 OPTION 2

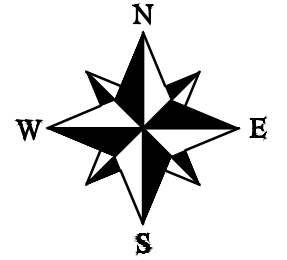
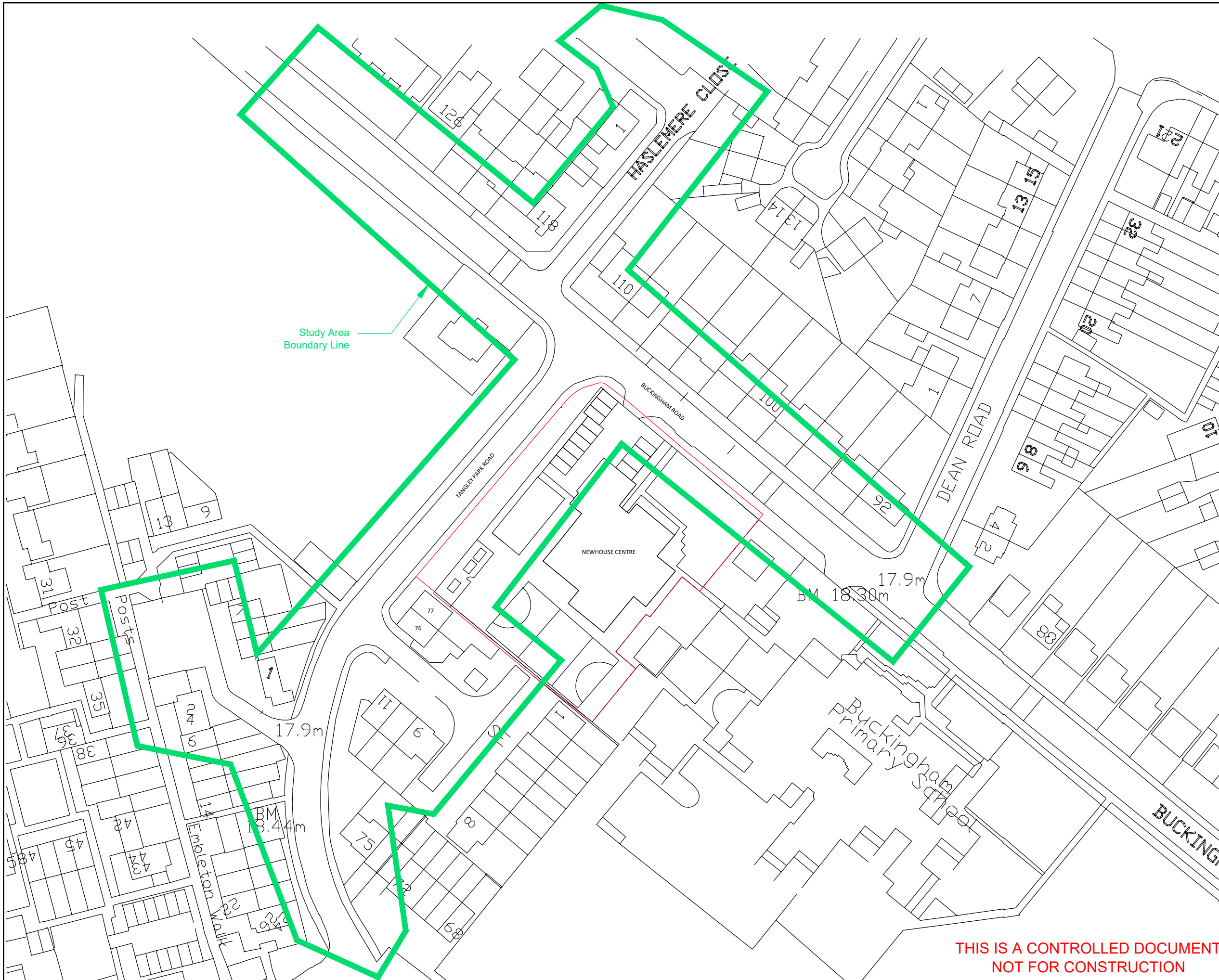
Date: JUNE 2017 Drawn: JB Checked: DB

Scale: 1:200 @ A3 Status: PLANNING

Drawing No: TSP/DHP/P3178/11 Rev: A

Appendix C

Parking survey study area plan



A	FIRST ISSUE	EB	JB	06.01.17
Rev	Description	Drw	Ckd	Date



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Project:
 Newhouse Centre, (Clarendon SEN School),
 Buckingham Road, Hampton, TW12 3LT

Title:
 Study Area Plan

Date: DEC 2016 Drawn: EB Checked: JB

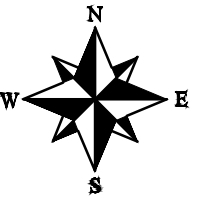
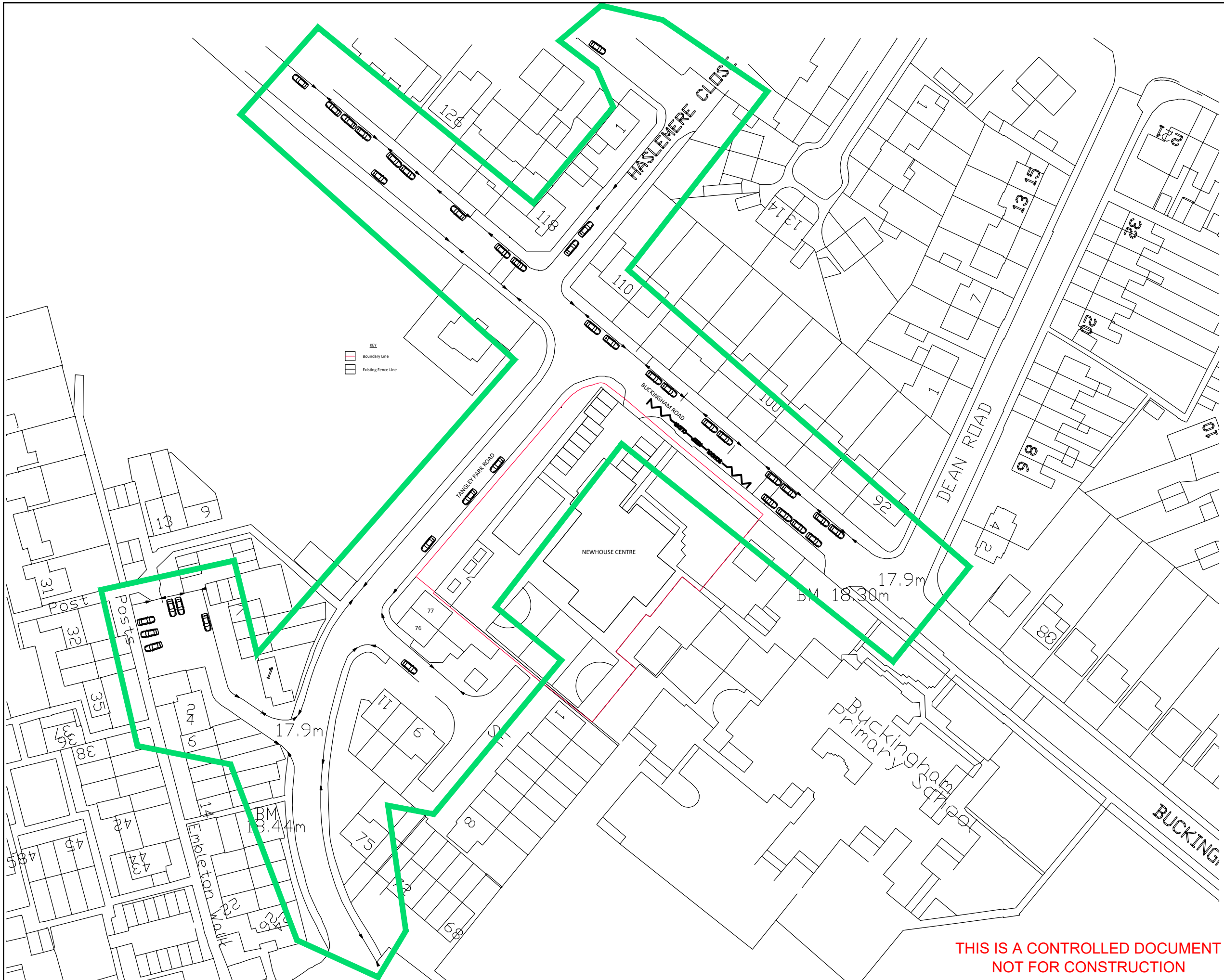
Scale: NTS @ A3 Status: Preliminary

Drawing No: TSP/DHP/P3178/002 Rev: A

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Appendix D

Parked vehicle location plans



Key:

- Drop Kerbs
- Boundary line
- Parked Car

Key:

- Boundary Line
- Existing Fence Line

A	FIRST ISSUE	EB	JB	06.01.17
Rev	Description	Drw	Ckd	Date



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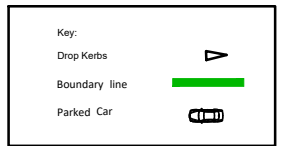
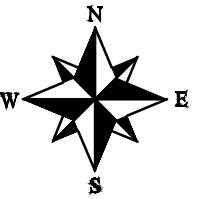
Project:
 Newhouse Centre, (Clarendon SEN School),
 Buckingham Road, Hampton, TW12 3LT

Title:
 Parked Vehicle Location Plan
 08:20 - 14/12/16

Date:	DEC 2016	Drawn:	EB	Checked:	JB
Scale:	NTS @ A3	Status:	Preliminary		

Drawing No:	TSP/DHP/P3178/003	Rev:	A
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KEY
 Boundary Line
 Existing Fence Line

A	FIRST ISSUE	EB	JB	06.01.17
Rev	Description	Drw	Ckd	Date



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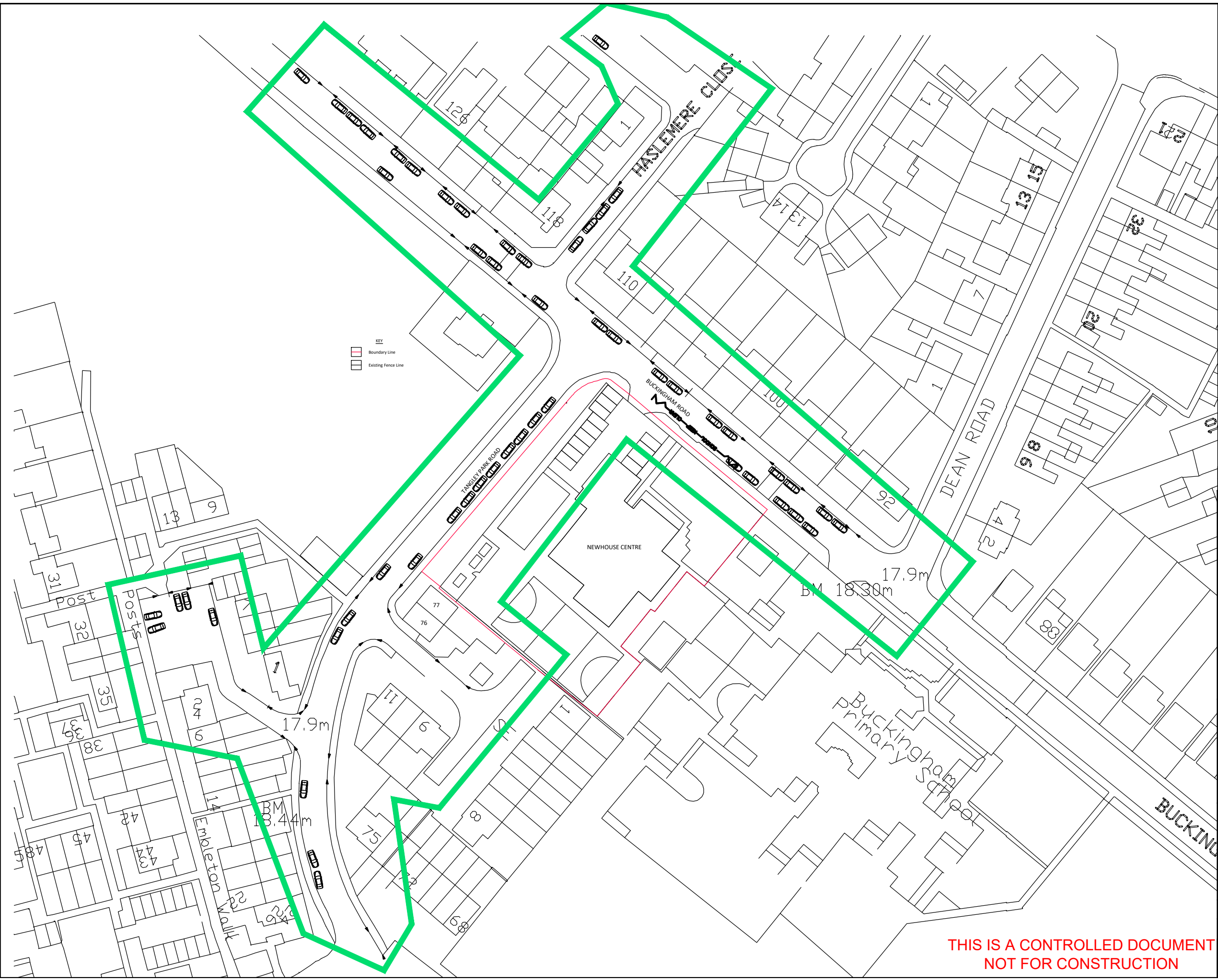
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 Newhouse Centre, (Clarendon SEN School),
 Buckingham Road, Hampton, TW12 3LT

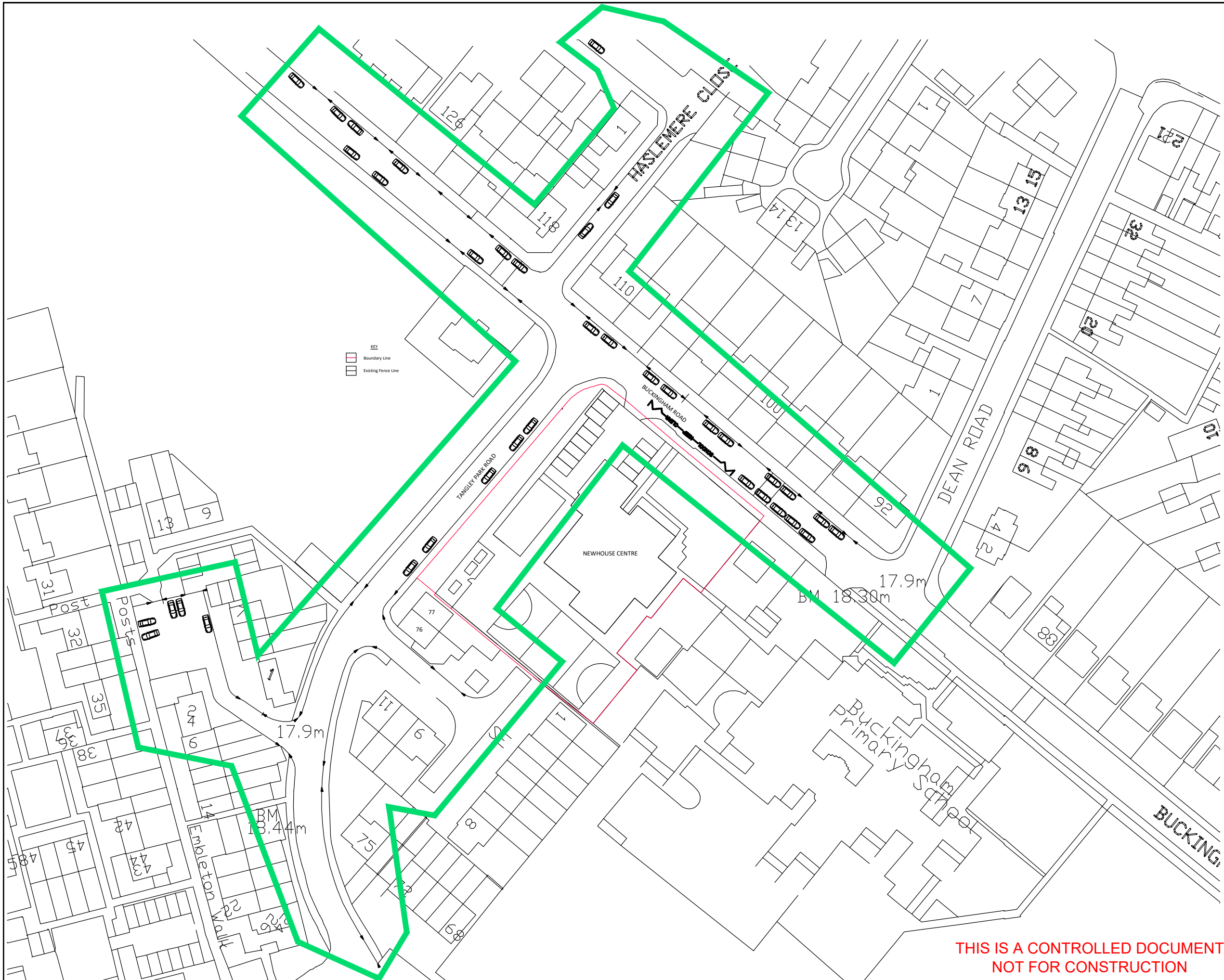
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Date: DEC 2016 Drawn: EB Checked: JB
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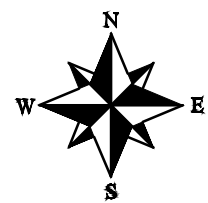
Drawing No: TSP/DHP/P3178/004 Rev: A

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KEY
 Boundary Line
 Existing Fence Line



Key:
 Drop Kerbs
 Boundary line
 Parked Car

A	FIRST ISSUE	EB	JB	06.01.17
Rev	Description	Drw	Ckd	Date



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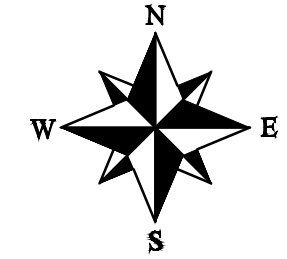
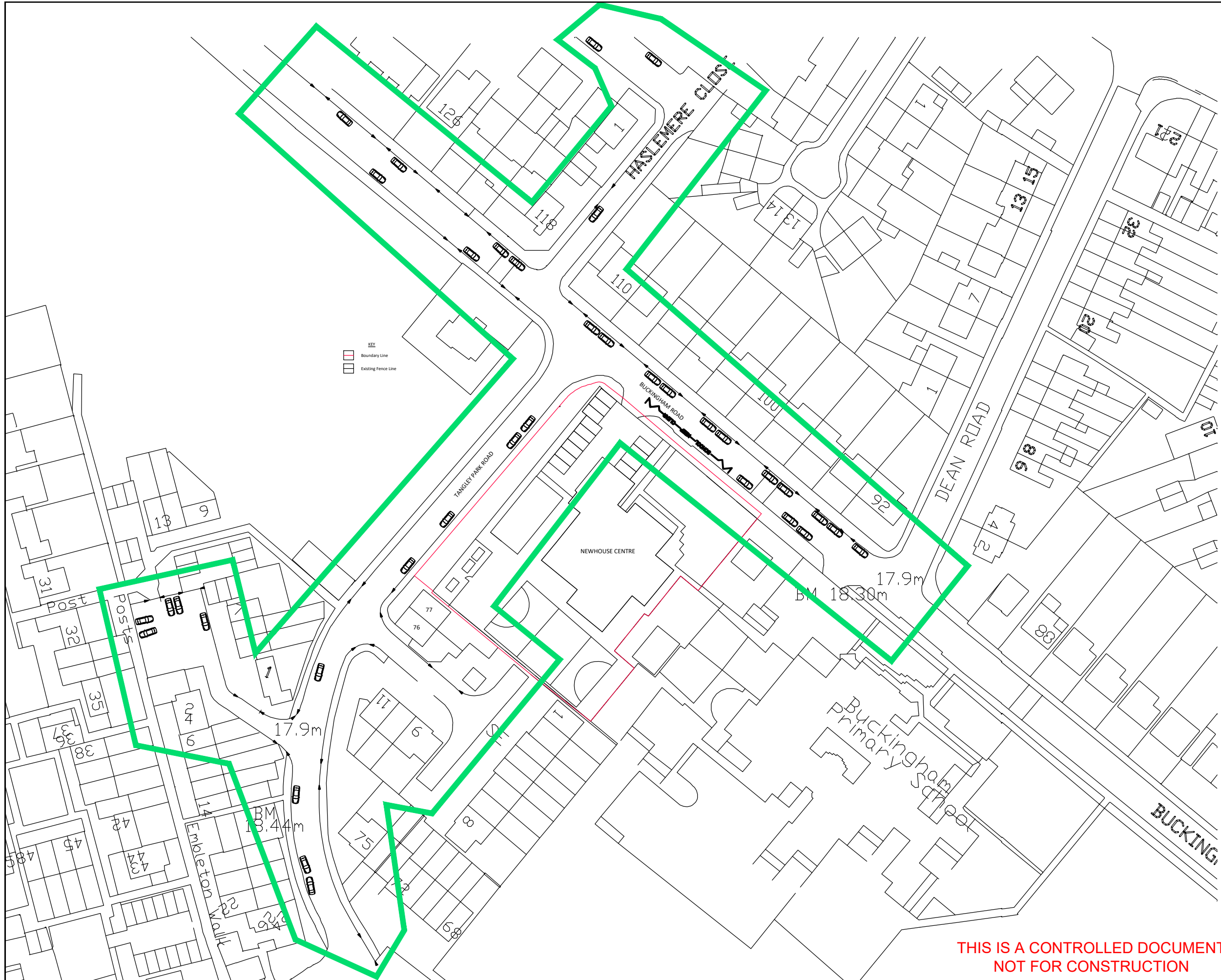
Project:
 Newhouse Centre, (Clarendon SEN School),
 Buckingham Road, Hampton, TW12 3LT

Title:
 Parked Vehicle Location Plan
 09:30 - 14/12/16

Date: DEC 2016 Drawn: EB Checked: JB
 Scale: NTS @ A3 Status: Preliminary

Drawing No: TSP/DHP/P3178/005 Rev: A

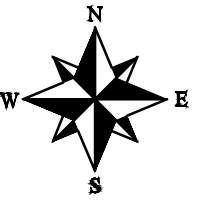
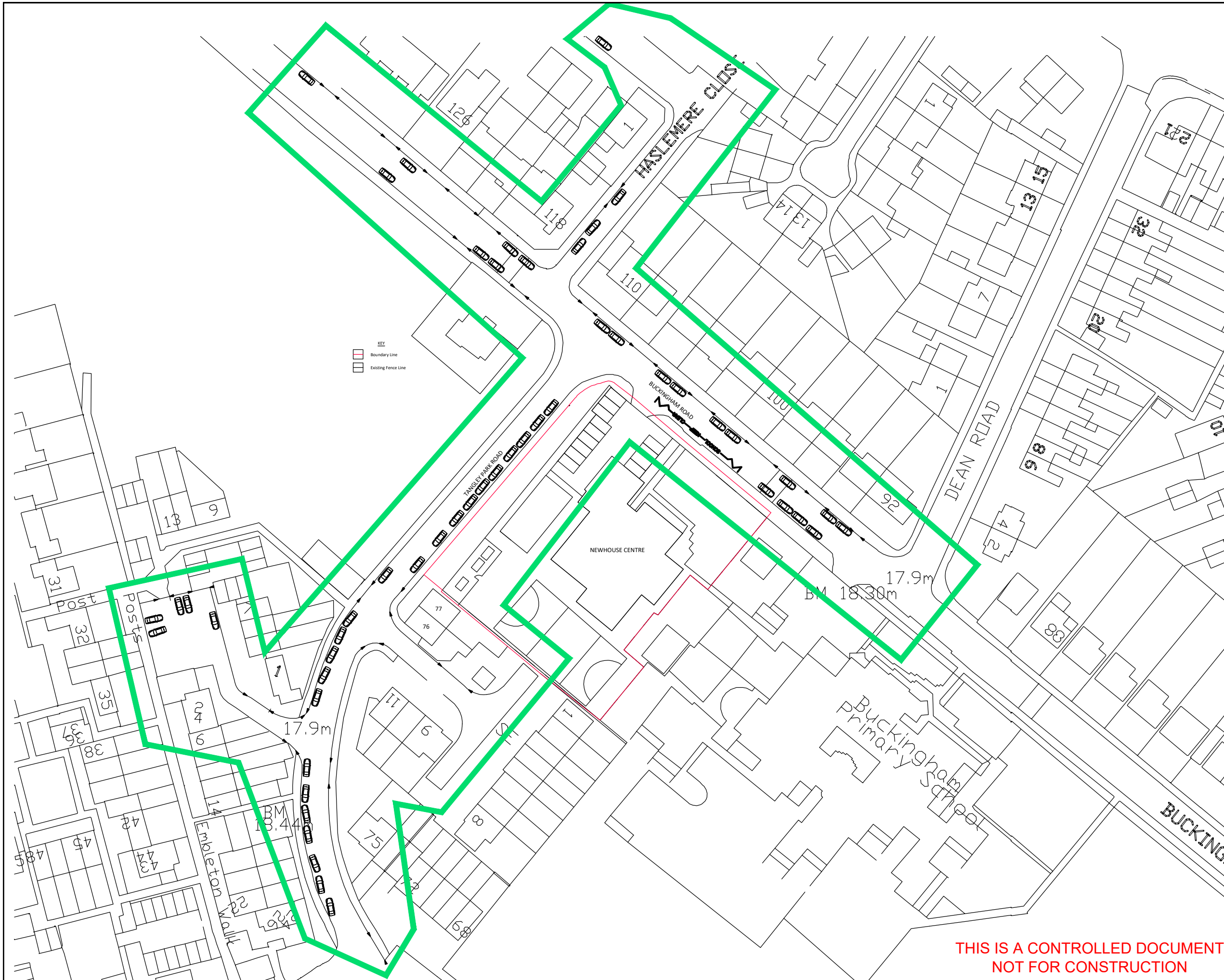
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Key:

- Drop Kerbs
- Boundary line
- Parked Car

A	FIRST ISSUE	EB	JB	06.01.17
Rev	Description	Drw	Ckd	Date



Key:

- Drop Kerbs
- Boundary line
- Parked Car

A	FIRST ISSUE	EB	JB	06.01.17
Rev	Description	Drw	Ckd	Date



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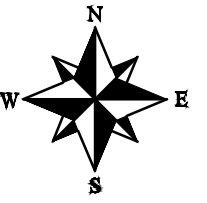
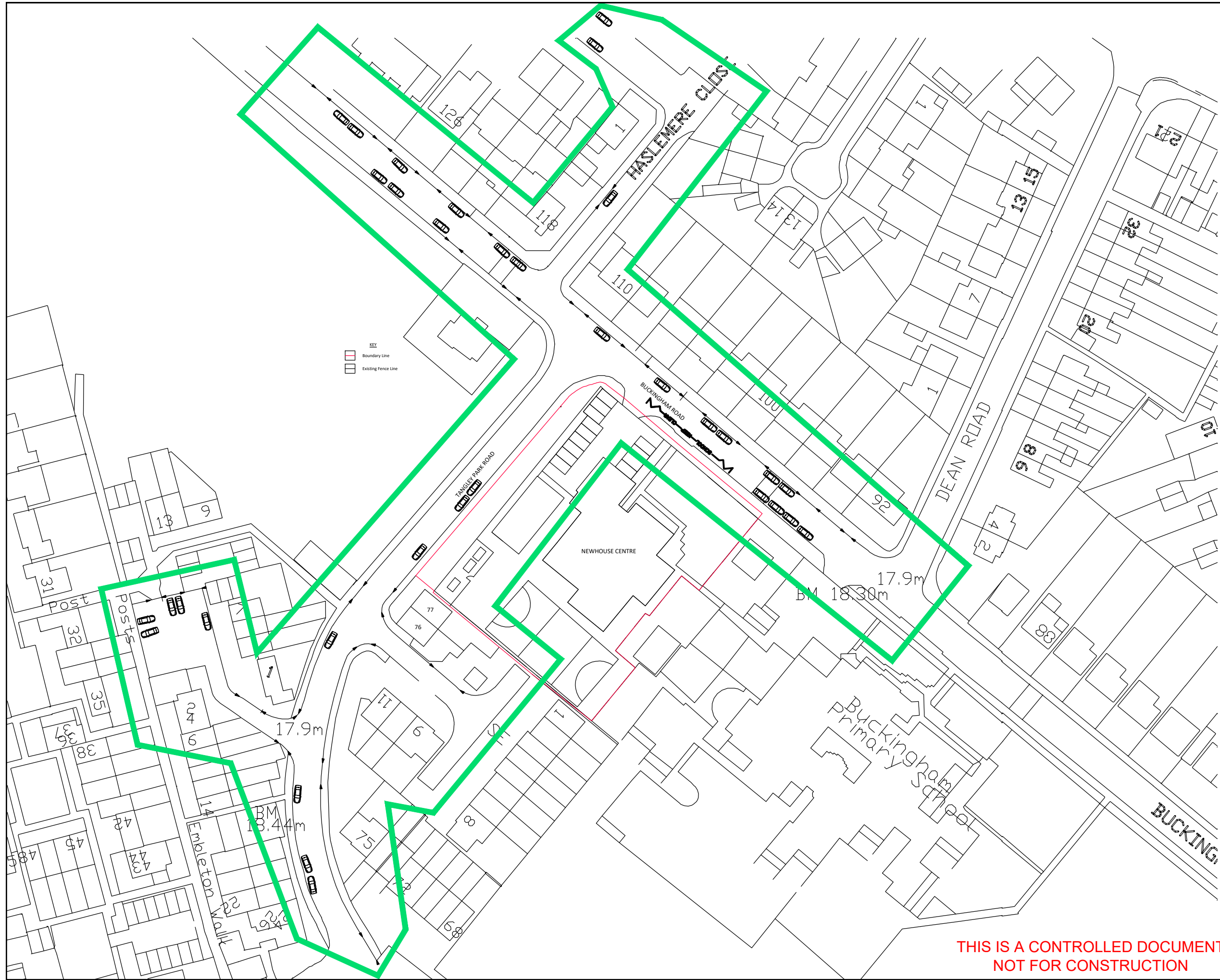
Client:
 Project:
 Newhouse Centre, (Clarendon SEN School),
 Buckingham Road, Hampton, TW12 3LT

Title:
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 15:15 - 14/12/16

Date: DEC 2016 Drawn: EB Checked: JB
 Scale: NTS @ A3 Status: Preliminary

Drawing No: TSP/DHP/P3178/007 Rev: A

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Key:

Drop Kerbs	
Boundary line	
Parked Car	

A	FIRST ISSUE	EB	JB	06.01.17
Rev	Description	Drw	Ckld	Date



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Client:
 Project:
 Newhouse Centre, (Clarendon SEN School),
 Buckingham Road, Hampton, TW12 3LT

Title:
 Parked Vehicle Location Plan
 16:00 - 14/12/16

Date: DEC 2016 Drawn: EB Checked: JB

Scale: NTS @ A3 Status: Preliminary
 Drawing No: TSP/DHP/P3178/008 Rev: A

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Appendix E

Bus timetables

111		Mondays to Fridays																		FX	FO
Heathrow Airport Central Bus Station	0005 0020 0044 0115 0145 0215 0245 0315 0345 0414 0439 0459 0514 0526 0538 0550																			1930	1930
Cranford The Avenue	0016 0031 0055 0125 0155 0225 0255 0325 0355 0424 0450 0510 0525 0537 0549 0601																			1943	1943
Heston St Leonard's Church	0023 0038 0102 0132 0202 0232 0302 0332 0402 0432 0459 0520 0535 0547 0559 0611	Then about every 9-10 minutes until																		1953	1953
Hounslow Bus Station (Kingsley Road)	0029 0044 0107 0137 0207 0237 0307 0337 0407 0437 0505 0526 0541 0553 0605 0618		2000	2001																	
Hanworth Road Duke of York	0035 0050 0113 0143 0213 0243 0313 0343 0413 0443 0512 0533 0548 0600 0613 0626		2011	2012																	
Hampton Schools (Hanworth Road)	0044 0059 0121 0151 0221 0251 0321 0351 0421 0451 0521 0542 0557 0610 0623 0636		2021	2023																	
Hampton Station	0048 0103 0125 0155 0225 0255 0325 0355 0425 0455 0526 0548 0604 0617 0630 0643		2027	2029																	
Hampton Court Green	0052 0107 0129 0159 0229 0259 0329 0359 0429 0459 0530 0552 0608 0621 0635 0648	2032	2034																		
Kingston Cromwell Road Bus Station	0059 0114 0136 0206 0236 0306 0336 0406 0436 0506 0537 0559 0616 0630 0644 0657	2040	2042																		
Mondays to Thursdays																					
Heathrow Airport Central Bus Station	1942 1954 2006 2018 2033 2048 2103 2118 2133 2148 2203 2218 2233 2248 2304 2320 2335 2350																				
Cranford The Avenue	1955 2007 2019 2031 2046 2101 2116 2131 2145 2200 2215 2230 2245 2300 2315 2331 2346 0001																				
Heston St Leonard's Church	2005 2017 2029 2041 2056 2111 2126 2141 2155 2210 2225 2240 2255 2309 2324 2338 2353 0008																				
Hounslow Bus Station (Kingsley Road)	2012 2024 2036 2048 2103 2118 2133 2148 2202 2217 2232 2247 2302 2316 2331 2345 2359 0014																				
Hanworth Road Duke of York	2022 2034 2046 2058 2112 2127 2142 2157 2211 2226 2241 2256 2310 2324 2339 2353 0007 0021																				
Hampton Schools (Hanworth Road)	2032 2044 2056 2108 2122 2137 2152 2207 2221 2236 2251 2306 2320 2334 2348 0002 0016 0030																				
Hampton Station	2038 2050 2102 2113 2127 2142 2157 2212 2226 2241 2256 2310 2324 2338 2352 0006 0020 0034																				
Hampton Court Green	2043 2054 2106 2117 2131 2146 2201 2216 2230 2245 2300 2314 2328 2342 2356 0010 0024 0038																				
Kingston Cromwell Road Bus Station	2051 2102 2114 2125 2139 2154 2209 2224 2238 2253 2307 2321 2335 2349 0003 0017 0031 0045																				
Fridays																					
Heathrow Airport Central Bus Station	1942 1954 2006 2018 2033 2048 2103 2118 2133 2148 2203 2218 2233 2248 2304 2320 2335 2350																				
Cranford The Avenue	1955 2007 2019 2031 2046 2101 2116 2131 2145 2200 2215 2230 2245 2300 2315 2331 2346 0001																				
Heston St Leonard's Church	2005 2017 2029 2041 2056 2111 2126 2141 2155 2210 2225 2240 2255 2309 2324 2339 2354 0008																				
Hounslow Bus Station (Kingsley Road)	2013 2025 2037 2049 2104 2118 2133 2148 2202 2217 2232 2247 2302 2316 2331 2346 0000 0014																				
Hanworth Road Duke of York	2023 2035 2047 2059 2113 2127 2142 2157 2211 2226 2241 2256 2310 2324 2339 2353 0007 0021																				
Hampton Schools (Hanworth Road)	2034 2046 2058 2110 2123 2137 2152 2207 2221 2236 2251 2306 2320 2334 2348 0002 0016 0030																				
Hampton Station	2040 2052 2104 2115 2128 2142 2157 2212 2226 2241 2256 2311 2325 2339 2353 0007 0021 0035																				
Hampton Court Green	2045 2056 2108 2119 2132 2146 2201 2216 2230 2245 2300 2315 2329 2343 2357 0011 0025 0039																				
Kingston Cromwell Road Bus Station	2053 2104 2116 2127 2140 2154 2209 2224 2238 2253 2308 2323 2337 2351 0005 0019 0033 0047																				
111 Saturdays (also Good Friday)																					
Heathrow Airport Central Bus Station	0005 0020 0041 0111 0145 0215 0245 0316 0346 0416 0439 0459 0519 0539 0559 0619 0634 0649 0704 0719																				
Cranford The Avenue	0016 0031 0052 0122 0155 0225 0255 0326 0356 0426 0450 0510 0530 0550 0610 0630 0645 0700 0715 0731																				
Heston St Leonard's Church	0023 0038 0059 0129 0202 0232 0302 0333 0403 0433 0458 0518 0538 0558 0618 0638 0653 0708 0724 0740																				
Hounslow Bus Station (Kingsley Road)	0029 0044 0105 0135 0208 0238 0308 0338 0408 0438 0504 0524 0544 0604 0624 0644 0659 0714 0730 0746																				
Hanworth Road Duke of York	0036 0051 0112 0142 0214 0244 0314 0344 0414 0444 0511 0531 0551 0611 0631 0651 0707 0723 0739 0755																				
Hampton Schools (Hanworth Road)	0045 0100 0121 0151 0223 0253 0323 0352 0422 0452 0520 0540 0600 0620 0640 0701 0717 0733 0749 0805																				
Hampton Station	0050 0105 0126 0156 0227 0257 0327 0356 0426 0456 0525 0545 0605 0625 0646 0707 0723 0739 0755 0811																				
Hampton Court Green	0054 0109 0130 0200 0231 0301 0331 0400 0430 0500 0529 0549 0609 0630 0651 0712 0728 0744 0800 0816																				
Kingston Cromwell Road Bus Station	0102 0117 0138 0208 0238 0308 0338 0407 0437 0507 0536 0556 0617 0638 0700 0721 0737 0753 0809 0825																				
Heathrow Airport Central Bus Station	0731 0743 0755	Then	1906	Then	2018 2033 2048 2103 2118 2133	Then	2218 2233 2248 2304 2320 2335 2350														
Cranford The Avenue	0743 0755 0807	about	1919	about	2030 2045 2100 2115 2130 2145	Then	2230 2245 2300 2315 2331 2346 0001														
Heston St Leonard's Church	0752 0804 0816	every	1929	every	2040 2055 2110 2125 2140 2155	Then	2240 2255 2309 2324 2339 2354 0008														
Hounslow Bus Station (Kingsley Road)	0758 0810 0822	every	1938	every	2048 2103 2118 2132 2147 2202	every	2247 2302 2316 2331 2346 0000 0014														
Hanworth Road Duke of York	0807 0819 0831	10-11	1948	12	2058 2112 2127 2141 2156 2211	15	2256 2310 2324 2339 2353 0007 0021														
Hampton Schools (Hanworth Road)	0817 0829 0841	mins.	1959	mins.	2109 2123 2138 2152 2207 2221	mins.	2306 2320 2334 2348 0002 0016 0030														
Hampton Station	0823 0835 0847	until	2005	until	2114 2128 2143 2157 2212 2226	until	2311 2325 2339 2353 0007 0021 0035														
Hampton Court Green	0828 0840 0853		2009		2118 2132 2147 2201 2216 2230		2315 2329 2343 2357 0011 0025 0039														
Kingston Cromwell Road Bus Station	0837 0849 0902		2017		2126 2140 2155 2209 2224 2238		2323 2337 2351 0005 0019 0033 0047														
111 Sundays																					
Heathrow Airport Central Bus Station	0005 0020 0041 0111 0145 0215 0245 0316 0346 0416 0439 0459 0519 0539 0559 0619 0639																				
Cranford The Avenue	0016 0031 0052 0122 0155 0225 0255 0326 0356 0426 0450 0510 0530 0550 0610 0630 0650																				
Heston St Leonard's Church	0023 0038 0059 0129 0202 0232 0302 0333 0403 0433 0458 0518 0538 0559 0619 0639 0659	Then every 15 minutes until																			
Hounslow Bus Station (Kingsley Road)	0029 0044 0105 0135 0208 0238 0308 0338 0408 0438 0504 0524 0544 0605 0625 0645 0705		0759																		
Hanworth Road Duke of York	0036 0051 0112 0142 0214 0244 0314 0344 0414 0444 0511 0531 0551 0612 0632 0652 0713		0805																		
Hampton Schools (Hanworth Road)	0045 0100 0121 0151 0223 0253 0323 0352 0422 0452 0520 0540 0600 0621 0641 0701 0722		0813																		
Hampton Station	0050 0105 0126 0156 0227 0257 0327 0356 0426 0456 0525 0545 0605 0626 0646 0706 0727		0822																		
Hampton Court Green	0054 0109 0130 0200 0231 0301 0331 0400 0430 0500 0529 0549 0609 0630 0650 0710 0731	0827																			
Kingston Cromwell Road Bus Station	0102 0117 0138 0208 0238 0308 0338 0407 0437 0507 0536 0556 0616 0637 0657 0718 0739	0831																			
																					0839
Heathrow Airport Central Bus Station	0754	Then	1833 1848 1903 1918	Then	2018 2033 2048 2103	Then	2203 2218 2233 2248 2304 2320 2335 2350														
Cranford The Avenue	0806	about	1846 1901 1915 1930	about	2030 2045 2100 2115	Then	2215 2230 2245 2300 2315 2331 2346 0001														
Heston St Leonard's Church	0815	every	1856 1911 1925 1940	every	2040 2055 2109 2124	Then	2224 2239 2254 2308 2323 2338 2353 0008														
Hounslow Bus Station (Kingsley Road)	0821	every	1905 1920 1934 1948	every	2048 2103 2117 2131	every	2231 2246 2301 2315 2329 2344 2359 0014														
Hanworth Road Duke of York	0829	12	1915 1929 1943 1957	15	2057 2111 2125 2139	15	2239 2254 2308 2322 2336 2350 0005 0020														
Hampton Schools (Hanworth Road)	0838	mins.	1925 1939 1953 2007	mins.	2107 2121 2135 2149	mins.	2249 2304 2317 2331 2345 2359 0014 0029														
Hampton Station	0843	until	1931 1945 1959 2013	until	2112 2126 2140 2154	until	2254 2308 2321 2335 2349 0003 0018 0033														
Hampton Court Green	0847		1935 1949 2003 2017		2116 2130 2144 2158		2258 2312 2325 2339 2353 0007 0022 0037														
Kingston Cromwell Road Bus Station	0855		1943 1957 2011 2025		2124 2138 2152 2206		2306 2319 2332 2346 0000 0014 0029 0044														

Notes: FX - Operates on Mondays to Thursdays only FO - Operates on Fridays only

111 Mondays to Fridays																FO	FX		
Kingston Cromwell Road Bus Station	0005	0020	0045	0115	0145	0215	0245	0315	0344	0414	0433	0453	0513	0528	0540	0552	Then about every 9-10 minutes until	1914	1914
Hampton Court Green	0011	0026	0051	0121	0151	0221	0251	0321	0350	0420	0439	0459	0519	0534	0546	0558		1922	1922
Hampton Station	0015	0030	0055	0125	0155	0225	0255	0325	0354	0424	0443	0503	0523	0538	0550	0602		1928	1930
Hampton Schools (Hanworth Road)	0020	0035	0100	0129	0159	0229	0259	0329	0358	0428	0447	0507	0527	0542	0554	0607		1935	1937
Hanworth Road Duke of York	0028	0043	0108	0137	0207	0237	0307	0337	0407	0437	0457	0517	0538	0554	0606	0619		1945	1947
Hounslow High Street/Kingsley Road	0035	0050	0115	0144	0214	0244	0314	0344	0415	0445	0505	0525	0546	0602	0615	0628		1957	1958
Heston St Leonard's Church	0040	0055	0120	0149	0219	0249	0319	0349	0420	0450	0511	0532	0553	0609	0622	0635		2004	2005
Cranford The Avenue	0048	0103	0127	0156	0226	0256	0326	0357	0428	0458	0520	0541	0602	0618	0631	0644		2015	2016
Heathrow Airport Central Bus Station	0057	0112	0135	0204	0234	0304	0334	0406	0438	0508	0530	0551	0612	0628	0641	0654	2025	2026	

111 Mondays to Thursdays																			
Kingston Cromwell Road Bus Station	1926	1938	1950	2005	2020	2035	2050	2105	2120	2135	2150	2205	2220	2235	2250	2305	2320	2335	2350
Hampton Court Green	1934	1946	1957	2012	2027	2042	2057	2112	2127	2142	2157	2212	2227	2242	2257	2311	2326	2341	2356
Hampton Station	1940	1951	2002	2017	2032	2047	2102	2116	2131	2146	2201	2216	2231	2246	2301	2315	2330	2345	0000
Hampton Schools (Hanworth Road)	1947	1958	2009	2024	2039	2054	2108	2122	2137	2152	2207	2222	2237	2252	2306	2320	2335	2350	0005
Hanworth Road Duke of York	1957	2008	2019	2034	2049	2104	2118	2132	2147	2201	2216	2231	2246	2301	2315	2329	2344	2358	0013
Hounslow High Street/Kingsley Road	2008	2019	2030	2045	2100	2114	2128	2142	2157	2211	2226	2241	2256	2310	2324	2338	2352	0006	0020
Heston St Leonard's Church	2015	2026	2037	2052	2106	2120	2134	2148	2203	2217	2232	2247	2302	2316	2330	2344	2358	0011	0025
Cranford The Avenue	2026	2037	2048	2103	2117	2131	2145	2159	2214	2227	2242	2256	2310	2324	2338	2352	0006	0019	0033
Heathrow Airport Central Bus Station	2036	2047	2058	2112	2126	2140	2154	2208	2223	2236	2251	2305	2319	2333	2347	0001	0015	0028	0042

111 Fridays																			
Kingston Cromwell Road Bus Station	1926	1938	1950	2005	2020	2035	2050	2105	2120	2135	2150	2205	2220	2235	2250	2305	2320	2335	2350
Hampton Court Green	1934	1945	1957	2012	2027	2042	2057	2112	2127	2142	2157	2212	2227	2242	2257	2312	2327	2342	2357
Hampton Station	1939	1950	2002	2017	2032	2047	2102	2116	2131	2146	2201	2216	2231	2246	2301	2316	2331	2346	0001
Hampton Schools (Hanworth Road)	1946	1957	2009	2024	2039	2054	2108	2122	2137	2152	2207	2222	2237	2252	2306	2321	2336	2351	0006
Hanworth Road Duke of York	1956	2007	2019	2034	2049	2104	2118	2132	2147	2202	2217	2232	2247	2302	2316	2331	2345	0000	0015
Hounslow High Street/Kingsley Road	2008	2019	2030	2045	2100	2114	2128	2142	2157	2212	2227	2242	2257	2311	2325	2339	2353	0008	0023
Heston St Leonard's Church	2015	2026	2037	2052	2106	2120	2134	2148	2203	2218	2233	2248	2303	2317	2331	2345	2359	0014	0029
Cranford The Avenue	2026	2037	2048	2103	2117	2131	2145	2159	2214	2228	2243	2257	2311	2325	2339	2353	0007	0022	0037
Heathrow Airport Central Bus Station	2036	2047	2058	2112	2126	2140	2154	2208	2223	2237	2252	2306	2320	2334	2348	0002	0016	0031	0046

111 Saturdays (also Good Friday)																				
Kingston Cromwell Road Bus Station	0005	0020	0042	0112	0144	0214	0244	0314	0344	0414		0514	0534	0554	0614	0634	0649	0704	0719	0731
Hampton Court Green	0012	0027	0049	0119	0151	0221	0251	0321	0350	0420		0520	0540	0600	0620	0640	0655	0710	0726	0738
Hampton Station	0016	0031	0053	0123	0155	0225	0255	0325	0354	0424		0524	0544	0604	0624	0644	0659	0714	0730	0742
Hampton Schools (Hanworth Road)	0021	0036	0058	0128	0200	0230	0300	0330	0358	0428		0528	0549	0609	0629	0649	0704	0720	0736	0748
Hanworth Road Duke of York	0030	0045	0107	0137	0209	0239	0309	0339	0407	0437	20	0537	0558	0618	0638	0658	0714	0730	0746	0758
Hounslow High Street/Kingsley Road	0038	0053	0115	0145	0216	0246	0316	0346	0415	0445	mins.	0545	0606	0627	0648	0708	0724	0740	0756	0808
Heston St Leonard's Church	0044	0059	0121	0151	0222	0252	0322	0352	0421	0451	until	0551	0612	0633	0654	0714	0730	0746	0802	0814
Cranford The Avenue	0052	0107	0129	0159	0229	0259	0329	0359	0429	0459		0559	0620	0641	0702	0723	0739	0755	0811	0823
Heathrow Airport Central Bus Station	0101	0116	0138	0208	0238	0308	0338	0409	0439	0509		0609	0630	0651	0712	0733	0749	0805	0821	0833
Kingston Cromwell Road Bus Station	0743		1850		1950	2005	2020	2035	2050	2105		2150	2205	2220	2235	2250	2305	2320	2335	2350
Hampton Court Green	0750	Then	1859	Then	1957	2012	2027	2042	2057	2112		2157	2212	2227	2242	2257	2312	2327	2342	2357
Hampton Station	0754	about	1906	about	2002	2017	2032	2047	2102	2116	Then	2201	2216	2231	2246	2301	2316	2331	2346	0001
Hampton Schools (Hanworth Road)	0800	every	1913	every	2009	2024	2039	2054	2108	2122	every	2207	2222	2237	2252	2306	2321	2336	2351	0006
Hanworth Road Duke of York	0810	10-11	1924	12	2019	2034	2049	2104	2118	2132	15	2217	2232	2247	2302	2316	2331	2345	0000	0015
Hounslow High Street/Kingsley Road	0820	mins.	1936	mins.	2030	2045	2100	2114	2128	2142	mins.	2227	2242	2257	2311	2325	2339	2353	0008	0023
Heston St Leonard's Church	0826	until	1943	until	2037	2052	2106	2120	2134	2148	until	2233	2248	2303	2317	2331	2345	2359	0014	0029
Cranford The Avenue	0835		1953		2047	2102	2116	2130	2144	2158		2243	2257	2311	2325	2339	2353	0007	0022	0037
Heathrow Airport Central Bus Station	0845		2003		2057	2111	2125	2139	2153	2207		2252	2306	2320	2334	2348	0002	0016	0031	0046

111 Sundays																				
Kingston Cromwell Road Bus Station	0005	0020	0042	0112	0144	0214	0244	0314	0344	0414	0434	0454	0514	0534	0554	0614	0634	0649	0704	0719
Hampton Court Green	0012	0027	0049	0119	0151	0221	0251	0321	0350	0420	0440	0500	0520	0540	0600	0620	0640	0655	0710	0725
Hampton Station	0016	0031	0053	0123	0155	0225	0255	0325	0354	0424	0444	0504	0524	0544	0604	0624	0644	0659	0714	0729
Hampton Schools (Hanworth Road)	0021	0036	0058	0128	0200	0230	0300	0330	0358	0428	0448	0508	0528	0548	0609	0629	0649	0704	0719	0734
Hanworth Road Duke of York	0030	0045	0107	0137	0209	0239	0309	0339	0407	0437	0457	0517	0537	0557	0618	0638	0658	0713	0728	0743
Hounslow High Street/Kingsley Road	0038	0053	0115	0145	0216	0246	0316	0346	0415	0445	0505	0525	0545	0605	0626	0646	0706	0721	0736	0751
Heston St Leonard's Church	0044	0059	0121	0151	0222	0252	0322	0352	0421	0451	0511	0531	0551	0611	0632	0652	0712	0727	0742	0757
Cranford The Avenue	0052	0107	0129	0159	0229	0259	0329	0359	0429	0459	0519	0539	0559	0619	0640	0700	0720	0735	0750	0805
Heathrow Airport Central Bus Station	0101	0116	0138	0208	0238	0308	0338	0409	0439	0509	0529	0549	0609	0629	0650	0710	0730	0745	0800	0815
Kingston Cromwell Road Bus Station	0733				2005	2020	2035	2050	2105	2120	2135	2150	2205	2220	2235	2250	2305	2320	2335	2350
Hampton Court Green	0739				2012	2027	2042	2057	2111	2126	2141	2156	2211	2226	2241	2256	2311	2326	2341	2356
Hampton Station	0743	Then			2016	2031	2046	2101	2115	2130	2145	2200	2215	2230	2245					

285 Mondays to Fridays																		
Heathrow Airport Central Bus Station	0005	0035	0105		0335	0403	0432	0500	0520	0540	--	0600	0610	1920	1932			
Harlington Corner N. Perimeter Road	0014	0043	0113		0343	0412	0441	0510	0530	0550	--	0610	0620	1931	1942			
Hatton Cross Station Bus Station	0019	0048	0118		0348	0417	0446	0515	0535	0555	0605	0616	0626	1936	1947			
Feltham Station Bus Station	0026	0055	0124	Then every 30 minutes until	0354	0424	0453	0522	0542	0602	0614	0625	0635	Then about every 10 minutes until	1946	1957		
Hanworth Library	0031	0100	0129		0359	0429	0459	0528	0548	0609	0621	0632	0642		1953	2004		
Hampton Hill Sainsbury's	0034	0103	0132		0402	0432	0502	0531	0551	0612	0624	0635	0645		1956	2007		
Hampton Hill High St./Hampton Road	0039	0108	0137		0407	0437	0507	0536	0557	0619	0631	0642	0654		2002	2013		
Teddington Hogarth (Broad Street)	0042	0111	0140		0410	0440	0510	0539	0600	0623	0635	0646	0659		2006	2017		
Hampton Wick Station	0047	0116	0145		0415	0445	0515	0544	0606	0629	0642	0655	0708		2013	2024		
Kingston Cromwell Road Bus Station	0052	0121	0150	0420	0450	0520	0549	0611	0634	0648	0701	0714	2018	2029				
FX FO																		
Heathrow Airport Central Bus Station	1944	1956	2008	2020		2205	2220	2235	2250	2305	2320	2340	2340					
Harlington Corner N. Perimeter Road	1954	2006	2018	2030		2215	2230	2245	2300	2315	2330	2350	2350					
Hatton Cross Station Bus Station	1959	2011	2023	2035		2220	2235	2250	2305	2320	2335	2355	2355					
Feltham Station Bus Station	2009	2021	2033	2045	Then every 15 minutes until	2230	2245	2259	2314	2328	2342	0002	0002					
Hanworth Library	2016	2028	2040	2052		2237	2252	2306	2320	2334	2348	0007	0008					
Hampton Hill Sainsbury's	2019	2031	2043	2055		2240	2255	2309	2323	2337	2351	0010	0011					
Hampton Hill High St./Hampton Road	2025	2037	2049	2101		2246	2301	2315	2329	2343	2357	0015	0016					
Teddington Hogarth (Broad Street)	2029	2041	2053	2105		2250	2305	2319	2333	2347	0001	0018	0019					
Hampton Wick Station	2036	2048	2100	2112		2257	2311	2325	2339	2353	0007	0023	0025					
Kingston Cromwell Road Bus Station	2041	2053	2105	2117	2302	2316	2330	2344	2358	0012	0028	0030						
285 Saturdays (also Good Friday)																		
Heathrow Airport Central Bus Station	0004	0034	0104	0134		0334	0403	0433	0500	0520	0540	0600		0700	0715	0730	0745	0800
Harlington Corner N. Perimeter Road	0013	0042	0112	0142		0342	0412	0442	0509	0529	0549	0609		0709	0724	0739	0754	0809
Hatton Cross Station Bus Station	0018	0047	0117	0147	Then every 30 mins. until	0347	0417	0447	0514	0534	0554	0614	Then every 20 mins. until	0714	0729	0744	0759	0814
Feltham Station Bus Station	0025	0054	0124	0154		0354	0424	0454	0521	0541	0601	0623		0723	0738	0753	0808	0823
Hanworth Library	0031	0100	0130	0159		0359	0429	0459	0526	0546	0607	0629		0729	0744	0759	0815	0830
Hampton Hill Sainsbury's	0034	0103	0133	0202		0402	0432	0502	0529	0549	0610	0632		0732	0747	0802	0818	0833
Hampton Hill High St./Hampton Road	0039	0108	0138	0207		0407	0437	0507	0534	0554	0616	0638		0738	0754	0810	0826	0841
Teddington Hogarth (Broad Street)	0042	0111	0141	0210		0410	0440	0510	0537	0557	0619	0641		0741	0757	0814	0830	0845
Hampton Wick Station	0048	0117	0146	0215	0415	0445	0515	0542	0603	0625	0647	0747	0804	0821	0837	0852		
Kingston Cromwell Road Bus Station	0053	0122	0151	0220	0420	0450	0520	0547	0608	0630	0652	0752	0809	0826	0842	0857		
Heathrow Airport Central Bus Station	0812	0824	0836	0848	0900		1818		1907	1920		2205	2220	2235	2250	2305	2320	2340
Harlington Corner N. Perimeter Road	0821	0833	0845	0857	0909		1828		1917	1930		2215	2230	2245	2300	2315	2330	2350
Hatton Cross Station Bus Station	0826	0838	0850	0902	0914	Then about every 10 mins. until	1833	Then about every 12 mins. until	1922	1935	Then every 15 mins. until	2220	2235	2250	2305	2320	2335	2355
Feltham Station Bus Station	0835	0847	0859	0911	0923		1844		1933	1945		2230	2245	2259	2314	2328	2342	0002
Hanworth Library	0842	0854	0906	0918	0930		1852		1940	1952		2237	2252	2306	2320	2334	2348	0008
Hampton Hill Sainsbury's	0845	0857	0909	0922	0934		1856		1943	1955		2240	2255	2309	2323	2337	2351	0011
Hampton Hill High St./Hampton Road	0853	0905	0917	0931	0943		1903		1949	2001		2246	2301	2315	2329	2343	2357	0016
Teddington Hogarth (Broad Street)	0857	0909	0921	0936	0948		1908		1953	2005		2250	2305	2319	2333	2347	0001	0019
Hampton Wick Station	0904	0916	0928	0945	0957	1916	2000	2012	2257	2311	2325	2339	2353	0007	0025			
Kingston Cromwell Road Bus Station	0909	0921	0933	0951	1003	1921	2005	2017	2302	2316	2330	2344	2358	0012	0030			
285 Sundays and other Public Holidays (except Christmas Day and Boxing Day)																		
Heathrow Airport Central Bus Station	0004	0034	0104	0134		0334	0403	0433	0500	0522	0542	0602		0722	0737	0752		
Harlington Corner N. Perimeter Road	0013	0042	0112	0142		0342	0412	0442	0509	0531	0551	0611		0731	0746	0801		
Hatton Cross Station Bus Station	0018	0047	0117	0147		0347	0417	0447	0514	0536	0556	0616		0736	0751	0806		
Feltham Station Bus Station	0025	0054	0124	0154	Then every 30 minutes until	0354	0424	0454	0521	0543	0603	0624	Then every 20 minutes until	0744	0759	0815		
Hanworth Library	0031	0100	0130	0159		0359	0429	0459	0526	0548	0608	0629		0749	0804	0821		
Hampton Hill Sainsbury's	0034	0103	0133	0202		0402	0432	0502	0529	0551	0611	0632		0752	0807	0824		
Hampton Hill High St./Hampton Road	0039	0108	0138	0207		0407	0437	0507	0534	0556	0617	0638		0758	0814	0831		
Teddington Hogarth (Broad Street)	0042	0111	0141	0210		0410	0440	0510	0537	0559	0620	0641		0801	0818	0835		
Hampton Wick Station	0048	0117	0146	0215		0415	0445	0515	0542	0605	0626	0647		0807	0824	0841		
Kingston Cromwell Road Bus Station	0053	0122	0151	0220	0420	0450	0520	0547	0610	0631	0652	0812	0829	0846				
Heathrow Airport Central Bus Station	0807	0822	0837	0852		1750	1805	1820	1835	1850	1905	1920		2235	2250	2305	2320	2340
Harlington Corner N. Perimeter Road	0816	0831	0846	0901		1800	1815	1830	1845	1900	1915	1930		2245	2300	2315	2330	2350
Hatton Cross Station Bus Station	0821	0836	0851	0906	Then about every 12 mins. until	1805	1820	1835	1850	1905	1920	1935	Then every 15 mins. until	2250	2305	2320	2335	2355
Feltham Station Bus Station	0830	0845	0900	0915		1815	1830	1845	1900	1915	1930	1944		2259	2314	2328	2342	0002
Hanworth Library	0836	0851	0906	0921		1822	1837	1852	1907	1922	1937	1951		2306	2320	2334	2348	0007
Hampton Hill Sainsbury's	0839	0854	0909	0924		1825	1840	1855	1910	1925	1940	1954		2309	2323	2337	2351	0010
Hampton Hill High St./Hampton Road	0846	0901	0916	0931		1832	1847	1902	1917	1932	1946	2000		2315	2329	2343	2357	0015
Teddington Hogarth (Broad Street)	0850	0905	0920	0935		1836	1851	1906	1921	1936	1950	2004		2319	2333	2347	0001	0018
Hampton Wick Station	0856	0911	0927	0942	1842	1857	1912	1927	1942	1956	2010	2325	2339	2353	0007	0023		
Kingston Cromwell Road Bus Station	0901	0916	0932	0948	1847	1902	1917	1932	1947	2001	2015	2330	2344	2358	0012	0028		

Note: FX - Operates on Mondays to Thursdays only FO - Operates on Fridays only

285		Mondays to Fridays													NSD SD NSD			
Kingston Cromwell Road Bus Station	0009	0036	0104	0134	0204	0234	0304	0334	0404	0434	0503	0530	0550	0605	--	0620	0620	0629
Hampton Wick Station	0013	0040	0108	0138	0208	0238	0308	0338	0408	0438	0507	0534	0554	0610	--	0625	0625	0634
Teddington Hogarth (Broad Street)	0018	0045	0113	0143	0213	0243	0313	0343	0413	0443	0512	0539	0559	0616	--	0631	0631	0640
Hampton Hill High St./Hampton Road	0021	0048	0116	0146	0216	0246	0316	0346	0416	0446	0515	0542	0602	0619	--	0635	0635	0644
Hampton Hill Sainsbury's	0026	0053	0121	0151	0221	0251	0321	0351	0421	0451	0521	0548	0608	0625	--	0642	0643	0651
Hanworth Library	0028	0055	0123	0153	0223	0253	0323	0353	0423	0453	0523	0550	0612	0629	--	0646	0647	0655
Feltham Station Bus Station	0033	0100	0128	0158	0227	0257	0327	0357	0427	0458	0528	0556	0618	0635	0645	0653	0655	0702
Hatton Cross Stn. Hatton Road South	0039	0105	0133	0203	0232	0302	0334	0404	0434	0506	0536	0604	0628	0645	0656	0704	0706	0713
Harlington Corner Bath Road	0045	0111	0139	0209	0238	0308	0340	0411	0441	0513	0543	0611	0636	0653	0704	0712	0714	0721
Heathrow Airport Central Bus Station	0050	0116	0144	0214	0243	0313	0345	0416	0446	0518	0548	0616	0641	0658	0709	0717	0719	0726

285		Mondays to Fridays													NSD SD NSD			
Kingston Cromwell Road Bus Station	0630		1904	1916	1928	1941	1953	2005			2205	2220	2235	2250	2305	2320	2335	2350
Hampton Wick Station	0635		1910	1922	1934	1946	1958	2010			2210	2225	2240	2255	2309	2324	2339	2354
Teddington Hogarth (Broad Street)	0641	Then	1919	1931	1942	1953	2004	2016			2216	2231	2246	2301	2315	2330	2345	0000
Hampton Hill High St./Hampton Road	0645	about	1924	1935	1946	1957	2008	2020	Then		2220	2235	2250	2305	2319	2334	2349	0004
Hampton Hill Sainsbury's	0652	every	1933	1943	1953	2004	2015	2027	every 15		2227	2242	2257	2311	2325	2340	2355	0010
Hanworth Library	0656	10	1936	1946	1956	2007	2018	2030	minutes		2230	2245	2300	2314	2328	2343	2358	0013
Feltham Station Bus Station	0703	mins.	1943	1952	2002	2013	2024	2035	until		2235	2250	2305	2319	2333	2348	0003	0018
Hatton Cross Stn. Hatton Road South	0714	until	1951	2000	2010	2021	2032	2043			2243	2258	2312	2326	2340	2355	0010	0025
Harlington Corner Bath Road	0722		1958	2007	2017	2028	2039	2050			2250	2304	2318	2332	2346	0001	0016	0031
Heathrow Airport Central Bus Station	0727		2003	2012	2022	2033	2044	2055			2255	2309	2323	2337	2351	0006	0021	0036

285		Saturdays (also Good Friday)													NSD SD NSD			
Kingston Cromwell Road Bus Station	0009	0038	0106	0136	0206	0236	0306	0336	0405	0435	0505	0530	0550		0710	0730	0750	0805
Hampton Wick Station	0013	0042	0110	0140	0210	0240	0310	0340	0409	0439	0509	0534	0554		0714	0734	0754	0809
Teddington Hogarth (Broad Street)	0019	0048	0116	0146	0216	0246	0316	0346	0415	0444	0514	0539	0559	Then	0719	0739	0759	0815
Hampton Hill High St./Hampton Road	0023	0052	0120	0150	0219	0249	0319	0349	0418	0447	0517	0542	0602	every	0722	0742	0802	0819
Hampton Hill Sainsbury's	0029	0058	0126	0156	0225	0254	0324	0354	0423	0452	0522	0547	0607	20	0728	0748	0809	0826
Hanworth Library	0032	0101	0129	0159	0228	0257	0327	0357	0426	0455	0525	0550	0611	mins.	0731	0751	0812	0829
Feltham Station Bus Station	0037	0106	0134	0204	0233	0302	0332	0402	0431	0500	0530	0555	0617	until	0737	0757	0818	0835
Hatton Cross Stn. Hatton Road South	0043	0112	0140	0210	0239	0308	0339	0409	0438	0507	0537	0602	0625		0745	0806	0827	0844
Harlington Corner Bath Road	0049	0118	0146	0216	0245	0314	0345	0416	0445	0514	0544	0609	0632		0752	0813	0834	0851
Heathrow Airport Central Bus Station	0054	0123	0151	0221	0250	0319	0350	0421	0450	0519	0549	0614	0637		0757	0818	0839	0856

285		Saturdays (also Good Friday)													NSD SD NSD			
Kingston Cromwell Road Bus Station	0820	0835	0847		0933		1834		1935	1950		2205	2220	2235	2250	2305		2350
Hampton Wick Station	0824	0839	0851		0938		1840		1940	1955		2210	2225	2240	2255	2309		2354
Teddington Hogarth (Broad Street)	0830	0845	0857	Then	0944	Then	1849	Then	1948	2001	Then	2216	2231	2246	2301	2315	Then	0000
Hampton Hill High St./Hampton Road	0834	0849	0901	about	0949	about	1854	about	1952	2005	every	2220	2235	2250	2305	2319	every	0004
Hampton Hill Sainsbury's	0841	0856	0909	every	0957	every	1902	every	1959	2012	15	2227	2242	2257	2311	2325	15	0010
Hanworth Library	0844	0859	0912	12	1000	10	1906	12	2002	2015	mins.	2230	2245	2300	2314	2328	mins.	0013
Feltham Station Bus Station	0850	0905	0919	mins.	1007	mins.	1912	mins.	2007	2020	until	2235	2250	2305	2319	2333	until	0018
Hatton Cross Stn. Hatton Road South	0859	0914	0929	until	1017	until	1922	until	2015	2028		2243	2258	2312	2326	2340		0025
Harlington Corner Bath Road	0906	0921	0936		1024		1929		2022	2035		2250	2304	2318	2332	2346		0031
Heathrow Airport Central Bus Station	0911	0926	0941		1029		1934		2027	2040		2255	2309	2323	2337	2351		0036

285		Sundays and other Public Holidays (except Christmas Day and Boxing Day)													NSD SD NSD			
Kingston Cromwell Road Bus Station	0009	0038	0106	0136	0206	0236	0306	0336	0405	0435	0505	0530	0550		0730	0750	0810	0825
Hampton Wick Station	0013	0042	0110	0140	0210	0240	0310	0340	0409	0439	0509	0534	0554		0734	0754	0814	0829
Teddington Hogarth (Broad Street)	0019	0048	0116	0146	0216	0246	0316	0346	0415	0444	0514	0539	0559	Then	0739	0759	0820	0835
Hampton Hill High St./Hampton Road	0023	0052	0120	0150	0219	0249	0319	0349	0418	0447	0517	0542	0602	every	0742	0802	0823	0838
Hampton Hill Sainsbury's	0029	0058	0126	0156	0225	0254	0324	0354	0423	0452	0522	0547	0607	20	0747	0808	0829	0844
Hanworth Library	0032	0101	0129	0159	0228	0257	0327	0357	0426	0455	0525	0550	0610	mins.	0750	0811	0832	0847
Feltham Station Bus Station	0037	0106	0134	0204	0233	0302	0332	0402	0431	0500	0530	0555	0615	until	0755	0816	0837	0852
Hatton Cross Stn. Hatton Road South	0043	0112	0140	0210	0239	0308	0339	0409	0438	0507	0537	0602	0623		0803	0824	0845	0900
Harlington Corner Bath Road	0049	0118	0146	0216	0245	0314	0345	0416	0445	0514	0544	0609	0630		0810	0831	0852	0907
Heathrow Airport Central Bus Station	0054	0123	0151	0221	0250	0319	0350	0421	0450	0519	0549	0614	0635		0815	0836	0857	0912

285		Sundays and other Public Holidays (except Christmas Day and Boxing Day)													NSD SD NSD			
Kingston Cromwell Road Bus Station	0840	0855	0910		1835	1850	1905	1920	1935	1950	2005		2205	2220	2235			2350
Hampton Wick Station	0844	0859	0914		1840	1855	1910	1925	1940	1955	2009		2209	2224	2239			2354
Teddington Hogarth (Broad Street)	0850	0905	0920	Then	1847	1902	1917	1932	1946	2001	2015	Then	2215	2230	2245			0000
Hampton Hill High St./Hampton Road	0853	0908	0923	about	1851	1906	1921	1936	1950	2005	2019	every	2219	2234	2249	Then		0004
Hampton Hill Sainsbury's	0859	0914	0929	every	1858	1913	1928	1942	1956	2011	2025	15	2225	2240	2255	every 15		0010
Hanworth Library	0902	0917	0932	12	1901	1916	1931	1945	1959	2014	2028	mins.	2228	2243	2258	minutes		0013
Feltham Station Bus Station	0907	0923	0938	mins.	1907	1922	1936	1950	2004	2019	2033	until	2233	2248	2303	until		0018
Hatton Cross Stn. Hatton Road South	0916	0932	0947	until	1916	1931	1945	1959	2013	2027	2041		2241	2256	2310			0025
Harlington Corner Bath Road	0923	0939	0954		1923	1938	1952	2006	2020	2034	2048		2248	2302	2316			0031
Heathrow Airport Central Bus Station	0928	0944	0959		1928	1943	1957	2011	2025	2039	2053		2253	2307	2321			0036

Note: SD - Operates on school days only NSD - Operates during school holidays only

R70

Hampton – Fulwell – Richmond

R70 Mondays to Fridays																		
Hampton The Avenue (dep.)	0540	0555	0610		1010		1410		1928	1935	1943	1950	1958	2008	2018			
Hampton Schools (Hanworth Road)	0543	0558	0613		1014		1414		1931	1938	1946	1953	2001	2011	2021			
Nurserylands Fearnley Crescent	0549	0604	0619	Then	1021		1421	Then	1938	1945	1953	2000	2007	2017	2027			
Uxbridge Road Ormond Drive	0555	0610	0625	about	1029	Then	1429	about	1944	1951	1959	2005	2012	2022	2032			
Hampton Hill High Street/Hampton Rc	0557	0612	0627	every 10	1033	every 10	1433	every 10	1947	1954	2002	2007	2014	2024	2034			
Fulwell Bus Garage	0559	0614	0629	minutes	1036	minutes	1436	minutes	1949	1956	2004	2009	2016	2026	2036			
Twickenham York Street	0605	0620	0635	until	1045	until	1445	until	1957	--	2010	--	2022	--	2042			
Richmond George Street	0612	0627	0642		1055		1455		2006	--	2017	--	2029	--	2049			
Richmond Station	0614	0629	0644		1058		1458		2008	--	2019	--	2031	--	2051			
Manor Road Homebase	0618	0633	0648		1102		1502		2012	--	2023	--	2035	--	2055			
Hampton The Avenue (dep.)	2028	2038	2049	2100		0040	0100	0120	0135									
Hampton Schools (Hanworth Road)	2031	2041	2052	2103		0043	0103	0123	0138									
Nurserylands Fearnley Crescent	2037	2047	2058	2109	Then	0049	0109	0129	0144									
Uxbridge Road Ormond Drive	2042	2052	2103	2114	every 20	0054	0114	0134	0149									
Hampton Hill High Street/Hampton Rc	2044	2054	2105	2116	minutes	0056	0116	0136	0151									
Fulwell Bus Garage	2046	2056	2107	2118	until	0058	0118	0138	0153									
Twickenham York Street	--	2102	--	2124		0104	--	--	--									
Richmond George Street	--	2109	--	2130		0110	--	--	--									
Richmond Station	--	2111	--	2132		0112	--	--	--									
Manor Road Homebase	--	2115	--	2135		0115	--	--	--									
R70 Saturdays (also Good Friday)																		
Hampton The Avenue (dep.)	0540		0740	0755	0810	0825	0840	0850		0950	1000	1010	1020	1030	1710			
Hampton Schools (Hanworth Road)	0543		0743	0758	0813	0828	0843	0853		0953	1003	1013	1023	1033	1713			
Nurserylands Fearnley Crescent	0549		0749	0804	0820	0835	0850	0900		1000	1010	1020	1030	1040	Then			
Uxbridge Road Ormond Drive	0555	Then	0755	0810	0826	0841	0856	0907	Then	1007	1017	1027	1037	1047	every			
Hampton Hill High Street/Hampton Rc	0557	every 20	0757	0813	0829	0844	0859	0911	every 10	1011	1021	1031	1041	1051	10			
Fulwell Bus Garage	0559	minutes	0759	0815	0831	0847	0901	0914	minutes	1014	1024	1034	1044	1054	mins.			
Twickenham York Street	0605	until	0805	0822	0839	0855	0910	0923	until	1023	1033	1043	1053	1103	until			
Richmond George Street	0612		0812	0829	0846	0903	0920	0933		1033	1043	1053	1103	1114	1754			
Richmond Station	0614		0814	0831	0848	0905	0922	0935		1035	1046	1057	1107	1118	1758			
Manor Road Homebase	0618		0818	0835	0852	0909	0926	0939		1039	1050	1101	1112	1123	1803			
Hampton The Avenue (dep.)	1720		1830	1845	1900	1915	1930	1945	2000	2020	2040	2100		0040	0100	0120	0135	
Hampton Schools (Hanworth Road)	1723		1833	1848	1903	1918	1933	1948	2003	2023	2043	2103		0043	0103	0123	0138	
Nurserylands Fearnley Crescent	1730	Then	1840	1855	1910	1925	1940	1955	2010	2030	2050	2109	Then	0049	0109	0129	0144	
Uxbridge Road Ormond Drive	1737	about	1847	1902	1917	1932	1947	2002	2016	2036	2056	2115	every	0055	0115	0135	0150	
Hampton Hill High Street/Hampton Rc	1741	every 10	1850	1905	1920	1935	1950	2005	2019	2039	2059	2117	20	0057	0117	0137	0152	
Fulwell Bus Garage	1744	minutes	1852	1907	1922	1937	1952	2007	2021	2041	2101	2119	mins.	0059	0119	0139	0154	
Twickenham York Street	1753	until	1900	1915	1930	1945	2000	2015	2029	2049	2107	2125	until	0105	--	--	--	
Richmond George Street	1804		1909	1924	1939	1954	2008	2023	2037	2057	2113	2132		0112	--	--	--	
Richmond Station	1807		1912	1927	1942	1957	2010	2025	2039	2059	2115	2134		0114	--	--	--	
Manor Road Homebase	1812		1917	1932	1947	2002	2014	2029	2043	2103	2118	2138		0118	--	--	--	
R70 Sundays and other Public Holidays (except Christmas Day)																		
Hampton The Avenue (dep.)	0635		0735	0755		0915	0934	0949	1002	1017	1032	1046		1316	1331	1346	1716	
Hampton Schools (Hanworth Road)	0638		0738	0758		0918	0937	0952	1005	1020	1035	1049		1319	1334	1349	1719	
Nurserylands Fearnley Crescent	0644	Then	0744	0804	Then	0924	0943	0958	1012	1027	1042	1056	Then	1326	1341	1356	Then	
Uxbridge Road Ormond Drive	0649	every	0749	0810	every	0930	0949	1004	1019	1034	1049	1103	every	1333	1348	1403	every	
Hampton Hill High Street/Hampton Rc	0651	20	0751	0813	20	0933	0952	1007	1022	1037	1052	1106	15	1336	1351	1406	15	
Fulwell Bus Garage	0653	mins.	0753	0816	mins.	0936	0955	1010	1025	1040	1055	1109	mins.	1339	1354	1408	mins.	
Twickenham York Street	0659	until	0759	0824	until	0944	1003	1018	1033	1048	1103	1118	until	1348	1403	1416	until	
Richmond George Street	0705		0805	0831		0951	1011	1026	1041	1056	1113	1128		1358	1412	1425	1755	
Richmond Station	0707		0807	0833		0953	1013	1028	1043	1058	1116	1131		1401	1415	1428	1758	
Manor Road Homebase	0710		0811	0837		0957	1017	1032	1047	1102	1120	1135		1405	1419	1432	1802	
Hampton The Avenue (dep.)	1731	1746	1801	1816	1826	1836	1856	1917	1937	1957	2017	2037	2100		0040	0100	0120	0135
Hampton Schools (Hanworth Road)	1734	1749	1804	1819	1829	1839	1859	1920	1940	2000	2020	2040	2103		0043	0103	0123	0138
Nurserylands Fearnley Crescent	1741	1756	1811	1826	1836	1846	1906	1927	1947	2007	2027	2047	2109	Then	0049	0109	0129	0144
Uxbridge Road Ormond Drive	1748	1803	1817	1832	1842	1852	1912	1933	1953	2013	2033	2053	2114	every	0054	0114	0134	0149
Hampton Hill High Street/Hampton Rc	1751	1806	1820	1835	1845	1855	1915	1936	1956	2016	2036	2056	2116	20	0056	0116	0136	0151
Fulwell Bus Garage	1753	1808	1822	1837	1847	1857	1917	1938	1958	2018	2038	2058	2118	mins.	0058	0118	0138	0153
Twickenham York Street	1801	1816	1830	1845	--	1905	1923	1944	2004	2024	2044	2104	2124	until	0104	--	--	--
Richmond George Street	1809	1824	1838	1853	--	1912	1930	1951	2011	2031	2051	2110	2130		0110	--	--	--
Richmond Station	1811	1826	1840	1855	--	1914	1932	1953	2013	2033	2053	2112	2132		0112	--	--	--
Manor Road Homebase	1815	1830	1844	1859	--	1917	1935	1956	2016	2036	2056	2115	2135		0115	--	--	--

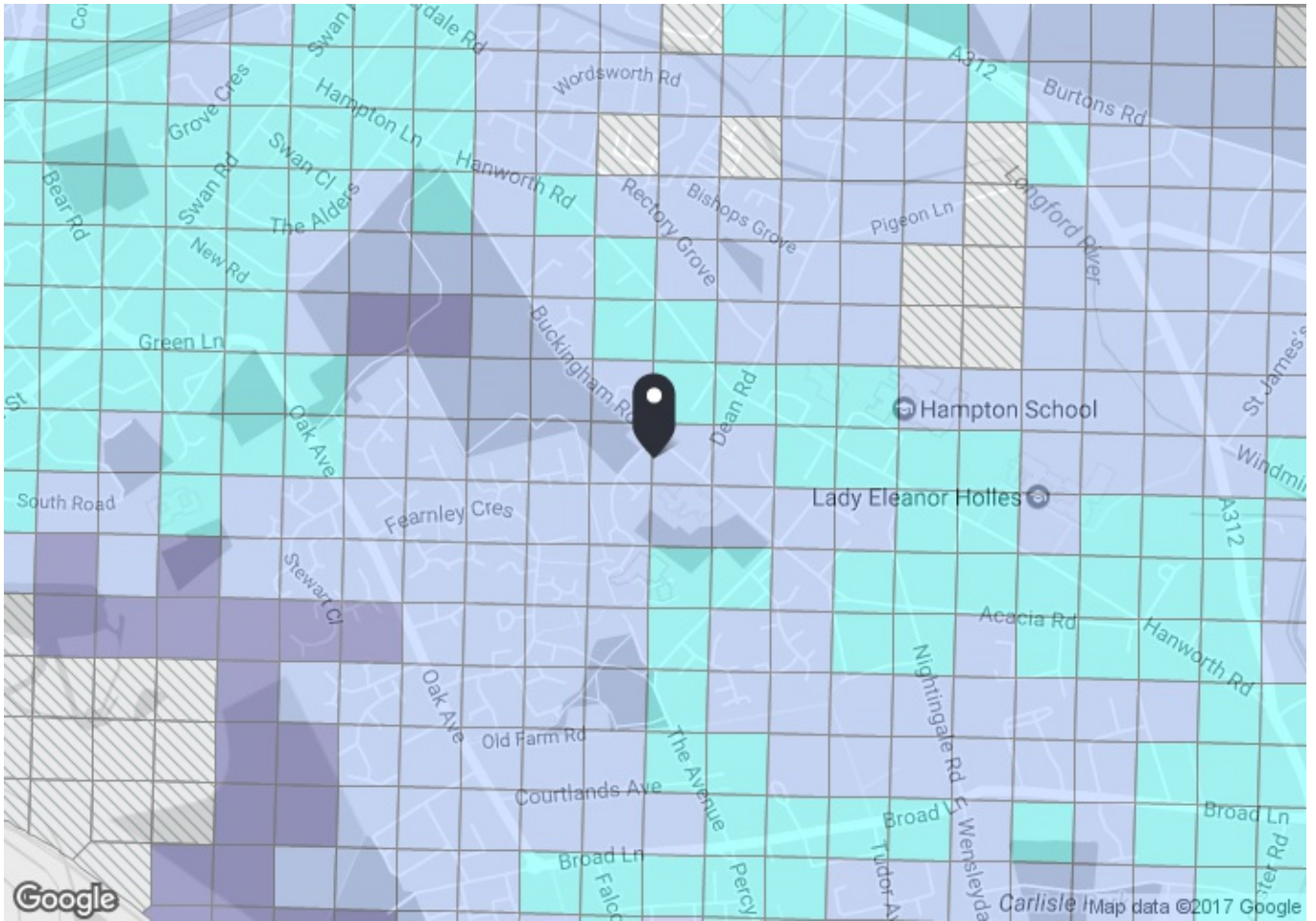
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Richmond – Fulwell – Hampton

R70 Mondays to Fridays																			
Manor Road Homebase	--	--	--	0550	0604	--	0624	--	--	0644	--	0659	--	0711		0930		1410	
Richmond Station	--	--	--	0554	0608	--	0628	--	--	0648	--	0703	--	0716		0935		1415	
Richmond Bus Station (Wakefield Rd.)	--	--	--	0557	0611	--	0631	--	--	0651	--	0706	--	0719	Then	0939	Then	1419	
Twickenham Heath Road	--	--	--	0603	0617	--	0637	--	--	0657	--	0712	--	0728	about	0949	every	1429	
Fulwell Bus Garage	0532	0547	0602	0608	0622	0632	0642	0649	0656	0702	0710	0717	0725	0735	every	0958	10	1438	
Hampton Hill High St./Hampton Road	0534	0549	0604	0610	0624	0634	0644	0651	0658	0704	0712	0719	0727	0737	10	1001	mins.	1441	
Uxbridge Road Ormond Drive	0536	0551	0606	0612	0626	0636	0646	0653	0700	0707	0715	0722	0730	0740	mins.	1005	until	1445	
Hampton The Avenue (arr.)	0539	0554	0609	0615	0629	0639	0649	0656	0704	0711	0719	0726	0734	0744	until	1009		1449	
Hampton Schools (Hanworth Road)	0543	0558	0613	0623	0633	0643	0653	0700	0708	0715	0724	0731	0739	0749		1014		1454	
Nurserylands Fearnley Crescent	0549	0604	0619	0629	0639	0649	0659	0706	0714	0722	0731	0738	0746	0756		1021		1501	
Manor Road Homebase	1419			2003	2014	2029	2049	2109	2129	2149	2210				0050	0105			
Richmond Station	1424			2008	2019	2033	2053	2113	2133	2153	2214				0054	0109			
Richmond Bus Station (Wakefield Rd.)	1428		Then	2012	2023	2036	2056	2116	2136	2156	2217				0057	0112			
Twickenham Heath Road	1438		about	2021	2032	2044	2104	2124	2144	2204	2224				0104	0119			
Fulwell Bus Garage	1447		every 10	2028	2039	2050	2110	2130	2150	2210	2230				0110	0125			
Hampton Hill High St./Hampton Road	1450		minutes	2030	2041	2052	2112	2132	2152	2212	2232				0112	0127			
Uxbridge Road Ormond Drive	1454		until	2033	2044	2055	2115	2135	2155	2215	2235				0115	0130			
Hampton The Avenue (arr.)	1458			2037	2048	2059	2119	2139	2159	2219	2239				0119	0134			
Hampton Schools (Hanworth Road)	1503			2041	2052	2103	2123	2143	2203	2223	2243				0123	0138			
Nurserylands Fearnley Crescent	1511			2047	2058	2109	2129	2149	2209	2229	2249				0129	0144			
R70 Saturdays (also Good Friday)																			
Manor Road Homebase	--	--	--	0550	0614	0634	0654	0714	0729	0744	0756	0807			1100		1720	1731	
Richmond Station	--	--	--	0554	0618	0638	0658	0718	0733	0748	0800	0811			1105		1725	1736	
Richmond Bus Station (Wakefield Rd.)	--	--	--	0557	0621	0641	0701	0721	0736	0751	0803	0814			1109		1729	1740	
Twickenham Heath Road	--	--	--	0603	0627	0647	0707	0727	0742	0757	0810	0822			1120	Then	1740	1751	
Fulwell Bus Garage	0532	0552	0608	0632	0652	0712	0732	0747	0802	0816	0829			1128	every 10	1748	1759		
Hampton Hill High St./Hampton Road	0534	0554	0610	0634	0654	0714	0734	0749	0804	0818	0832			1131	minutes	1751	1802		
Uxbridge Road Ormond Drive	0536	0556	0612	0636	0656	0716	0736	0751	0806	0820	0835			1135	until	1755	1805		
Hampton The Avenue (arr.)	0539	0559	0615	0639	0659	0719	0739	0754	0809	0824	0839			1139		1759	1809		
Hampton Schools (Hanworth Road)	0543	0603	0623	0643	0703	0723	0743	0758	0813	0828	0843			1143		1803	1813		
Nurserylands Fearnley Crescent	0549	0609	0629	0649	0709	0729	0749	0804	0820	0835	0850			1150		1810	1820		
Manor Road Homebase	1741	1754	1809	1824	1840	1855	1910	1925	1946	2008	2028	2049	2110			0050	0105		
Richmond Station	1746	1759	1814	1829	1845	1900	1915	1930	1951	2012	2032	2053	2114			0054	0109		
Richmond Bus Station (Wakefield Rd.)	1750	1802	1817	1832	1848	1903	1918	1933	1954	2015	2035	2056	2117			0057	0112		
Twickenham Heath Road	1801	1811	1826	1841	1857	1912	1927	1942	2003	2023	2043	2104	2124			0104	0119		
Fulwell Bus Garage	1809	1819	1834	1849	1905	1920	1935	1950	2010	2030	2050	2110	2130			0110	0125		
Hampton Hill High St./Hampton Road	1812	1822	1837	1852	1907	1922	1937	1952	2012	2032	2052	2112	2132			0112	0127		
Uxbridge Road Ormond Drive	1815	1825	1840	1855	1910	1925	1940	1955	2015	2035	2055	2115	2135			0115	0130		
Hampton The Avenue (arr.)	1819	1829	1844	1859	1914	1929	1944	1959	2019	2039	2059	2119	2139			0119	0134		
Hampton Schools (Hanworth Road)	1823	1833	1848	1903	1918	1933	1948	2003	2023	2043	2103	2123	2143			0123	0138		
Nurserylands Fearnley Crescent	1830	1840	1855	1910	1925	1940	1955	2010	2030	2050	2109	2129	2149			0129	0144		
R70 Sundays and other Public Holidays (except Christmas Day)																			
Manor Road Homebase	--	--	--	0709			0829	0846	0901	0916	0929	0944	0959	1013	1028	1043	1056	1511	
Richmond Station	--	--	--	0712			0832	0849	0905	0920	0933	0948	1003	1017	1032	1047	1100	1515	
Richmond Bus Station (Wakefield Rd.)	--	--	--	0715	Then		0835	0852	0908	0923	0936	0951	1006	1020	1035	1050	1104	Then	1519
Twickenham Heath Road	--	--	--	0722	every		0842	0859	0916	0931	0944	0959	1014	1028	1043	1058	1113	every	1528
Fulwell Bus Garage	0627	0647	0707	0727	20		0847	0905	0924	0939	0952	1007	1022	1036	1051	1106	1121	15	1536
Hampton Hill High St./Hampton Road	0629	0649	0709	0729	mins.		0849	0907	0926	0941	0954	1009	1024	1038	1053	1108	1123	mins.	1538
Uxbridge Road Ormond Drive	0631	0651	0711	0731	until		0851	0910	0929	0944	0957	1012	1027	1041	1056	1111	1126	until	1541
Hampton The Avenue (arr.)	0634	0654	0714	0734			0854	0914	0933	0948	1001	1016	1031	1045	1100	1115	1130		1545
Hampton Schools (Hanworth Road)	0638	0658	0718	0738			0858	0918	0937	0952	1005	1020	1035	1049	1104	1119	1134		1549
Nurserylands Fearnley Crescent	0644	0704	0724	0744			0904	0924	0943	0958	1012	1027	1042	1056	1111	1126	1141		1556
Manor Road Homebase	1526	1541					1741	1752	1803	1823	1846	1907	1927	1947	2007	2030		0050	0105
Richmond Station	1530	1545					1745	1756	1807	1827	1850	1911	1931	1951	2011	2034		0054	0109
Richmond Bus Station (Wakefield Rd.)	1534	1549					1749	1800	1810	1830	1853	1914	1934	1954	2014	2037		0057	0112
Twickenham Heath Road	1543	1558			Then		1758	1808	1818	1838	1901	1921	1941	2001	2021	2044		0104	0119
Fulwell Bus Garage	1551	1606			every 15		1806	1816	1826	1846	1907	1927	1947	2007	2027	2050		0110	0125
Hampton Hill High St./Hampton Road	1553	1608			minutes		1808	1818	1828	1848	1909	1929	1949	2009	2029	2052		0112	0127
Uxbridge Road Ormond Drive	1556	1611			until		1811	1821	1831	1851	1912	1932	1952	2012	2032	2055		0115	0130
Hampton The Avenue (arr.)	1600	1615					1815	1825	1835	1855	1916	1936	1956	2016	2036	2059		0119	0134
Hampton Schools (Hanworth Road)	1604	1619					1819	1829	1839	1859	1920	1940	2000	2020	2040	2103		0123	0138
Nurserylands Fearnley Crescent	1611	1626					1826	1836	1846	1906	1927	1947	2007	2027	2047	2109		0129	0144

Appendix F

PTAL Rating



PTAL output for Base Year
1 b

TW12 3LT
 Buckingham Rd, Hampton TW12 3LT, UK
 Easting: 512903, Northing: 171130

Grid Cell: 36499

Report generated: 20/01/2017

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

- PTAL (cell size: 100m)

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	HANWORTH RD GARDEN CLOSE	111	299.87	7	3.75	6.29	10.03	2.99	1	2.99
Bus	HANWORTH RD GARDEN CLOSE	R70	299.87	6	3.75	7	10.75	2.79	0.5	1.4
Total Grid Cell AI:										4.39



London – Twickenham

London – Central

Guildford

Birmingham

Chester

Manchester

Huddersfield

Newcastle upon Tyne

Glasgow

Dubai

Sydney