

TRANSPORT ASSESSMENT

# Lands Improvement

Land to the north east of King George V Planning Fields,  
Cuffley

March 2021

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Transport Assessment

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## Executive Summary

1. Vectos has been appointed by Lands Improvement to provide traffic and transport advice in support of a planning application for a residential development of up to 121 dwellings, associated infrastructure on the land to the north east of King George V Playing Fields, Hertfordshire.
2. An outline planning application (ref: S6/2015/1342/PP) for development proposals at the site comprising 121 dwellings was submitted in 2015 with a Transport Assessment and Travel Plan accompanying the application. As six years have passed, an updated Transport Assessment and Travel Plan has been prepared.
3. It is also noteworthy that Hertfordshire County Council (HCC) highways advised that they had no objection to planning permission being granted subject to planning conditions and completion of a Section 106. A copy of the highway's response note is attached at **Appendix A**.
4. This report therefore is an update on the previously submitted Transport Assessment and includes an updated Travel Plan.
5. The previously submitted report was prepared following an extensive consultation process with local residents and stakeholders. In relation to transport, this included:
  - Two Design Workshops;
  - Two rounds of public consultation through exhibitions;
  - Parish Council Meetings; and
  - Discussions and meetings with highways officers from Hertfordshire County Council (HCC).
6. Although six years has passed, the results of these discussions are taken into consideration for the scheme as they remain relevant given there are very few changes proposed to the scheme from a transport perspective. Some informal discussions were held with HCC before this update was completed and as requested the non-statutory policies in HCC's Local Transport Plan 4 have been taken into consideration.
7. The site is ideally located to promote walking and cycling to and from the village centre. Pedestrian and cycle access will be provided from footways adjacent to the new access road. This will connect with the existing footway along the south-eastern side of Northaw Road East and provide a connection to the local facilities in Cuffley.
8. There will also be a new pedestrian and cycle link through the site from the King George V Playing Fields car park to South Drive via Greenfields. The proposed route will provide a convenient route from the site to the Cuffley Primary School via South Drive in the location of the existing maintenance access. In addition, this will provide a route towards Cuffley village centre and the railway station further afield to the north via Theobalds Road. The route has been designed to ensure the link is only for pedestrians and cyclists.

9. Following previous discussions with the HCC Rights of Way team it is proposed to provide a contribution towards upgrading the route to a Bridleway. This contribution will allow improvements to surfacing and vegetation clearance with any measures ensuring that the rural nature of the route is not affected. In addition, it is proposed to provide permissive paths for dog walkers around the fields to the south of the site.
10. The site is in a sustainable location for public transport, with bus stops located on both the east bound and west bound side of Northaw Road East. From these stops there is one service that runs hourly during the week between Waltham Cross and Potters Bar. The development of the site will generate more bus passengers which will make the service more viable. Cuffley Railway station is located approximately 850m from the site. Cuffley is situated on the Great Northern service that runs a frequent service between London and Hertford North. The station provides a link to London with a journey time of less than 30mins to and from Finsbury Park station.
11. A Travel Plan has been prepared to encourage travel to/from the site by non-car modes (walking/cycle/bus/train). The Travel Plan will include a Welcome Pack to all dwellings that provides sustainable transport information and the provision of subsidised sustainable travel will be considered such as vouchers for bus travel.
12. As part of the previous discussions, it was agreed with HCC that a financial contribution towards junction capacity improvements, public transport enhancements serving the development, measures to encourage walking routes between the site and the village centre, village centre enhancement and to improve safety and address potential rat running will be provided by the Developer in association with the proposed development. This includes:
  - Station Road Enhancements;
  - Capacity improvements to either Northaw Road East (NRE)/Plough Hill/Station Road or Northaw Road East (NRE)/Northaw Road West (NRW)/Cattlegate Road;
  - Improvement to the Right of Way Public Footpath 6; and,
  - Travel Plan Monitoring Contribution.
13. Since these contributions were first agreed in principle, further discussions have taken place with HCC highways officers. Further contributions will include the enhancement of the two local bus stops on Northaw Road East.
14. Vehicular access to the development will be from a new priority junction with Northaw Road East. An improvement to the existing gateway features adjacent to the proposed site access at the start of the 30-mph speed limit is proposed. The principles of this have been previously discussed with HCC.
15. It has been calculated that the development will generate a maximum of 83 vehicle trips two-way during the weekday AM peak hour and 76 vehicle trips two-way during the weekday PM Peak hour. Percentage impact assessments have been undertaken at two off-site junctions (Cattlegate Road / Northaw Road East and Station Road / Northaw Road East junctions) and this has shown that the development will not have a material impact. It has been demonstrated that the impact of the

proposed development traffic on the strategic road network (M25 junction 24 and 25) will be negligible.

16. Notwithstanding the low percentage impact of the proposed development, the junctions are currently experiencing some peak period congestion, particularly during the PM peak hour. The contributions outlined above will help to reduce this peak period congestion.
17. Since the submission of the previous Transport Assessment, HCC have adopted the Local Transport Plan 4 (LTP4) which places a strong emphasis on sustainable travel. In particular, LTP4 outlines a movement hierarchy where sustainable travel is prioritised over private vehicle trips. The development has taken this into consideration and follows the movement hierarchy set out in that document i.e., walking and cycling first, followed by use of sustainable modes with use of the private car at the bottom of the hierarchy.
18. Through contributions to improving local public rights of way, bus infrastructure and monitoring the Travel Plan the proposed development also meets the policies (Policy 6,7,8,9) outlined in LTP4. Moreover, contributions to the local highway network will further promote walking and cycling in the local area and not just users of the proposed development.
19. In conclusion, it is considered that the development proposals are appropriate for the location and that there are no traffic or transportation reasons why planning permission should not be granted.

## 1 Introduction

- 1.1 Vectos have been appointed by Lands Improvements to provide traffic and transport advice in support of a planning application for a residential development at the land to the north east of King George V Playing Fields, Cuffley.
- 1.2 The site is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north and north-west; the grounds of Cuffley Primary School also adjoin the site along its northern boundary.
- 1.3 The planning application seeks permission for a residential development of up to 121 dwellings, associated infrastructure and a change of use from agricultural land to an extension of the King George V playing fields. All matters reserved except for new vehicular access to serve the site, the provision of surface water discharge points and the levels of the development level platforms.
- 1.4 The change of use of the agricultural land to an extension of the King George V Playing Fields will result in no material changes to the transport proposals.
- 1.5 An outline planning application (ref: S6/2015/1342/PP) for development proposals at the site comprising 121 dwellings was submitted in 2015 with a Transport Assessment and Travel Plan accompanying the application. As six years have passed, an updated Transport Assessment is being submitted. However, it is noteworthy that from a transport perspective, there is little to no change proposed from the previous scheme.
- 1.6 It is also noteworthy that during the previous discussions, HCC highways advised that planning permission was to be granted subject to planning conditions and Section 106 agreements. A copy of the highway's response note is attached at **Appendix A**.
- 1.7 This Transport Assessment (TA) has been prepared in accordance with national guidance on Transport Assessments and the scoping discussions undertaken with Hertfordshire County Council (HCC) previously. Further discussions and meetings have been held with HCC officers since the submission of the Scoping Report and these have considered in the TA.
- 1.8 The previously submitted report was prepared following an extensive consultation process with local residents and stakeholders. In relation to transport, this included:
  - Two Design Workshops;
  - Two rounds of public consultation through exhibitions;
  - Parish Council Meetings; and
  - Discussions and meetings with highways officers from Hertfordshire County Council (HCC).
- 1.9 Following this introduction section, the TA report is structured as follows:

- **Section 2: Existing Conditions** – A review of transport conditions at the site and surrounding area, with reference to junction and traffic flow surveys, collision data, existing pedestrian and cycle routes, public transport provision and the highway network.
- **Section 3: Policy Context** – A review of key current and emerging transport and land use planning policy at national and local level.
- **Section 4: Development Proposals** – A description of the Proposed Development with a focus on site-based transport infrastructure measures, access hierarchy and parking.
- **Section 5: Sustainable Transport Strategy** – The strategy for supporting sustainable travel to/from the site with reference to the Interim Travel Plan, which is appended to this document.
- **Section 6: Trip Generation** – An assessment of anticipated vehicular trip generation based on agreed trip rates.
- **Section 7: Traffic Distribution** – The assignment of Proposed Development trips to the local and strategic highway network
- **Section 8: Impact on the Highway Network** – An assessment of the impact of the Proposed Development on localised junctions within the defined study area.
- **Section 9: Summary & Conclusions** – A review of the key points described in this report.



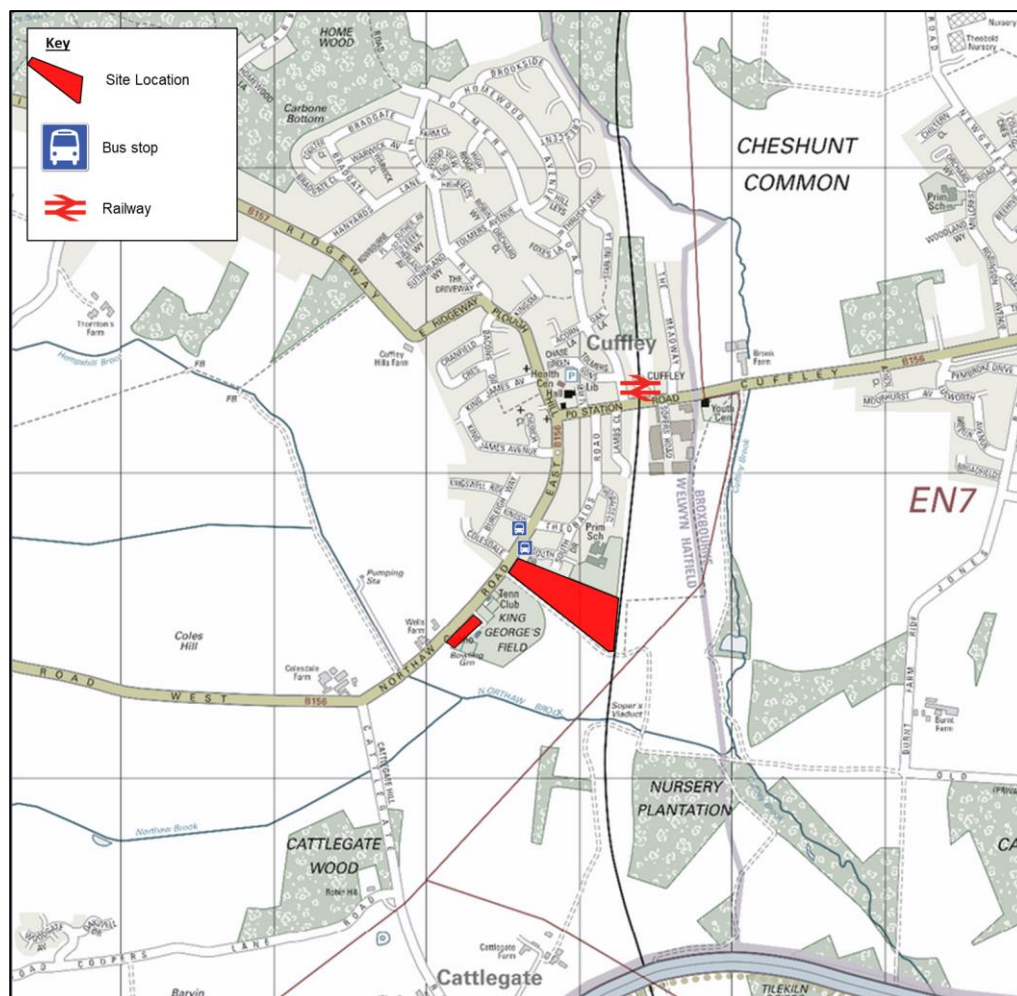
## 2 Existing Conditions

2.1 This section of the TA report provides a description of the transport conditions at the site and the surround area.

## Site Location

2.2 The strategic location of the site in its wider context can be seen in **Figure 2.1**. The local context is shown in below in **Figure 2.2**.

### Figure 2.2: Local Site Location



- 2.3 The site location plan is included at **Appendix B**.
- 2.4 The site (4.89ha) is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north and north-west; the grounds of Cuffley Primary School also adjoin the site along its northern boundary. The railway line and Northaw Road East (B156) form strong eastern and western boundaries respectively. The southern boundary is defined by a mature hedgerow and tree belt lining the Hertfordshire Way footpath. Beyond the footpath to the south west of the site is King George V Playing Fields, which contains three sports pavilions, a recreation area with hard surfaced Multi Use Games Areas (MUGA), sports pitches and a small area of formal play equipment.
- 2.5 The site also includes a rectangular parcel of land (0.63ha), in agricultural use, which is located to the south west of the King George V Playing Fields. Northaw Road East forms the western boundary of the land, beyond which lies a small number of residential properties and buildings associated with agricultural use. Further agricultural land lies to the south whilst tennis courts, sports pavilions and a bowling green are located to the north east and south east of the site.

## **Accessibility by Non-car Modes**

### **Walking and Cycling**

- 2.6 The public right of ways (PRoWs) in the vicinity of the site are shown in **Figure 2.3**.
- 2.7 A public footpath (PRoW number 6) runs along the southern boundary of the site. There is a further footpath to the south west of the site; this is also a recreational footpath that heads further west.
- 2.8 Northaw Road East has a footway running along its northern and southern edge; street lamps feature along the footway. The footway may be used by pedestrians to access Cuffley village centre.
- 2.9 It is reasonable to expect that typical able-bodied people are capable of walking at least 2km for day-to-day activities. The thrust of sustainable policy is that there will be an increasing propensity for people to use non-single car occupancy modes of which walking is one. People will choose their mode based upon their journey purpose and it is reasonable to conclude that residents will choose to walk for a fair proportion of their journey.
- 2.10 A 2km walk isochrone is included within this report as **Figure 2.4**. This figure demonstrates that a number of services and facilities can be accessed within this distance, including the centre of Cuffley and Cuffley Railway Station.
- 2.11 Central Government research states that cycling has the potential to substitute for short car trips, particularly those under 5km, and to form part of a longer journey by public transport.
- 2.12 Cycling is an attractive form of travel and it is reasonable to expect that for typical able-bodied people a cycle distance of 5km is readily achievable and attractive. The propensity for people to choose to cycle will depend on journey purpose and individual ethos as well as having a safe place to store their bicycle at the end of their journey.

- 2.13 A 5km cycle isochrone is included within this report as **Figure 2.5**, which shows the whole of the village is within 5km.

## **Public Transport**

### **Bus Provision**

- 2.14 There are bus stops located on both the east bound and west bound side of Northaw Road East; these are approximately 60m and 100m respectively from the site. From these stops there is one service that runs hourly during the week and a weekly service that runs only on Wednesday morning. Service number 242 runs hourly between Waltham Cross and Potters Bar. The Sunday service is extended as far as Waltham Cross to Welwyn Garden City.

### **Rail Provision**

- 2.15 Cuffley Railway station is located approximately 850m from the site. Cuffley is situated on the Great Northern service that runs a frequent service between London and Hertford North. The station provides a link to London with a journey time of less than 30 minutes to and from Finsbury Park Station. During the weekday AM and PM peak periods there are circa 5 trains per hour to London.

## **Existing Facilities**

- 2.16 The site's proximity to key facilities such as education, retail, healthcare and recreation is key in maintaining a sustainable development.
- 2.17 There are a number of facilities within walking distance of the site that are located within the village of Cuffley. These are shown in **Figure 2.6**.
- 2.18 For educational purposes there is a Primary school located approximately 300m from the frontage of the site on Northaw Road East which adjoins the northern boundary of the site.
- 2.19 Within the village centre there are several facilities including two retail units, a health centre and a public house.

## **Local Highway Network**

- 2.20 The site is bound to the west by the Northaw Road East, which leads into Cuffley village centre to the north. Northaw Road East consists of a single carriageway with one lane in both directions. Upon leaving Cuffley approximately 50m to the south of the site the road becomes de-restricted.
- 2.21 To the north there is the small cul-du sac of South Drive which provides access to the residential units situated there. There is an existing, gated maintenance access to the site from South Drive. Lands Improvement has access rights over this land.
- 2.22 Northaw Road East is classified as a secondary distributor road within Hertfordshire County Council's (HCC) road hierarchy and links Cuffley to Potter Bar and the M25 to the west. To the east, Northaw Road East travels through Cuffley High Street and allows access to Goff's Oak, Chestnut and Waltham Cross.

- 2.23 Through the entirety of Cuffley the speed limit is 30mph. This increases to 40mph in the east upon leaving Cuffley and up to 60mph in the south.

### **Personal Injury Collision Data**

- 2.24 Personal Injury Collision data was obtained from HCC for the section of highway network in the vicinity of the site. These roads include the Northaw Road East/B156, Theobald's Drive, Station Road and Cattlegate Road. The collision data covers the five-year period between July 2015 and June 2020, and is included at **Appendix C**.
- 2.25 The data showed that there was 23 Personal Injury Collision reported over the five-year period. Five of these were deemed serious collisions with the remaining 18 recorded as slight collisions.
- 2.26 The serious collisions are summarised below:
- A car was travelling west on Station Road and collided with a pedestrian who ran across the carriageway.
  - A car travelling south west on Northaw Road East turned left into Cattlegate Road and collided with a taxi waiting at junction to turn right;
  - A motorcycle travelling south west on Northaw Road East was overtaking stationary traffic when it collided with a vehicle attempting to turn right out of King George Playing Fields. The driver fell from the motorcycle;
  - A car was travelling west on Station Road when the driver suffered a cardiac arrest and collided with a parked car; and
  - A motorcycle was travelling east on Northaw Road East over a speed hump when the vehicle slipped on paint on the rider fell off. Bad weather was reported to be the primary cause.
- 2.27 The summary above shows that all the serious collisions can be attributed to driver or pedestrian error rather than issues with the road layout. The recorded collisions do not indicate that there is an existing collision problem on the local highway network.

### 3 Policy Context

- 3.1 This section of the TA addresses the relevant national and local policy, in the context of the site and the proposed development.

#### National Policy

##### National Planning Policy Framework (NPPF)

- 3.2 The National Planning Policy Framework (NPPF) was published by the Ministry of Housing, Communities and Local Government in February 2019. It replaced the previous version of the NPPF which was updated in July 2018 after it was originally published in March 2012.
- 3.3 The NPPF sets out the Government's planning policies for England and how these should be applied. It provides a framework within which planning authorities should prepare their development plans and determine planning applications.
- 3.4 Paragraph 108 of the NPPF states that:

*"in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:*

*a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*

*b) safe and suitable access to the site can be achieved for all users; and*

*c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree".*

- 3.5 Paragraph 109 of the NPPF states that:

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

#### Regional Policy

##### Hertfordshire Local Transport Plan 4 (2018 – 2031)

- 3.6 The Local Transport Plan (LTP4) sets out how Hertfordshire County Council will deliver a positive future vision for the area through policy and planning decisions.
- 3.7 One of the core features of the LTP4 is to do more to improve conditions for sustainable modes of transport including walking, cycling and public transport. It will include a more prominent consideration of their needs in all transport schemes, strategies and new developments as well as



improvements to cycling infrastructure, walking environments and multi modal interchanges. The attractiveness of bus travel will also be enhanced through the implementation of more bus priority measures.

3.8 A summary of the transport related policies set out within LTP4 is provided below.

**Policy 1: Transport User Hierarchy**

*“To support the creation of built environments that encourage greater and safer use of sustainable transport modes, the county council will in the design of any scheme and development of any transport strategy consider in the following order:*

- *opportunities to reduce travel demand and the need to travel;*
- *vulnerable road user needs (such as pedestrians and cyclists);*
- *passenger transport user needs;*
- *powered two-wheeler (mopeds and motorbikes) user needs;*
- *other motor vehicle user needs”*

**Policy 2: Influencing Land use planning**

*“The County Council will encourage the location of new development in areas served by, or with the potential to be served by, high quality passenger transport facilities in order to form a real alternative to the private car.”*

**Policy 3: Travel Plans and Behaviour Change**

*The county council will encourage the widespread adoption of travel plans through:*

- *Working in partnership with large employers, businesses and other organisations to develop travel plans and implement Smarter Choices measures.*
- *Seeking the development, implementation and monitoring of travel plans as part of the planning process for new developments.*
- *Supporting school travel plans, and working closely with parents, pupils, teachers and local residents to deliver a network of more sustainable transport links to school.*

*The application of personalised travel planning techniques, marketing and other behavioural change initiatives will be considered when delivering physical transport improvements to maximise the potential to achieve modal shift.*

**Policy 5: Development Management**

*“The County Council will work with development promoters and the district borough councils to:*

- *ensure the location and design of proposals reflect the LTP Transport User Hierarchy and encourage movement by sustainable transport modes and reduced travel demand;*
- *Ensure access arrangements are safe, suitable for all people, built to an adequate standard and adhere to the Council's Highway Design Standards;*
- *Consider the adoption of access roads and internal road layouts where they comply with the appropriate adoption requirements and will offer demonstrable utility to the wider public. Where internal roads are not adopted the county council will expect suitable private management arrangements to be in place.*
- *Secure developer mitigation measures to limit the impacts of development on the transport network, and resist development where the residual cumulative impact of development is considered to be severe;*
- *Require a travel plan for developments according to the requirements of 'Hertfordshire's Travel Plan Guidance';*
- *Only consider new accesses onto primary and main distributor roads where special circumstances can be demonstrated in favour of the proposals;*
- *Resist development that would either severely affect the rural or residential character of a road or other right of way, or which would severely affect safety on rural roads, local roads and rights of way especially for vulnerable road users. This should include other routes which are important for sustainable transport or leisure.*
- *Ensure that any new parking provision in new developments provides facilities for electric charging of vehicles, as well as shared mobility solutions such as car clubs and thought should be made for autonomous vehicles in the future.*

#### Policy 6: Accessibility

*"The county council will seek to increase the ease with which people, particularly disadvantaged groups, can access key services, by:*

- *Working in partnership with key stakeholders such as bus and rail operators, community transport operators, the voluntary sector and public service providers.*
- *Supporting transport services which could include providing resource for bus and other transport services.*
- *Addressing the barriers to accessibility particularly regarding active modes and for people with impaired mobility.*
- *Promoting travel options and facilitating accessible travel information provision, including open data initiatives.*

- *Improving travel choices and options, including support for the provision of shared mobility initiatives.”*

#### Policy 7: Active Travel – Walking

*“The county council will seek to encourage and promote walking by:*

- *Implementing measures to increase the priority of pedestrians relative to motor vehicles, especially in town centres, and creating walking friendly town and neighbourhood centres.*
- *Delivering infrastructure to provide safer access to key services, and pedestrian facilities to enable and encourage walking.*
- *Identifying and promoting networks of pedestrian priority routes.*
- *Promoting walking as a mode of travel and for recreational enjoyment.*
- *Supporting the implementation of the Rights of Way Improvement Plan.”*

#### Policy 8: Active Travel – Cycling

*The county council aims to deliver a step change in cycling, through:*

- *Infrastructure improvements, especially within major urban areas to enable and encourage more cycling.*
- *Implementing measures to increase the priority of cyclists relative to motor vehicles*
- *Improved safety for users including delivery of formal and informal cycle training schemes.*
- *Supporting promotion campaigns to inform, educate, reassure and encourage cycling provision and education, such as Bikeability.*
- *Facilitating provision of secure cycle parking*

#### Policy 9: Buses

*The county council will promote and support bus services to encourage reduced car use by:*

- *Supporting the delivery of infrastructure including bus priority measures, focussed on a core bus network, and by minimising bus service disruption from road congestion and the effects of road works. Providing and maintaining all bus stops, and other bus related highway infrastructure, to a consistent quality and standard across the county.*
- *Utilising new powers afforded to local authorities through the Bus Services Act 2017 as appropriate.*
- *Reviewing, procuring and supporting cost effective and efficient bus services to improve accessibility and respond to existing and potential passenger needs. Review existing services and take account of enhanced security provision.*

- *Working with a wide range of partners through the Intalink Quality Partnership to achieve improvements in facilities and services to improve the end to end journey by multi-modal interchange, accessibility, security and the journey experience.*
- *Working with partners to develop appropriate passenger fares, encourage the development of smart ticketing and to improve the provision and accuracy of passenger information.*
- *Working with partners to promote bus services as an option for work and school journeys, and promote and publicise the passenger transport network through a variety of media.”*

#### Policy 12: Network Management

*“As part of its Network Management Duty the county council will seek to manage, and where feasible reduce traffic congestion, prioritising strategic routes. Activity will focus on making more efficient use of highway network capacity via:*

- *Use of Intelligent Transport Systems and small scale traffic management interventions*
- *Maintaining a Network Management Strategy which will include the county council's road network hierarchy and associated policies.*
- *Reducing levels of single occupancy car use and encouraging travel by walking, cycling and passenger transport.*
- *Sharing data (open data) and supporting the use of technology to provide up to date and accessible information for all network users.*
- *Control of on-street vehicle parking in line with the Network Management Strategy.*
- *Managing street works and minimising network disruption.”*

#### Policy 13: New Roads and Junctions

*“The county council will work closely with partners including Highways England, districts and major scheme developers to design new transport infrastructure, following application of the Transport User Hierarchy, to manage existing demand and that of planned development. Future capacity that may be required beyond this could be safeguarded but should not be released until necessary to avoid inducing demand”*

#### Policy 17: Road Safety

*The county council will seek to continually improve safety on the county's roads, working towards an ultimate vision of zero fatalities and serious injuries, by:*

- *Working with partners, in particular through the Hertfordshire Road Safety Partnership to deliver targeted, effective and appropriate road safety measures.*

- *The development of a 'Safe Systems' approach that seeks to co-ordinate a mix of safer roads, safer speeds, safer vehicles, safer road users and post-collision response with a focus on casualty reduction.*
- Using latest data analysis and intelligence led techniques to target and evaluate measures.

- 3.9 In terms of HCC LTP 4 the development follows the movement hierarchy set out in that document i.e. walking and cycling first, followed by use of sustainable modes with use of the private car at the bottom of the hierarchy.

## **Local Policy**

### **Welwyn Hatfield District Local Plan (2005)**

- 3.10 Local policy is contained within the Welwyn Hatfield District Plan adopted in 2005, with saved policies in place until they are replaced by the adoption of the emerging Local Plan.
- 3.11 Transport policy is set out in the Movement chapter. Policy M1 relates to integrating movement and land use and states:

*"Through the development process the Council will take every opportunity to integrate different modes of travel. Development proposals, except for those which are necessary in rural areas, will be permitted only in locations with accessibility to pedestrian and cycle routes and passenger transport services, or where this can be created, and where the environment and infrastructure can accommodate the amount and type of transport movement likely to be generated. In considering development proposals, the Council will give priority to walking and more sustainable modes of travel.*

*Internal layouts in development schemes must demonstrate priority to non-car users. They must include safe and effective routes for pedestrians and cyclists, with appropriate facilities, as well as catering for people with mobility difficulties and making provision for passenger transport and where appropriate the needs of horse riders."*

- 3.12 Policy M5 relates to pedestrian facilities and states:

*"The Council will require proposals for new development to give priority to pedestrian access in their layouts through the inclusion of safe and direct routes linking to existing or proposed footpath networks and facilities."*

### **Draft Local Plan Submission (2016)**

- 3.13 The Draft Welwyn Hatfield Local Plan will be the blueprint for future growth in the borough. Following various rounds of consultation, the Local Plan was submitted for examination in May 2017. It was expected that the plan would be formally adopted in Summer 2020 however due to coronavirus pandemic this has been delayed and is not currently adopted. Notwithstanding this, the relevant transport policies are set out below.



3.14 Transport policy is set out in the Movement chapter.

Policy SP 4:

*“Consistent with the vision and objectives of this Local Plan, the Council will seek to support both planned growth and existing development with appropriate transport infrastructure, with the emphasis on promoting the use of sustainable modes of travel and on improving safety for all highway users. The Council will work together with the County Council as the local highway authority, Highways England, public transport operators, developers and other relevant bodies to design and fund improvements to transport infrastructure where these are necessary to support growth or to improve accessibility to existing centres, employment areas and community facilities.”*

Policy SADM 2:

*“Development proposals will be permitted provided:*

- i. There would be no unacceptable impacts on the local and /or strategic transport network. Development proposals which generate a significant amount of traffic movements must be accompanied by either a Transport Assessment or Transport Statement as appropriate in accordance with the criteria in the Hertfordshire County Council Highway Design Guidance (26);*
- ii. There would be no negative impacts on highway safety;*
- iii. They are designed to allow safe and suitable means of access and site operation; and*
- iv. They provide satisfactory and suitable levels of parking.”*

Policy SADM 3:

*Sustainable Travel for All*

- i. All developments at or above the thresholds set out in Hertfordshire County Council's Hertfordshire Travel Plan Guidance will be required to submit a Travel Plan as part of a planning application.*

*Development proposals should make provision where appropriate for:*

- ii. Cyclists, through safe design and layout of routes integrated into new development and the wider cycle network and provision of secure cycle parking and where appropriate changing facilities.*
- iii. Pedestrians (including disabled persons and those with impaired mobility), through safe, accessible, direct and convenient design and layout of routes within the new development and wider pedestrian network.*
- iv. Safeguarding existing Public Rights of Way and promoting enhancements to the network, where appropriate, to offer walking and cycling opportunities.*

*v. Public transport, through measures that will improve and support public transport and provide new public transport routes.*

*vi. Community transport, through the implementation of Travel Plans where appropriate (for example including measures that will promote car pools, car sharing and voluntary community buses, community services and cycle schemes).*

*vii. Servicing and emergency vehicles.*

*viii. Facilities for charging plug-in and other ultra-low emission vehicles.*

### **Section Summary**

- 3.15 The development of the site is considered to be consistent with national, regional and local policies as the proposed residential units would be accessible by all modes of transport and are well located in terms of connections to existing local facilities.

## 4 Development Proposals

### Overview of Development

- 4.1 The planning application seeks permission for a residential development of up to 121 dwellings, associated infrastructure and a change of use from agricultural land to an extension of the King George V playing fields. All matters reserved except for new vehicular access to serve the site, the provision of surface water discharge points and the levels of the development level platforms.
- 4.2 It is proposed to access the site via a new 3-arm priority junction with the B156 Northaw Road East. Further detail of the proposed site access is provided below.
- 4.3 The illustrative Masterplan for the site is included at **Appendix D**.
- 4.4 As noted above, the development proposals represent little to no change to the 2015 proposals (ref: S6/2015/1342/PP), which was considered acceptable by the Highway Authority. On this basis, the proposals detailed below are still considered appropriate and acceptable.

### Pedestrian and Cycle Access

- 4.5 Pedestrian and cycle access will be provided from footways adjacent to the new access road. This will connect with the existing footway along the south-eastern side of Northaw Road East and provide a connection to the local facilities in Cuffley.
- 4.6 It is proposed to provide a pedestrian and cycle link through the site from the King George V Playing Fields car park to South Drive via Greenfields.
- 4.7 The proposed link will provide a convenient route from the site to the Cuffley Primary School via South Drive in the location of the existing maintenance access. In addition, this will provide a route towards Cuffley village centre and the railway station further afield to the north via Theobalds Road.
- 4.8 The link connecting the site to South Drive will be a 3.0m wide path designed for use by pedestrian and cyclists only. The pedestrian route will link into the existing footpath on South Drive. Cyclists will pass onto the existing vehicle turning area and then onto the road at this point, to avoid conflict with pedestrians. The width of the route will be constrained at the site boundary using a fence in a similar style to the existing gate and new planting. This is shown in the drawing included at **Appendix E**. The potential use of this link is considered in more detail in **Section 5** below.
- 4.9 As part of the previous submission, it was agreed that a financial contribution would be made for improvements to the Right of Way Public Footpath 6. Details of which can be found at **Appendix A**.
- 4.10 In addition, it is proposed to provide a permissive path for dog walkers around the fields to the south of the site. This is shown in the illustrative landscape plan included at **Appendix F**.

## Vehicular Access

- 4.11 Whilst the application is in outline and the layout is indicative, access is not a reserved matter and plans have been submitted specifically showing the key access arrangements which are proposed to be determined as part of the application.
- 4.12 The development will be accessed via a new priority junction with Northaw Road East.
- 4.13 Traffic speeds were recorded by ATC surveys in the approximate locations shown in **Figure 4.1**. The 85<sup>th</sup> percentile wet weather speeds approaching the location of the proposed junction are summarised in **Table 4.1**. It should be noted that the speeds on the road are likely to reduce as a new junction will be introduced and there will be an active frontage on the road rather than open fields. In addition, research from Kent County Council has shown that Gateway Features usually reduce traffic speeds by 2-3mph. This has not been accounted for in the speeds shown in **Table 4.1**.

**Table 4.1: Traffic Speeds Approaching Proposed Site Access**

Direction	85 <sup>th</sup> Percentile Speed (mph)	85 <sup>th</sup> Percentile Wet Weather Speed (mph)
Eastbound	39.5	37
Westbound	36.5	34

- 4.14 The site access junction has been designed with reference to these measured wet weather speeds.
- 4.15 Drawings showing the design of the main access junction that is proposed to be determined as part of this application and associated swept path analysis can be found in **Appendix G**.
- 4.16 A Stage 1 Road Safety Audit was undertaken of the site access and this is included at **Appendix H** along with the associated Designers Response.
- 4.17 The Stage 1 Road Safety Audit did not raise any fundamental concerns with the access. Given that the proposed site access is not subject to change, the conclusions reached in the RSA remain appropriate.
- 4.18 An improvement to the existing gateway features adjacent to the proposed site access at the start of the 30-mph speed limit is proposed. A drawing showing the potential design of the gateway feature is included at **Appendix I**.
- 4.19 The proposed access was approved, details of which can be found in **Appendix A**.

## Parking

- 4.20 Parking will be provided for each dwelling within the site, whilst each unit will also be provided with appropriate cycle parking.

- 4.21 The relevant parking standards are included within the Welwyn Hatfield District Review Supplementary Planning parking standards (2004).
- 4.22 Cuffley is located in Zone 4 and the relevant standards are summarised in **Table 4.2**.

**Table 4.2: Maximum Parking Standards**

Development	Maximum Car parking Standards (outside Zone 1-2)	Cycle Parking
<b>Bedsit</b>	1.25 spaces	1 space per unit if no garage or shed provided.
<b>1 Bedroom Dwellings</b>	1.25	
<b>2 Bedroom Dwellings</b>	1.5	
<b>3 Bedroom Dwellings</b>	2.25	
<b>4 or more Bedroom</b>	3	

- 4.23 It should be noted that during the course of pre-application discussions, it was agreed to treat all car parking standards as guidelines rather than maximum.
- 4.24 Car and cycle parking will therefore be provided with reference to the standards provided above. The detail of the proposed parking provision will be determined as part of any Reserved Matters application.

#### **Off-site Mitigation**

- 4.25 By agreement with HCC, the study area included the following two off-site junctions:
- Station Road / Northaw Road East / Plough Hill junction; and
  - Northaw Road East / Cattlegate Road / Northaw Road West.
- 4.26 As the scheme does not represent a change in the number of dwellings, the extent of the surrounding highway assessment remains appropriate.
- 4.27 The assessment in **Chapter 8** demonstrates that the proposed development will result in a low percentage impact at the junctions.
- 4.28 Notwithstanding the low percentage impact of the proposed development, it is acknowledged that the junctions are currently experiencing some peak period congestion, particularly during the PM peak hour.



- 4.29 In recognition of this it is proposed to provide a contribution that can be used to mitigate the impact if the development. The contribution could be used to mitigate the impact of the development in one or potentially more of the following ways:
- Modifications to the junctions to increase vehicular capacity, including potentially changing the priority of one of the junctions to allow the movement with the highest traffic flow to be the main arm; and/or
  - Mitigation measures elsewhere to reduce the traffic at the junctions such as public realm enhancements on Station Road.
- 4.30 Plans showing the potential modifications to change the priority of the junctions are included at **Appendix J**.
- 4.31 Flexibility has been retained at this as either could form part of the mitigation package associated with the proposed development. Confirmation of this mitigation contribution is included within **Appendix A**.

## 5 Sustainable Transport Strategy

- 5.1 One of the main transport objectives for a development proposal is to demonstrate that it will be accessible by non-car modes such as walking, cycling and public transport. Not only does this help to limit car use, but it will also assist with social inclusion for those people who do not drive or have access to a car.
- 5.2 Since the previous Transport Assessment, discussions with HCC Highways officers have taken place specifically related to sustainable transport contributions. It is proposed that a contribution is made towards improvements to local public transport, local walking and cycling infrastructure and the local highway network. These contributions would cover work including:
- Station Road Public Realm Scheme:
    - Two additional pedestrian crossings along Station Road
    - Speed reduction from the station all the way up the road to 20mph
    - Raised table crossings to assist pedestrians and discourage rat running
    - Carriageway resurfacing and meridian strip running through Station Road
    - Enhanced paved mini roundabout at railway station entrance
    - Enhanced Gateway feature
  - Station Road/Northaw Road East Junction Improvements (including a raised table at Theobalds Road). Potential improvements to the junction are shown in the drawing included at **Appendix J**;
  - Bus stop improvements;
  - Local Public Right of Way Improvements; and
  - A contribution to Travel Plan Monitoring.
- 5.3 As mentioned previously, HCC LTP4 promotes a greater emphasis on transport hierarchy at new development. This is where developments promote sustainable modes of transport over private vehicle trips. As detailed within this section, the development has promoted (and will continue to promote through the Travel Plan) sustainable modes of transport over private vehicle trips through infrastructure and contributions.
- 5.4 This section of the report assesses the accessibility of the site by sustainable travel options.
- ### Walking
- 5.5 A person's willingness to walk is dependent on many factors including access to a car, safety, road congestion, weather, gradients, parking, health, direction of route and purpose of journey.

- 5.6 Government guidance suggests that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2km. **Figure 2.4** displays a 2km pedestrian isochrone for the site.
- 5.7 The proposed site benefits from being approximately 850m walking distance from the train station, which is within close proximity to the village centre and its range of facilities necessary for residential development. Existing bus services are also easily reached by foot and are approximately 100m from the site.
- 5.8 In addition, the site is easily accessible to all local facilities and the adjacent Cuffley Primary School, which provides an excellent opportunity for potential residents to access these facilities by foot.
- 5.9 **Figure 2.6** (referred to earlier) displays the facilities in the vicinity of the site and illustrates that a large number of these are within walking distance of the site.
- 5.10 As previously described, it is proposed to provide a pedestrian link through the site from the King George V Playing Fields car park to South Drive.
- 5.11 The proposed route will provide a convenient route from the site to the Cuffley Primary School via South Drive in the location of the existing maintenance access. In addition, this will provide a route towards Cuffley village centre and the railway station further afield to the north via Theobalds Road.
- 5.12 There would also be some movements from existing residents to the KGV playing fields and to the existing footpaths, but this would not be significant.
- 5.13 As previously described, a contribution will be made to HCC for the improvements to Right of Way Public Footpath 6, details of which are contained within **Appendix A**.
- 5.14 In addition, it is proposed to provide a permissive path for dog walkers around the fields to the south of the site.
- 5.15 A “Safe Routes to School” audit has not been undertaken for the site as there would be a direct connection provided to Cuffley Primary School, which is immediately adjacent to the site, via South Drive.

## Cyclists

- 5.16 Guidance on cycling can be found in ‘Cycle Friendly Infrastructure’ guidelines published by the Institution of Highways & Transportation. This guidance highlights previous research by the DfT that three quarters of all journeys are less than 5 miles (8km), of which 60% are by car. The guidelines highlight that there is a ‘substantial potential for substituting cycling for driving’ for distances of up to 5 miles.
- 5.17 Government guidance also states that cycling has the potential to substitute for short car trips, particularly those less than 5km. **Figure 2.5** displays a 5 km cycling isochrone for the site.

- 5.18 The whole of the town is within 5km of the site, and the Travel Plan proposed as part of this development will seek to encourage the use of this sustainable mode. Cycling will be an attractive method of travel to the rail station and village centre to the north.

## **Public Transport**

### **Bus Provision**

- 5.19 There are bus stops located on both the east bound and west bound side of Northaw Road East; these are approximately 60m and 100m respectively from the site. From these stops there is one service that runs hourly during the week and a weekly service that runs only on Wednesday morning. Service number 242 runs hourly between Waltham Cross and Potters Bar. The Sunday service is extended as far as Waltham Cross to Welwyn Garden City.
- 5.20 The development of the site will generate more bus passengers which will assist in making the service more viable.
- 5.21 As mentioned, a contribution will also be made to enhancing the two nearest bus stops to the site.

### **Rail Provision**

- 5.22 Cuffley Railway station is located approximately 850m from the site. Cuffley is situated on the Great Northern service that runs a frequent service between London and Hertford North. The station provides a link to London with a journey time of less than 30mins to and from Finsbury Park station. During the weekday AM and PM peak periods there are circa 5 trains per hour to London.
- 5.23 Using the criteria in the Institute of Highways and Transport guidance the railway station is within an acceptable distance to walk. This is further emphasised by the fact that if this site was in London and a PTAL calculation were being undertaken the railway station would be included as it is less than 960m from the site.

## **Travel Plan**

- 5.24 A Travel Plan has been prepared to encourage travel to the site by sustainable modes. **Appendix K** contains a draft Travel Plan for the proposed development. As detailed within **Appendix A**, a Travel Plan Monitoring contribution will also be made to HCC.

## **Aims and Objectives**

- 5.25 The primary objective of the Travel Plan is to set out a long term strategy to facilitate and encourage modes of travel to the site by means other than the private car, which reflects current central and local government policy.
- 5.26 The strategy needs to be long term as changing travel habits takes time and will only occur through a combination of incentives, improved facilities, government initiatives and changes in individual's attitudes.

### Measures and Initiatives

- 5.27 The initiatives and measures that form part of the draft Travel Plan are a mixture of 'hard' and 'soft' measures.
- 5.28 The 'hard' measures include the provision of facilities such as safe and secure cycle parking.
- 5.29 The 'soft' measures include initiatives such as providing information on public transport services.
- 5.30 The Travel Plan will include a Welcome Pack to all dwellings that provides sustainable transport information and the provision of subsidised sustainable travel will be considered.
- 5.31 The Travel Plan will be finalised, and agreed prior to the occupation of the proposed development.

### Summary of Accessibility

- 5.32 The above demonstrates that the development proposal is accessible by non-car modes of transport for potential residents to a wide variety of local facilities including the town centre and primary school. It is well located for both bus and train services.
- 5.33 Furthermore, the production and implementation of a Travel Plan will ensure that residents are aware of their travel options, and encouraged to choose the sustainable travel modes.
- 5.34 As reviewed in Section 4, the proposed development meets criteria set out within the HCC LTP4. Specifically, the site is ideally located as its location prioritises sustainable travel at the top of the local movement hierarchy. Local facilities (see **Figure 2.6**) such as Cuffley School, Cuffley Town Centre and Cuffley Railway Station are all within walking/cycling distance of the proposed site.
- 5.35 Through contributions to improving local public rights of way, bus infrastructure and monitoring the Travel Plan the proposed development also meets the policies outlined in LTP4. Moreover, contributions to the local highway network will further promote walking and cycling in the local area and not just users of the proposed development.

## 6 Trip Generation

- 6.1 This section of the report describes the likely traffic generation and distribution onto the network for the proposed development. The methodology for which has been previously agreed by HCC Highways, details of which are included within **Appendix A**.
- 6.2 It should also be noted that the below methodology is kept consistent with regard to the quantum of development tested, which is 128. This presents a robust assessment as the proposals comprise 121 dwellings.

### Residential Use

- 6.3 Reference has been made to the TRICS database to obtain multi modal trip rates suitable for the proposed scheme. The following selection criteria was used:
- Type: Houses Privately Owned;
  - Regions: All England, except London;
  - Days: Weekdays;
  - Between 90 – 180 dwellings.
- 6.4 The TRICS database identified nine sites meeting the above criteria. The total people trips are demonstrated in **Table 6.1**. The TRICS output is included at **Appendix L**.

Table 6.1 Trip Rates – Houses privately owned

Peak Period	Trip Rate (Total People Trips)		
	Arrival	Departure	Total
Weekday AM Peak	0.232	0.758	0.99
Weekday PM Peak	0.577	0.329	0.906

- 6.5 Method of Travel to Work data from 2011 Census Data for the super output areas surrounding the site (E00121603, E00121606 and E00121607) has been used to calculate the modal split of trips to the site. The Census data is included at **Appendix M**.
- 6.6 The total person trips were then used to derive the trips by each mode and this is summarised in **Table 6.2**

Table 6.2 Resultant Traffic Generation Based on 128 Units

	Peak AM 0800-0900			Peak PM 1700-1800			Weekday Total		
	Arrival	Departure	Total	Arrival	Departure	Total	Arrival	Departure	Total
Train	7	23	30	18	10	28	122	129	251
Bus	0	1	2	1	1	2	7	7	14
Taxi	0	0	0	0	0	0	2	2	3
Motorcycle	0	1	1	0	0	1	3	4	7
Driving a car	19	63	83	48	28	76	334	354	688
Passenger in a car	1	2	3	2	1	3	12	12	24
Bicycle	0	0	0	0	0	0	2	2	3
On foot	1	4	6	3	2	5	23	25	48
Other	0	1	2	1	1	2	7	7	14
<b>Total</b>	<b>30</b>	<b>97</b>	<b>127</b>	<b>74</b>	<b>42</b>	<b>116</b>	<b>511</b>	<b>541</b>	<b>1052</b>

\*Note: Train includes those listed as underground in the census and minor discrepancies in numbers relate to rounding

- 6.7 The residential units will generate 83 vehicle trips two way during the AM Peak and 76 vehicle trips two way during the PM Peak.
- 6.8 The predicted levels of vehicular traffic do not take account of the potential shift from car usage to non-car modes of transport that could be achieved through the Travel Plan and the initiatives to encourage walking, cycling and the use of public transport. As such, these numbers can be considered very robust, when considered against the sites close proximity to the bus stops and train station, and the links to the numerous facilities by walking within 2km and cycling within 5km.

### Traffic Distribution

- 6.9 This section of the report sets out the distribution of development trips onto the surrounding road network and the resultant impact on the capacity of various junctions in the vicinity of the site.

### Census Data

- 6.10 In order to understand the distribution of vehicular development trips onto the wider road network, consideration has been given to the 2001 Census data for the 'journey to work' category. This allows an understanding of where existing residents travel to for work trips, and where those working in the

ward travel from. This assessment has been based on the '*Northaw and Cuffley ward*', which represents the closest ward to the site.

- 6.11 It is noteworthy that whilst some data has been released for the 2011 census, the journey to work data at local ward level has not been released at the time of production of this report.
- 6.12 The destinations are based on car driver trips and these have been summarised and ranked for journeys to each local authority or ward. The assessment takes account of all destinations, although **Table 6.3** below only summarises those destinations that attract 6 trips or more (Ward level for Northaw and Cuffley, and Local Authority is Welwyn Hatfield). The distribution information is included at **Appendix N**.



Table 6.3 – Proposed Traffic Distribution

Destination LA	Destination Ward	%
Barnet	East Barnet	2%
Barnet	High Barnet	2%
Barnet	Underhill	1%
Barnet	West Finchley	1%
Barnet	Woodhouse	1%
Broxbourne	Cheshunt Central	3%
Broxbourne	Cheshunt North	2%
Broxbourne	Goffs Oak	2%
Broxbourne	Theobalds	1%
Broxbourne	Waltham Cross	3%
City of London	Farringdon Within	1%
East Hertfordshire	Hertford Castle	3%
East Hertfordshire	Hertford Kingsmead	1%
Enfield	Chase	2%
Enfield	Cockfosters	2%
Enfield	Enfield Highway	2%
Enfield	Grange	4%
Enfield	Highlands	4%
Enfield	Ponders End	3%
Enfield	Southbury	4%
Enfield	Southgate	1%
Enfield	Town	3%
Haringey	Northumberland Park	2%
Hertsmere	Potters Bar Furzefield	1%
Hertsmere	Potters Bar Oakmere	2%
Hertsmere	Potters Bar Parkfield	7%
Islington	Clerkenwell	1%
St Albans	St Peters	2%
Tower Hamlets	Millwall	1%
Tower Hamlets	St Katherine's and Wapping	1%
Welwyn Hatfield	Brookmans Park and Little Heath	2%
Welwyn Hatfield	Haldens	1%
Welwyn Hatfield	Handside	2%
Welwyn Hatfield	Hatfield Central	1%
Welwyn Hatfield	Hatfield East	2%
Welwyn Hatfield	Hatfield West	1%
Welwyn Hatfield	Northaw + Cuffley	21%
Welwyn Hatfield	Peartree	2%
Welwyn Hatfield	Welham Green	2%
Westminster	West End	1%

6.13 The traffic distribution has then been assigned to routes using Google Maps journey planner. The resulting distribution and associated vehicle trips are shown **Traffic Figures 1 to 3**.

- 6.14 It should also be noted that all trips to the Northaw and Cuffley Ward have been assigned to Cuffley centre, which is in accordance with comments received from HCC in their response to the scoping report.
- 6.15 The census data indicates that 62% of all traffic travels west from the site access junction. The remaining 38% will turn east towards Cuffley.
- 6.16 Impact on the Highway Network

### **Scope of Assessment Work**

- 6.17 The following assessment considers the impact of the development proposals on the surrounding road network. As part of the discussions with HCC, it was established that the junctions requiring consideration are as follows:
- Station Road/Plough Hill/Northaw Road East; and
  - Cattlegate Road/Northaw Road East.
- 6.18 Traffic surveys at the junctions were conducted on the 10th July 2014 and the survey data is included in **Appendix O**. Following recent discussions with HCC it has been agreed to use the 2014 traffic survey data as a base as the current COVID-19 lockdown measures are likely to impact new survey data.
- 6.19 The assessments have been undertaken for the following peak hours:
- AM weekday peak hour (0800 - 0900); and
  - PM weekday peak hour (1700 - 1800).
- 6.20 It should be noted that this section of the report assesses the impact of a slightly larger scheme of 128 units and is therefore robust and is in line with the previously accepted assessment.
- 6.21 Traffic flow diagrams illustrating the movement of observed and development traffic on the surrounding road network is included within **Traffic Figures 4-9**.

### **Assessment Years**

- 6.22 The future year assessments have been undertaken for 2025 as this is when the development is anticipated to be completed. Previously, the future year of 2018 (4 years post the original Transport Assessment) was agreed with HCC as part of the scoping of the assessment, as such 2025 is appropriate as it represents 4 years from 2021.
- 6.23 TEMPRO growth factors were applied to account for background growth between 2014 and 2025.
- 6.24 The TEMPRO database has been interrogated in order to deduce relevant uplift factors to apply to the observed traffic flows. The growth factors are set out below:
- 2014-2025 AM = 1.2345

— 2014-2025 PM = 1.2309

### Assessment Scenario's

6.25 The impact of the development proposals has been assessed using a two-step approach as follows:

- Firstly, a percentage impact assessment has been undertaken at each off-site junction. If this impact is material in the context of current policy, then no further assessment is undertaken.
- If the percentage effect is material, then traffic modelling will be undertaken using Junctions 9, the industry standard modelling software for priority junctions.

6.26 The percentage effects for the junctions set out previously are shown in **Table 6.4**.

Table 6.4 Percentage Effect – Development Case compared to Baseline – External Network

Junction	AM Peak Hour			PM Peak Hour		
	2025	With Dev	% Impact	2025	With Dev	% Impact
Plough Lane / Station Road / Northaw Road East	1,836	1,867	2%	2,009	2,038	1%
Northaw Road East / Cattlegate Road / Northaw Road West	1,536	1,587	3%	1,673	1,720	3%

6.27 The analysis in **Table 6.4** shows that the development will result in an increase in traffic of a maximum only 2% at the Plough Lane / Station Road / Northaw Road East junction in both the weekday AM and PM peak hours. This level of additional traffic will not materially impact the operation of the junction and, therefore, no further assessment work is required.

6.28 For the Northaw Road East / Cattlegate Road / Northaw Road West junction, the proposed development will result in an increase in traffic of only 3% in the weekday AM and PM peak hours respectively. This level of additional traffic will not materially impact the operation of the junction and, therefore, no further assessment work is required.

6.29 Therefore, it is only necessary to undertake capacity assessments of the proposed site access junction.

## 7 Detailed Junction Assessment

7.1 This section provides analysis of the proposed site access. The methodology for which was previously agreed with HCC highways, as set out within **Appendix A**. However, this section has been updated to reflect a new future year.

### Proposed Site Access

7.2 The proposed site access has been modelled under the loading of the 2025 Future Year plus Development traffic flows. The junction modelling output is included at **Appendix P**.

7.3 **Table 7.1** below provides a summary of the results of the assessment.

Table 7.1: 2025 Future Year plus Development Scenario

	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)	
Arms	RFC (%)	Queue	RFC (%)	Queue
B- AC	0.29	0.4	0.13	0.1
C-AB	0.04	0.0	0.08	0.1
<i>Arm A = Northaw Road East, Arm B = Site Access, Arm C = Northaw Road West</i>				

7.4 The analysis demonstrates that the proposed site access junction will operate well within capacity under the loading of the 2025 Future Year plus Development traffic flows.

7.5 Therefore, the proposed junction is adequate and appropriate to accommodate the traffic from the development.

## 8 Impact on the Strategic Road Network

- 8.1 This section provides analysis of the proposed development on the strategic road network. The methodology for which was previously agreed with HCC highways, as set out within **Appendix A**. However, this section has been updated to reflect a new future year.
- 8.2 The strategic road network can be accessed from the site via M25 Junction 24 and 25 to the west and east respectively.
- 8.3 The impact of the proposed development at these junctions can be determined using the travel to work data shown in **Table 6.3**. Using journey planner software, only trips to St Albans and Westminster would use the M25 Junction 24; and only trips to Hertsmere would use the M25 Junction 25. This equates to only 3% and 10% of the development trips on M25 Junction 24 and 25 respectively.
- 8.4 Based on this information, the maximum increase in two-way traffic flows at the M25 junctions is summarised in **Table 8.1** below.

Table 8.1 Impact on the Strategic Road Network

Junction	Maximum Increase in Two-Way Traffic Flows	
	AM Peak Hour	PM Peak Hour
M25 Junction 24	2	2
M25 Junction 25	8	8

- 8.5 The analysis above demonstrates that there will not be a material impact at the junctions as a result of the proposed development. Therefore, no further assessment work is required.

### Summary

- 8.6 Percentage impact assessments have been undertaken at two off-site junctions (Cattlegate Road / Northaw Road East and Station Road / Northaw Road East junctions) and this has shown that the development will not have a material impact on the wider highway network.
- 8.7 It has been demonstrated that the impact of the proposed development traffic on the strategic road network (M25 junction 24 and 25) will be negligible.
- 8.8 Notwithstanding the low percentage impact of the proposed development, it is acknowledged that the junctions are currently experiencing some peak period congestion, particularly during the PM peak hour.
- 8.9 In recognition of this it is proposed to provide a contribution that can be used to mitigate the impact of the development. The contribution could be used to mitigate the impact of the development in one of the following ways:

- Modifications to the junctions to increase vehicular capacity, including potentially changing the priority of one of the junctions to allow the movement with the highest traffic flow to be the main arm; and/or
- Mitigation measures elsewhere to reduce the traffic at the junctions such as public realm enhancements on Station Road.

- 8.10 During discussions with Hertfordshire County Council highway authority, it was indicated that changing the priority of one of the junctions would be their preferred solution. However, some local representatives and residents would prefer not to improve the junctions which could attract more traffic to pass through the village. There is also concern from some local residents that the changes to the junction priority could lead to rat-running via Vineyards in the south and in the north via Hanyards Lane/Tolmers Road to avoid the amended junctions.
- 8.11 The alternative approach is a public realm improvement to Station Road to enhance the shopping area which is the heart of the village and would improve parking opportunities and access to the station. This would allow traffic to flow, but would discourage the use of Cuffley as a through route. The alternative approaches were the subject of discussion through the public consultation with some local residents supporting each of them.
- 8.12 Flexibility has been retained at this stage as either could form part of the mitigation package associated with the proposed development. Details of which have been agreed and are set out within **Appendix A.**

## **9 Summary & conclusions**

### **Summary**

- 9.1 Vectos has been appointed by Lands Improvements to provide traffic and transport advice in support of a planning application for the land to the north east of King George V Playing Fields, Hertfordshire.
- 9.2 The site is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development and Cuffley Primary School to the north, the railway line to the east, Northaw Road East (B156) to the west and an existing footpath adjacent to King George V playing fields to the south.
- 9.3 An outline planning application (ref: S6/2015/1342/PP) for development proposals at the site comprising 121 dwellings was submitted in 2015 with a Transport Assessment and Travel Plan accompanying the application. As six years have passed, an updated Transport Assessment is being submitted. However, it is noteworthy that from a transport perspective, there is little to no change proposed from the previous scheme.
- 9.4 It is also noteworthy that during the previous discussions, HCC highways advised that planning permission was to be granted subject to planning conditions and Section 106 agreements. A copy of the highway's response note is attached at Appendix A.
- 9.5 The previously submitted report was prepared following an extensive consultation process with local residents and stakeholders. In relation to transport, this included:
- Two Design Workshops;
  - Two rounds of public consultation through exhibitions;
  - Parish Council Meetings; and
  - Discussions and meetings with highways officers from Hertfordshire County Council (HCC).
- 9.6 Although six years has passed, the results of these discussions are taken into consideration for the scheme as there is very few changes proposed to the proposals from a transport perspective.
- 9.7 It considers the transport matters relating to the proposed development that have been identified by HCC and local residents, including provision for pedestrians, cyclists and other non-car users and how to best utilise and enhance existing facilities. The report also considers the effects of the development on the local highway network.
- 9.8 The proposed development is consistent with the relevant national, regional and local policy guidance. This is demonstrated by the approach that has been taken to holding extensive pre-application discussion about a variety of matters including highways and transport.
- 9.9 The planning application seeks permission for a residential development of up to 121 dwellings, associated infrastructure and a change of use from agricultural land to an extension of the King

George V playing fields. All matters reserved except for new vehicular access to serve the site, the provision of a surface water discharge point and the levels of the development level platforms.

- 9.10 Whilst the application is in outline and the layout is indicative, access is not a reserved matter and plans have been submitted specifically showing the key access arrangements which are proposed to be determined as part of the application.
- 9.11 The development will be accessed via a new priority junction with Northaw Road East. An improvement to the existing gateway features adjacent to the proposed site access at the start of the 30-mph speed limit is proposed. The access was approved by HCC Highways and as the scheme remains largely unchanged, this arrangement is still considered acceptable.
- 9.12 Pedestrian and cycle access will be provided from footways adjacent to the new access road. This will connect with the existing footway along the south-eastern side of Northaw Road East and provide a connection to the local facilities in Cuffley.
- 9.13 It is proposed to provide a pedestrian link through the site from the King George V Playing Fields car park to South Drive. This will provide a convenient pedestrian and cycle link from the site to Cuffley Primary School to the north.
- 9.14 Discussions have been held with the HCC Rights of Way team to establish their aspirations for the adjacent PRow footpath number 6. As a result of these discussions, it has been agreed with HCC Highways that a contribution will be made to Public Footpath 6.
- 9.15 In addition, it is proposed to provide a permissive path for dog walkers around the fields to the south of the site.
- 9.16 The site is served by two bus services via Northaw Road East and is within a walk distance of approximately 850m from Cuffley Railway station, which provides a frequent service with a journey time of less than 30mins to London.
- 9.17 Since the previous Transport Assessment, discussions with HCC Highways officers have taken place specifically related to sustainable transport contributions. It is proposed that a contribution is made towards improvements to local public transport, local walking and cycling infrastructure and the local highway network. These contributions would cover work including:
- Station Road Public Realm Scheme:
    - Two additional pedestrian crossings along Station Road
    - Speed reduction from the station all the way up the road to 20mph
    - Raised table crossings to assist pedestrians and discourage rat running
    - Carriageway resurfacing and meridian strip running through Station Road
    - Enhanced paved mini roundabout at railway station entrance
    - Enhanced Gateway feature



- Station Road/Northaw Road East Junction Improvements (including a raised table at Theobalds Road). Potential improvements to the junction are shown in the drawing included at **Appendix J**;
- Bus stop improvements;
- Local Public Right of Way Improvements; and
- A contribution to Travel Plan Monitoring.

- 9.18 As mentioned previously, HCC LTP4 promotes a greater emphasis on transport hierarchy at new development. This is where developments promote sustainable modes of transport over private vehicle trips. As detailed within this section, the development has promoted (and will continue to promote through the Travel Plan) sustainable modes of transport over private vehicle trips through infrastructure and contributions.
- 9.19 As reviewed in Section 4, the proposed development meets criteria set out within the HCC LTP4. Specifically, the site:
- Is located close to local facilities allowing the transport user hierarchy to prioritise sustainable modes of travel as set out within the LTP4;
  - Contributions will be made to improving local public rights of way, bus infrastructure and monitoring the Travel Plan the proposed development also meets the policies outlined in LTP4.
  - Moreover, contributions to the local highway network will further promote walking and cycling in the local area and not just users of the proposed development.
- 9.20 A Travel Plan has been prepared to encourage travel to the site by sustainable modes. The primary objective of the Travel Plan is to set out a long term strategy to facilitate and encourage modes of travel to the site by means other than the private car, which reflects current central and local government policy.
- 9.21 The development will generate a maximum of 83 vehicle trips two way during the weekday AM peak hour and 76 vehicle trips two way during the weekday PM Peak hour.
- 9.22 It has been demonstrated that the impact of the proposed development traffic on the strategic road network (M25 junction 24 and 25) will be negligible.
- 9.23 Percentage impact assessments have been undertaken at two off-site junctions (Cattlegate Road / Northaw Road East and Station Road / Northaw Road East junctions) and this has shown that the development will not have a material impact.
- 9.24 Notwithstanding the low percentage impact of the proposed development, it is proposed to provide a contribution that can be used to mitigate the impact of the development. The contribution could be used to mitigate the impact of the development in one of the following ways:

- Modifications to the junctions to increase vehicular capacity, including potentially changing the priority of one of the junctions to allow the movement with the highest traffic flow to be the main arm; and/or
- Mitigation measures elsewhere to reduce the traffic at the junctions such as public realm enhancements on Station Road.

9.25 The assessment has demonstrated that the proposed site access junction is adequate and appropriate for the proposed development.

### **Conclusion**

9.26 The analysis demonstrates that the site is accessible by non-car modes and that the impact of the development traffic is not severe.

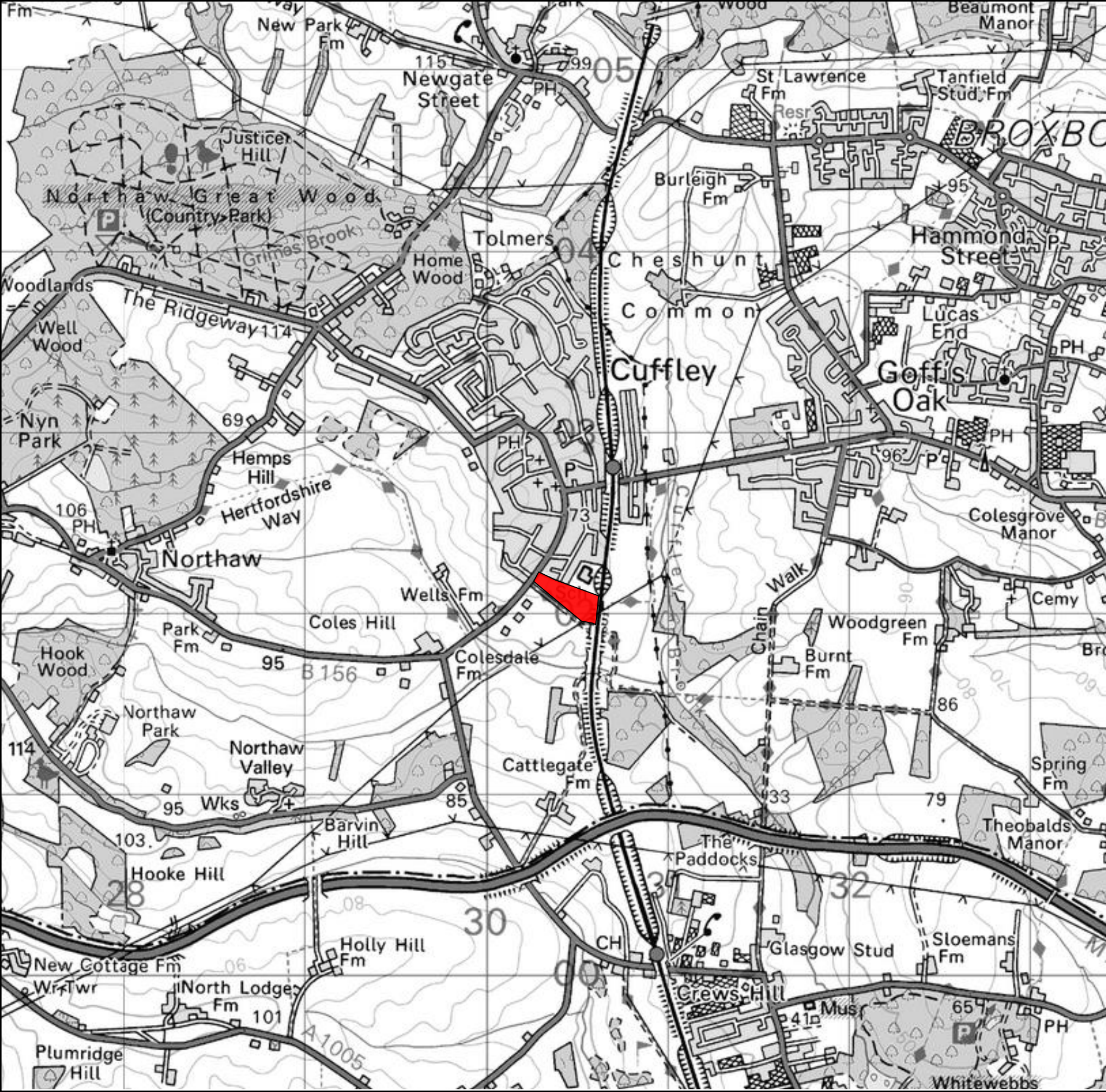
9.27 The proposed development passes the key tests set out in the NPPF, i.e.

- Safe and suitable access to the site can be achieved for all people; and
- The residual cumulative impacts of the development are not severe.

9.28 In conclusion, it is considered that the development proposals are appropriate for the location and that there are no traffic or transportation reasons why planning permission should not be granted

# Figures





Key



Site Location

Land to the north east of King George V Playing Fields

Lands Improvement

Strategic site location

SCALES: NTS

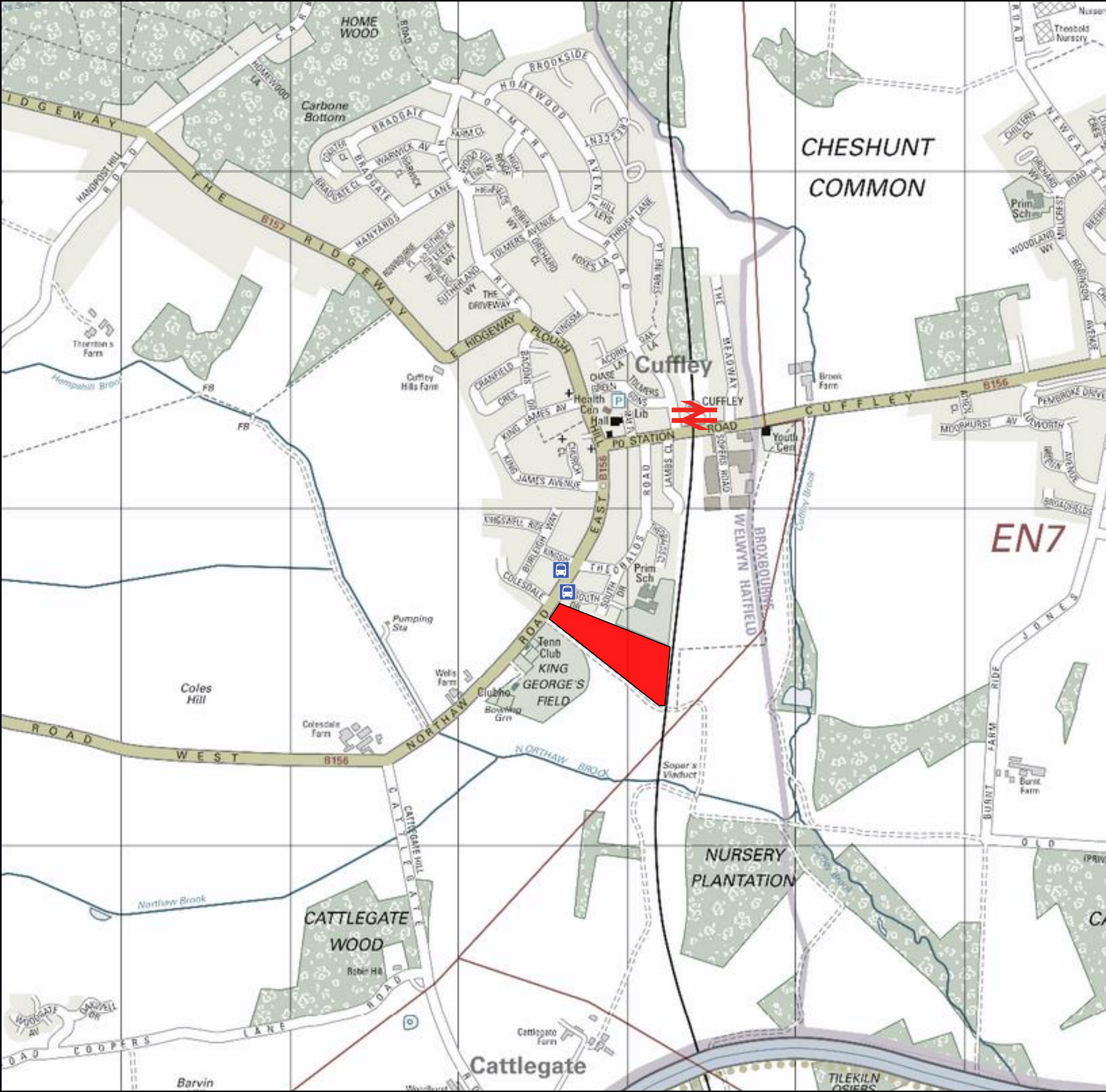
DRAWN: H.J	CHECKED: M.M	DATE: 12/01/2021	REVISION: .
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Network Building, 97 Tottenham Court Road, London W1T 4TP  
Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk

DRAWING REFERENCE: Figure 2.1





**Key**



Site Location



Bus stop



Railway

Cuffley

Lands Improvements  
Holdings

Local site location

SCALES: NTS

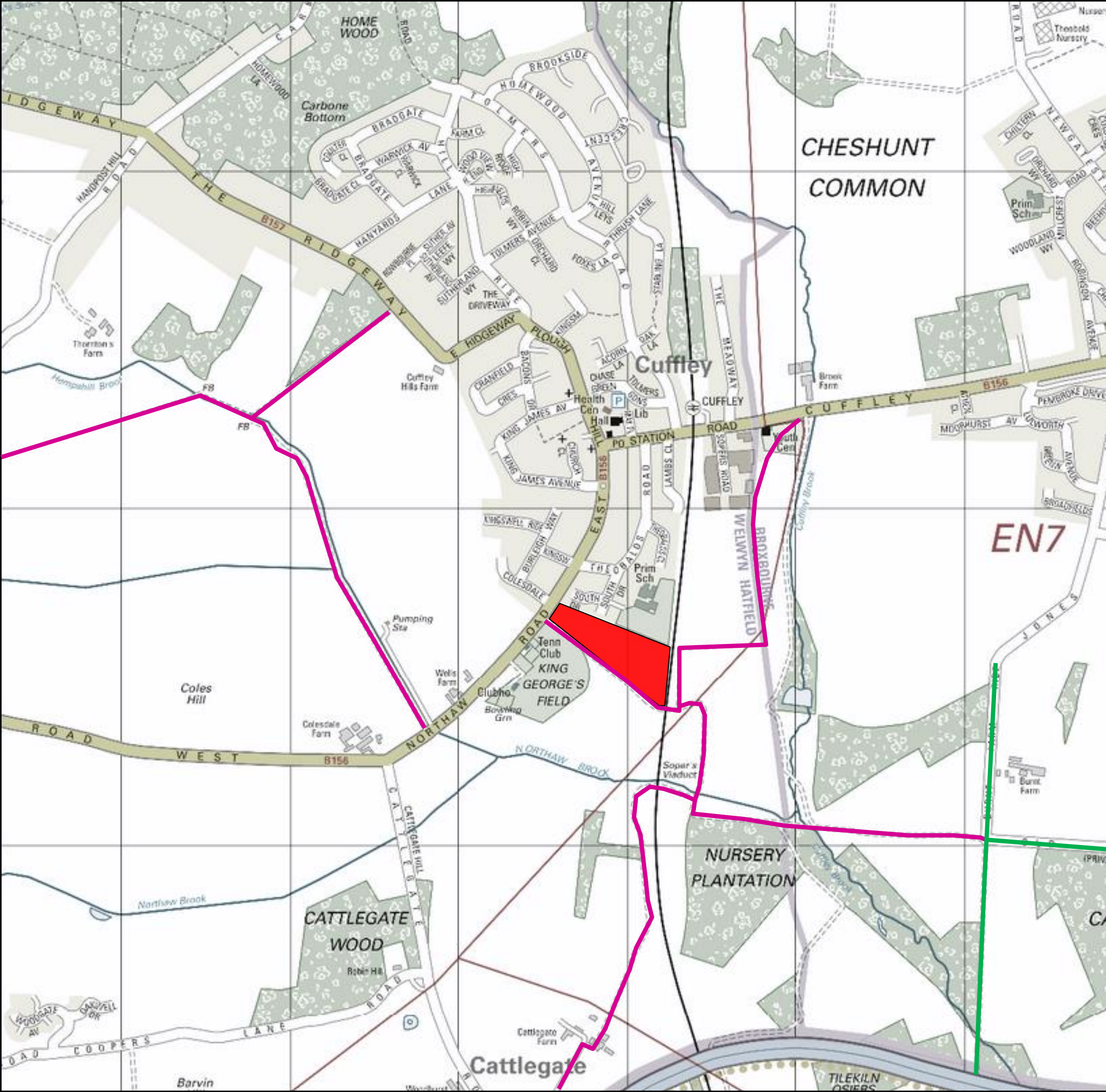
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H.J	M.M	12/01/2021	•

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DRAWING REFERENCE: Figure 2.2





**Key**



Site Location



Footpath



Bridleway

Land to the northeast of King George V Playing Fields

Lands Improvement

Public rights of way

SCALES: NTS

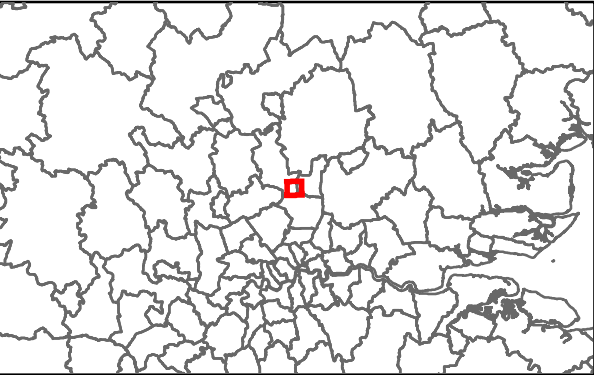
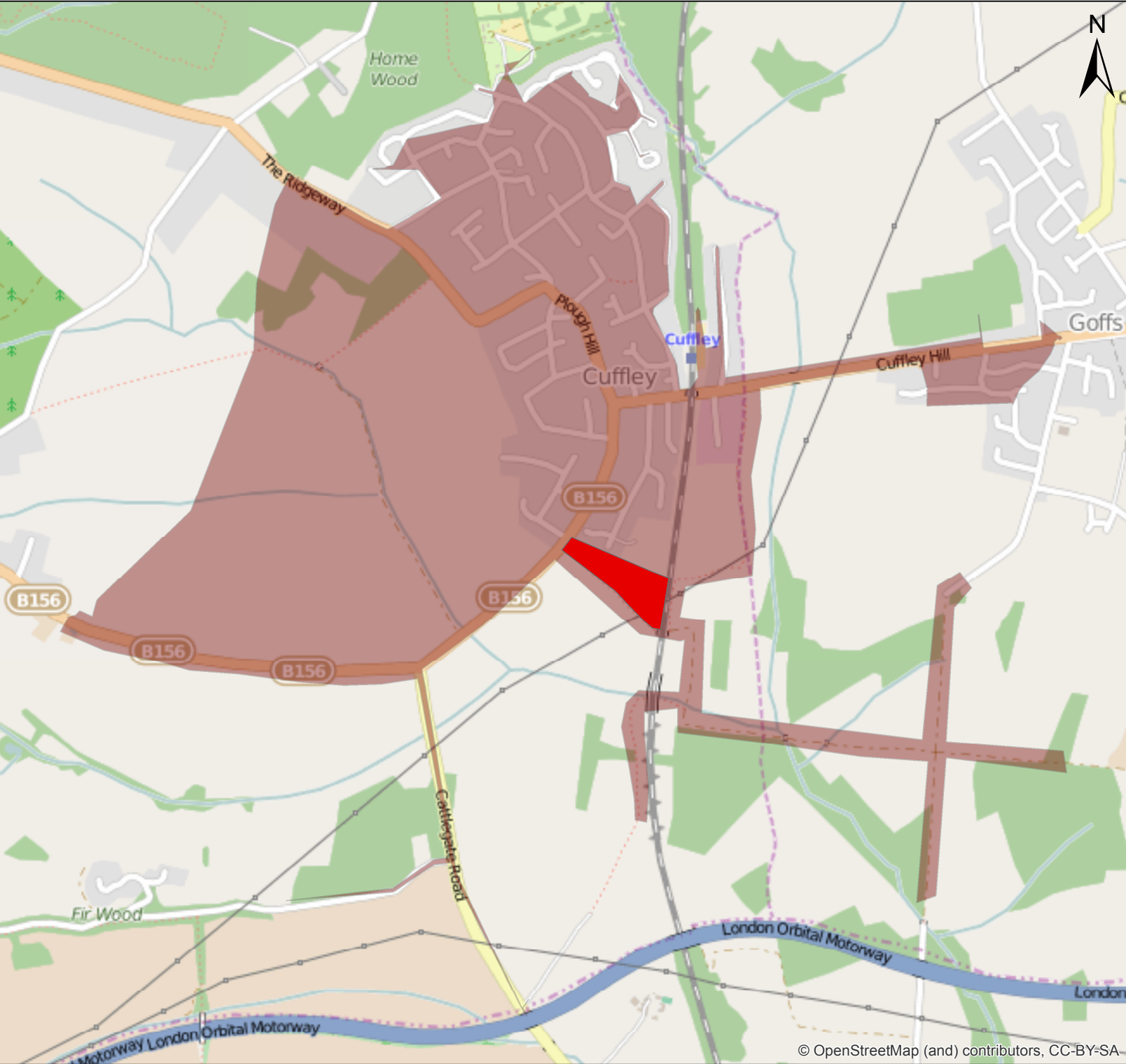
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H.J	M.M	12/01/2021	•

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DRAWING REFERENCE: Figure 2.3





**Legend**

Site Location

2km Walking Catchment

**Land to the north east of King George V Playing Fields**

**Lands Improvements**

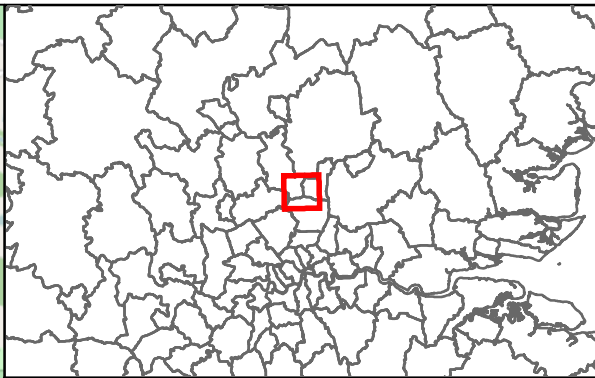
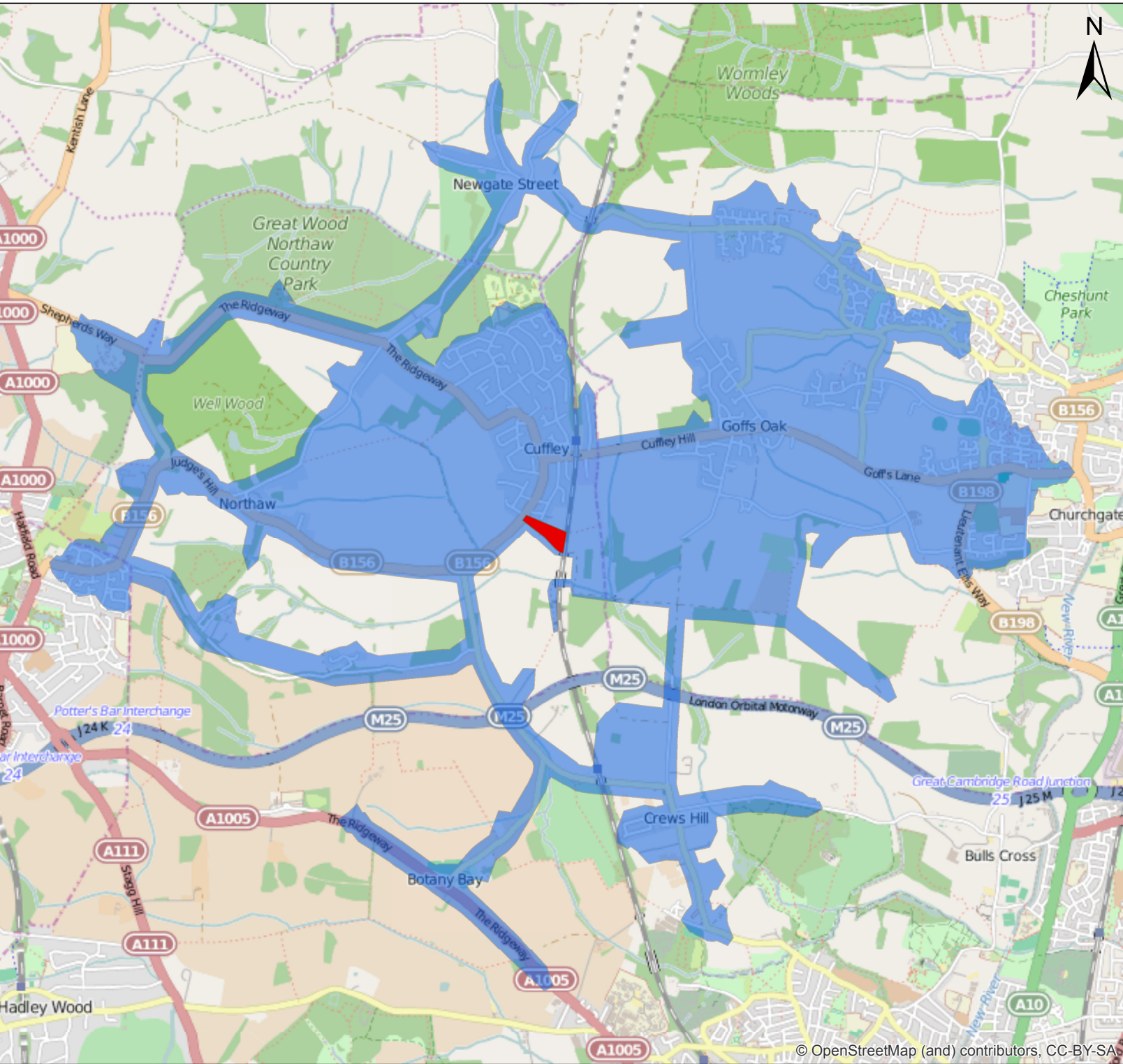
**2km Walking Isochrone**

**vectos.**

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Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk

**Figure 2.4**

DRAWN BY:	CHECKED BY:	DATE:
H.J	M.M	10/06/2015



**Legend**

Site Location

5km Cycling Catchment

**Land to the north east of King George V Playing Fields**

**Lands Improvements**

**5km Cycling Isochrone**

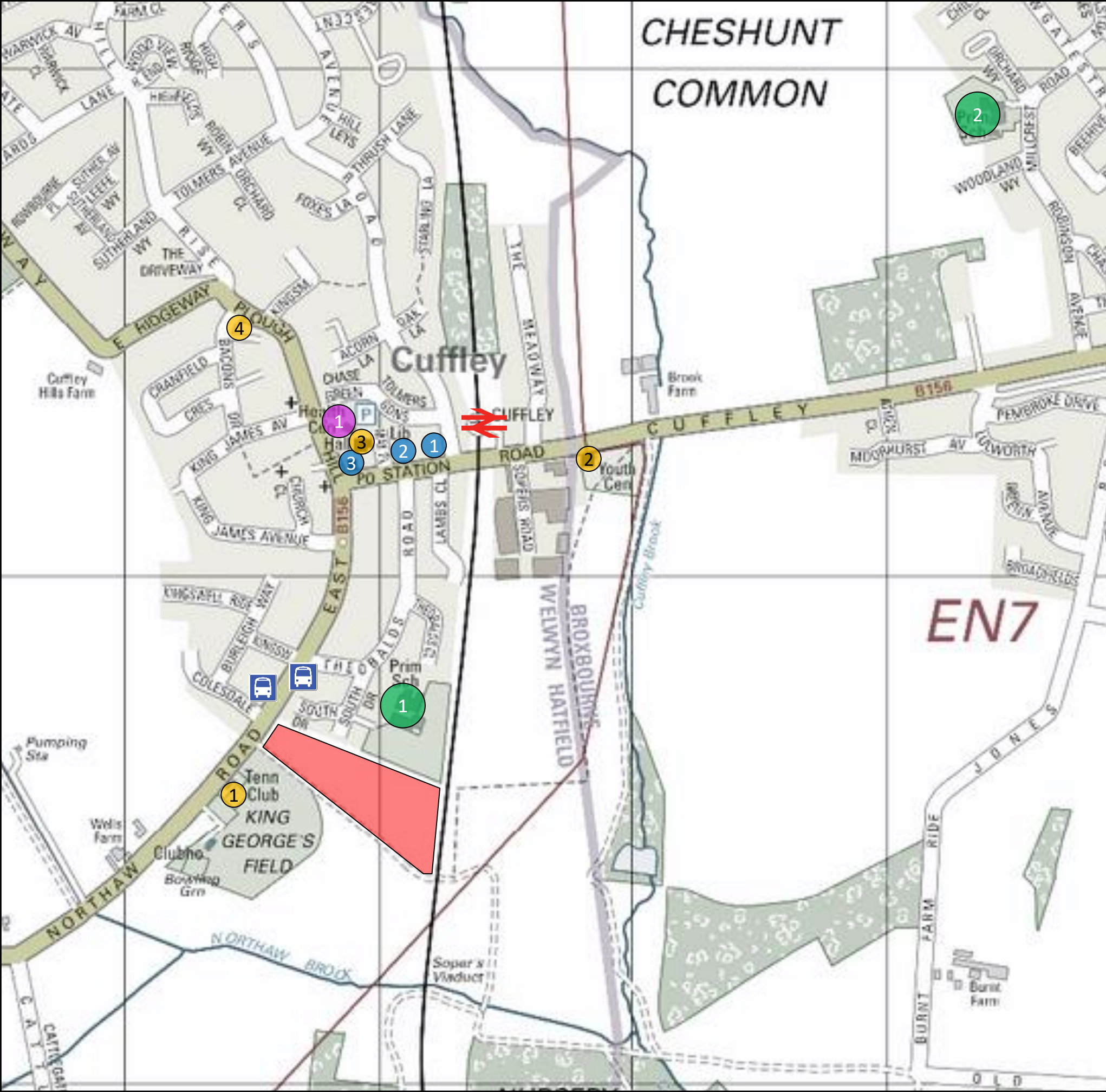
**vectos.**

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Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk

**Figure 2.5**

DRAWN BY:	CHECKED BY:	DATE:
H.J	M.M	10/06/2015





**Key**

- Site Location
- Bus stop
- Railway
- Education
  - 1 Cuffley Primary School
  - 2 Goffs Oak Primary School
- Retail
  - 1 Tescos Express
  - 2 The Co-operative Food
  - 3 Hallmark Post office
- Recreational
  - 1 Cuffley football and tennis club
  - 2 Cuffley Youth Centre
  - 3 Cuffley Village Hall and Library
  - 4 The Plough Public House
- Healthcare
  - 1 Cuffley Health Centre and surgery

Cuffley

Lands Improvements Holdings

Facilities Plan

SCALES:		NTS	
DRAWN:	H.J	CHECKED:	M.M
		DATE:	24/07/14
		REVISION:	•

**vectos**  
transport planning specialists



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Tel: 020 7580 7373 Email: london@vectos.co.uk www.vectos.co.uk

DRAWING REFERENCE: Figure 2.6





**Key**



 Direction of movement

Land to the north east of King George V Playing Fields

Lands Improvement

ATC location Plan

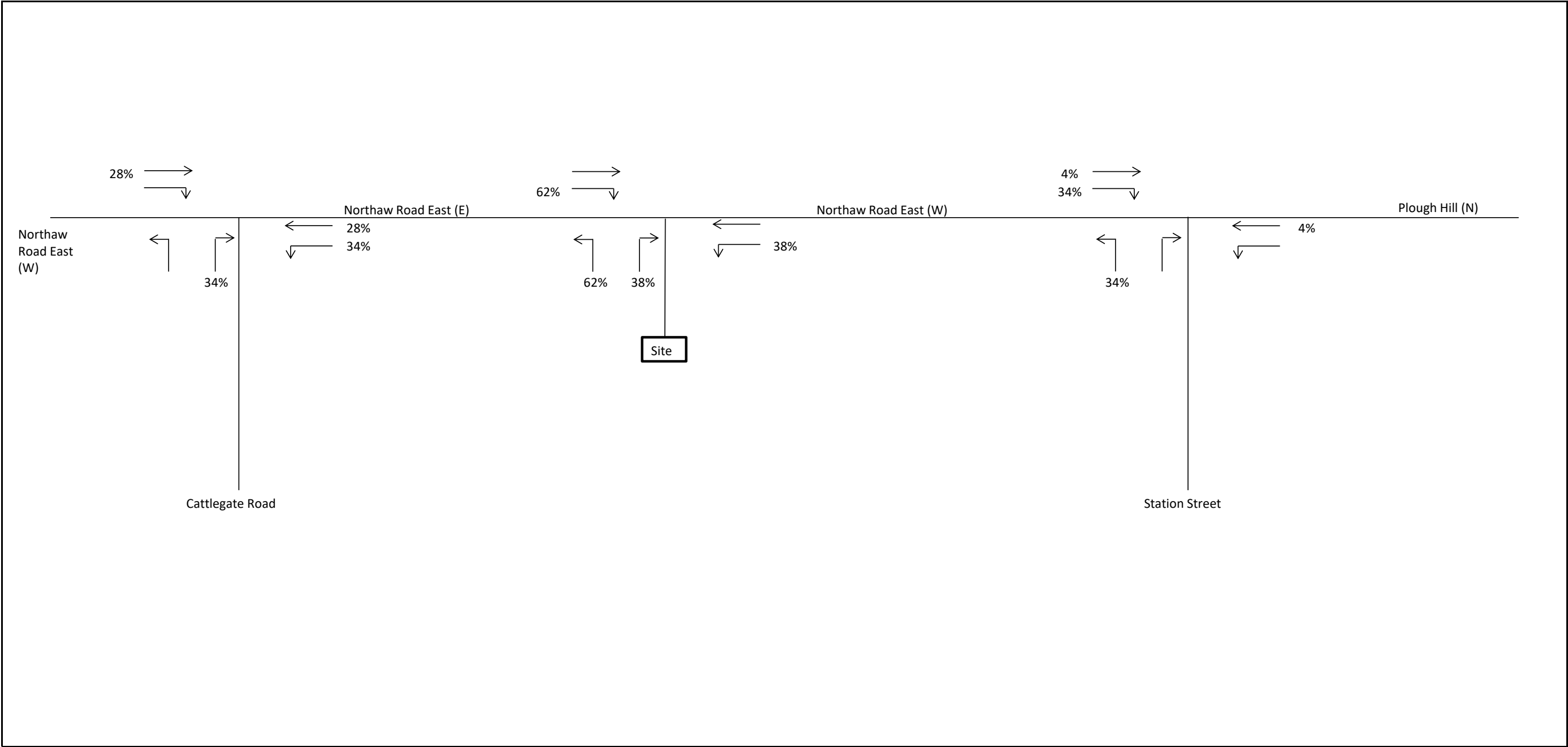
SCALES: NTS

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H.J	M.M	12/01/2021	•



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DRAWING REFERENCE: Figure 4.1



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Project Title:  
**Land to the north east of King  
George V Playing Fields**

Scale:  
**NTS**

Drawn:  
**H.J**

Date:  
**01/2021**

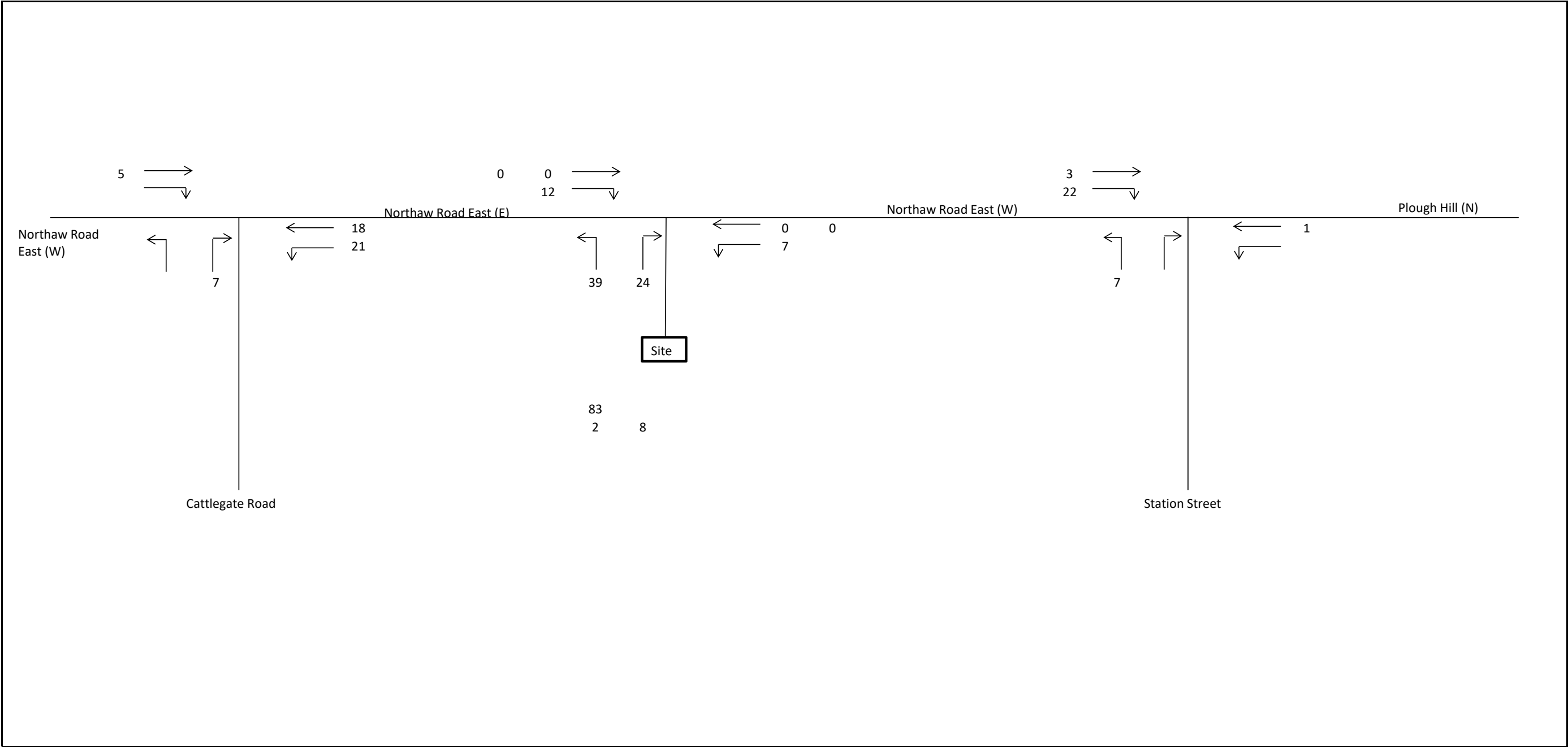
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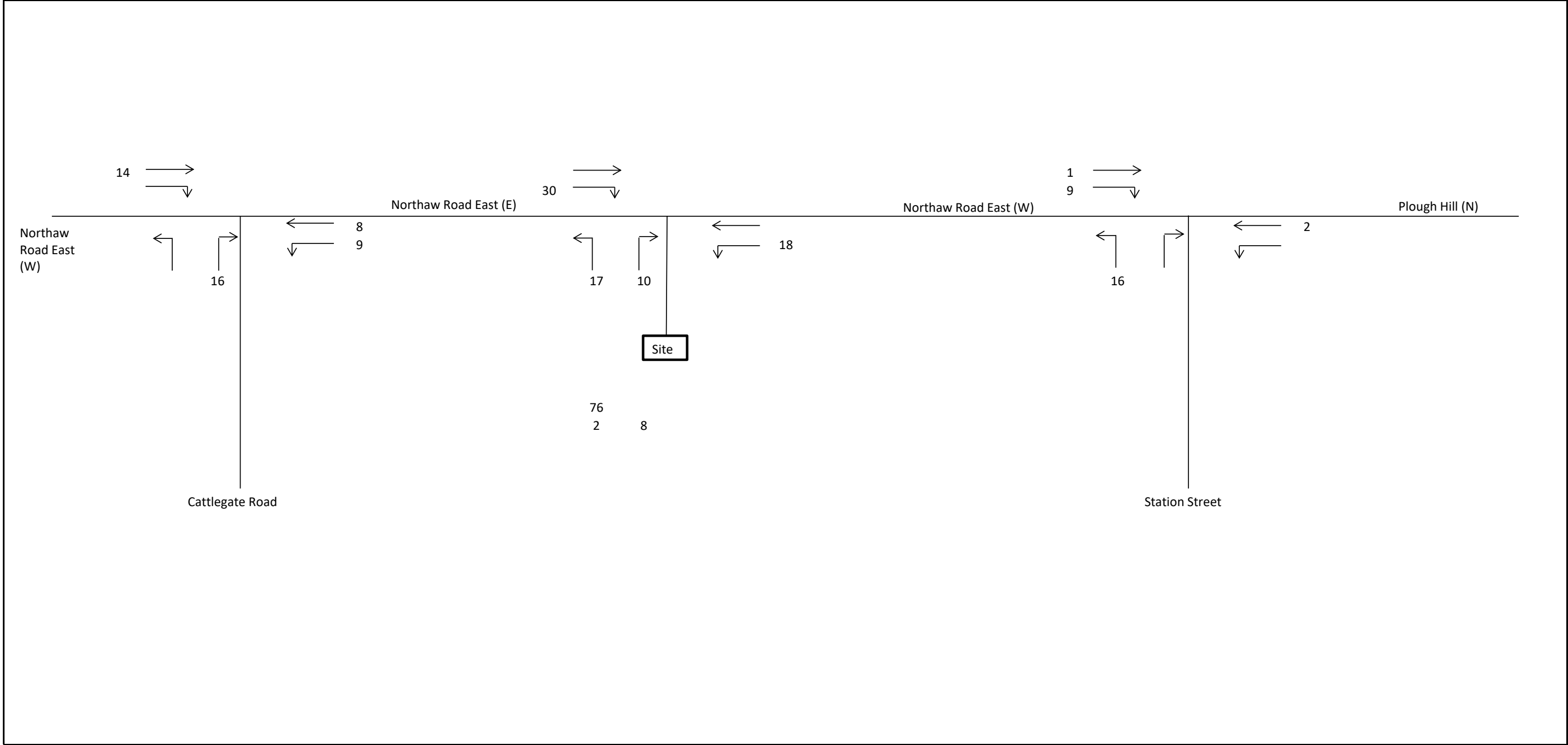
Client:  
**Lands Improvement**

Figure Title:  
**Distribution**

Figure No:  
**1**

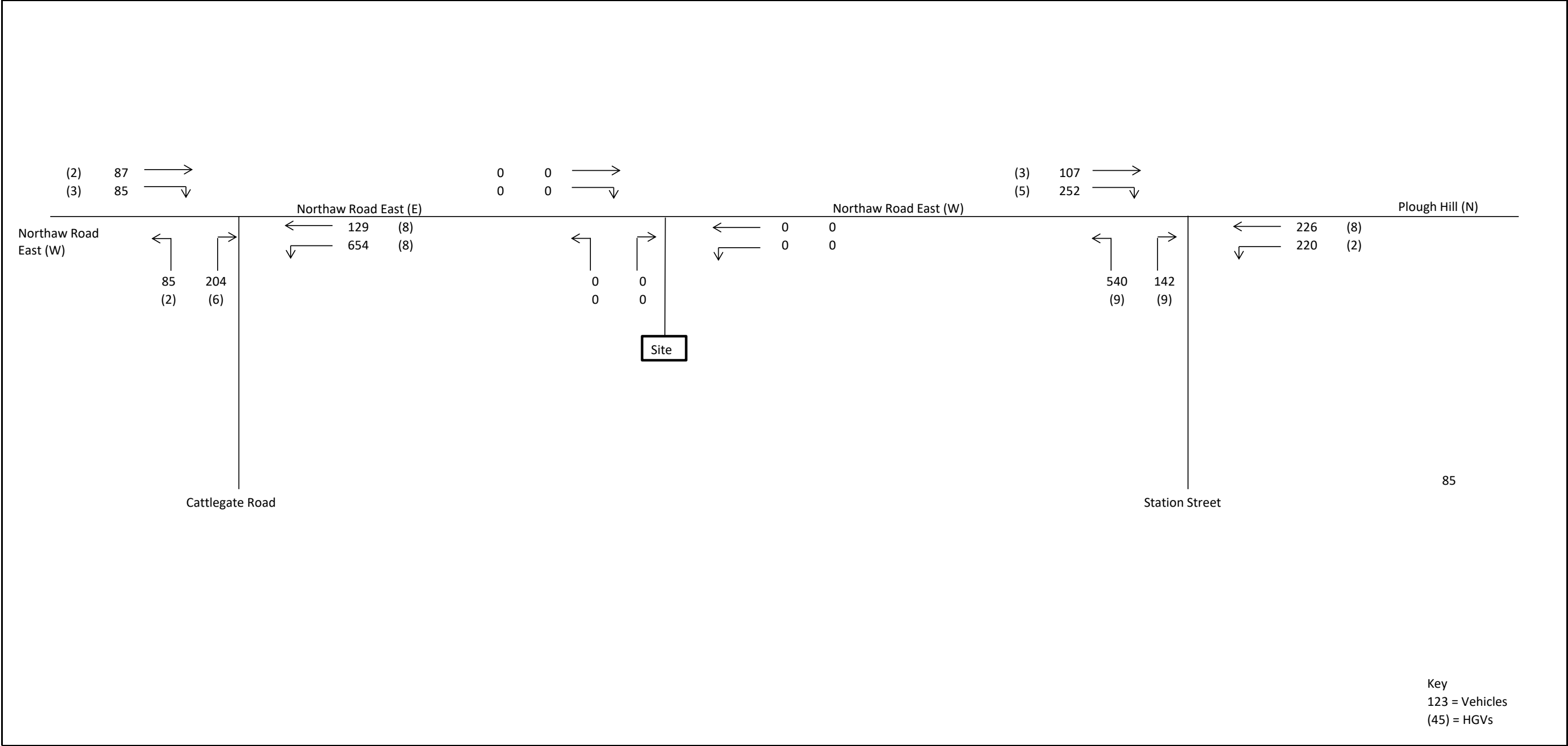


<div><div>vectos.</div><div>Network Building, 97 Tottenham Court Road, London W1T 4TP Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk</div></div>	Project Title:	Cuffley	Scale:	NTS	Drawn:	H.J	Date:	01/2021	Checked:	M.M	Rev:	
	Client:	Land Improvements Holdings	Figure Title:							Figure No:		2

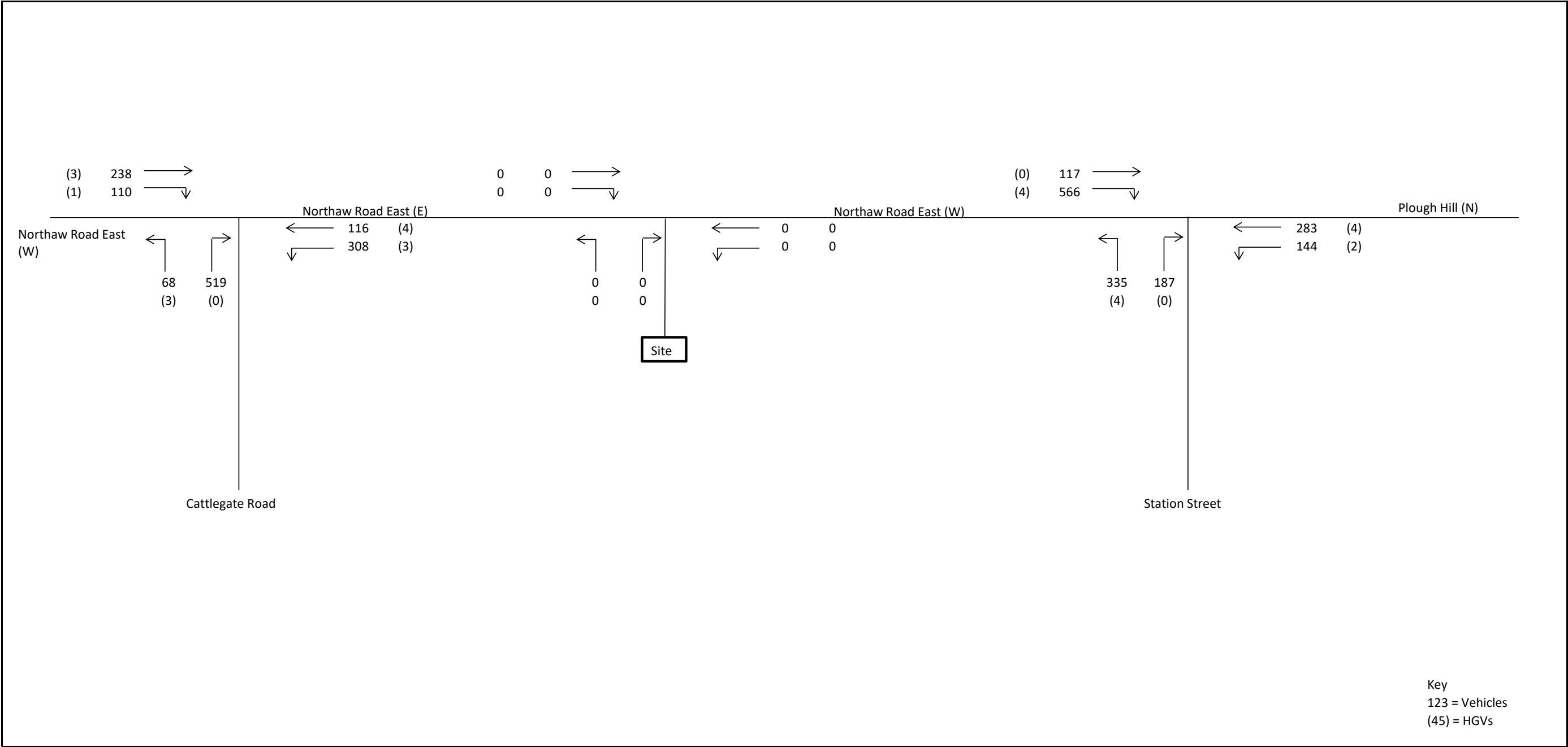


<div><div>vectos.</div><div>Network Building, 97 Tottenham Court Road, London W1T 4TP Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk</div></div>	Project Title: Cuffley	Scale: NTS	Drawn: H.J	Date: 01/2021	Checked: M.M	Rev:
	Client: Land Improvements Holdings	Figure Title: PM Development Trips (0800-0900)				Figure No: 3

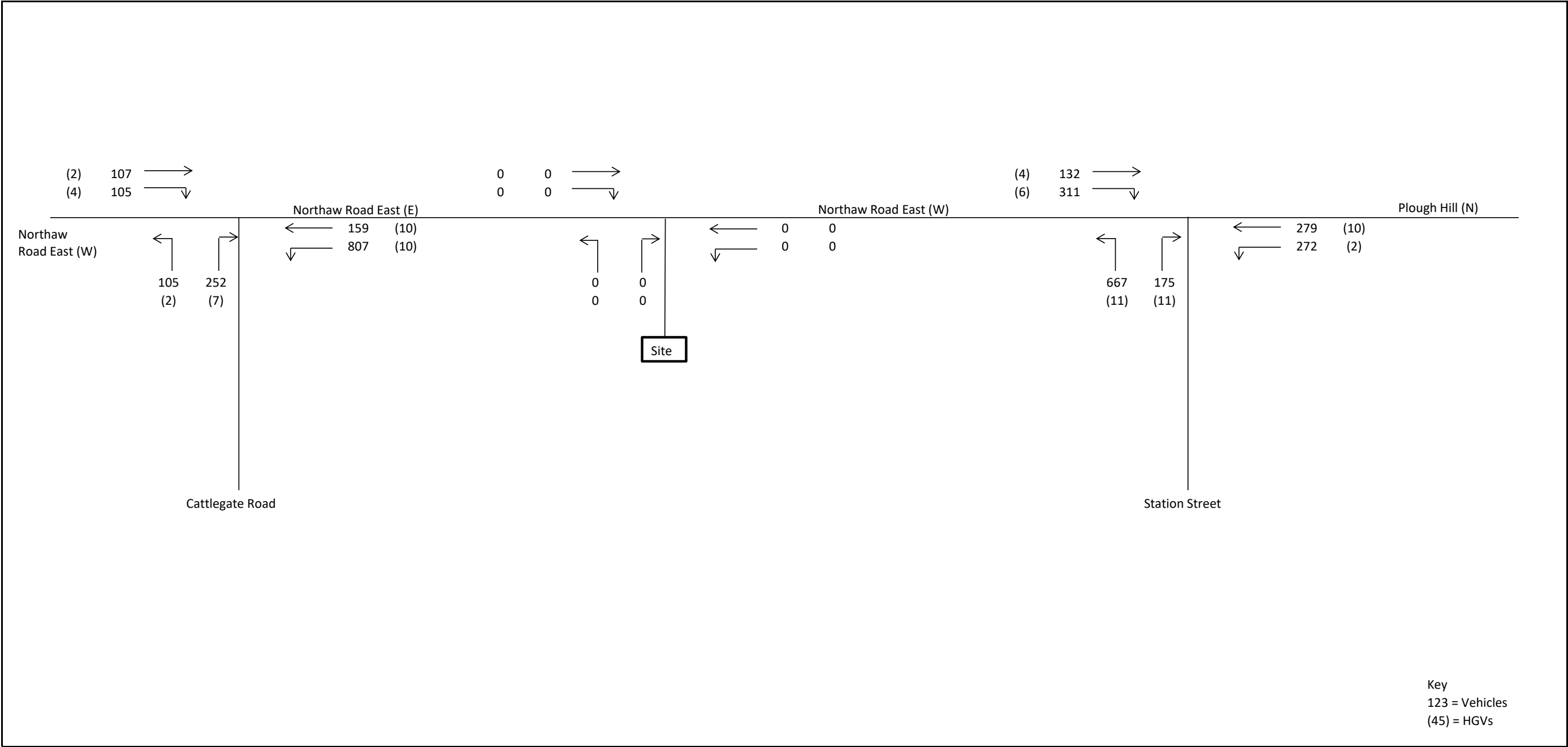




<div><div>vectos.</div><div>Network Building, 97 Tottenham Court Road, London W1T 4TP Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk</div></div>	Project Title: Land to the north east of King George V Playing Fields	Scale: NTS	Drawn: H.J	Date: 01/2021	Checked: M.M	Rev:
	Client: Lands Improvement	Figure Title: AM Peak Hour (0800-0900) Surveyed Traffic Flows				Figure No: 4

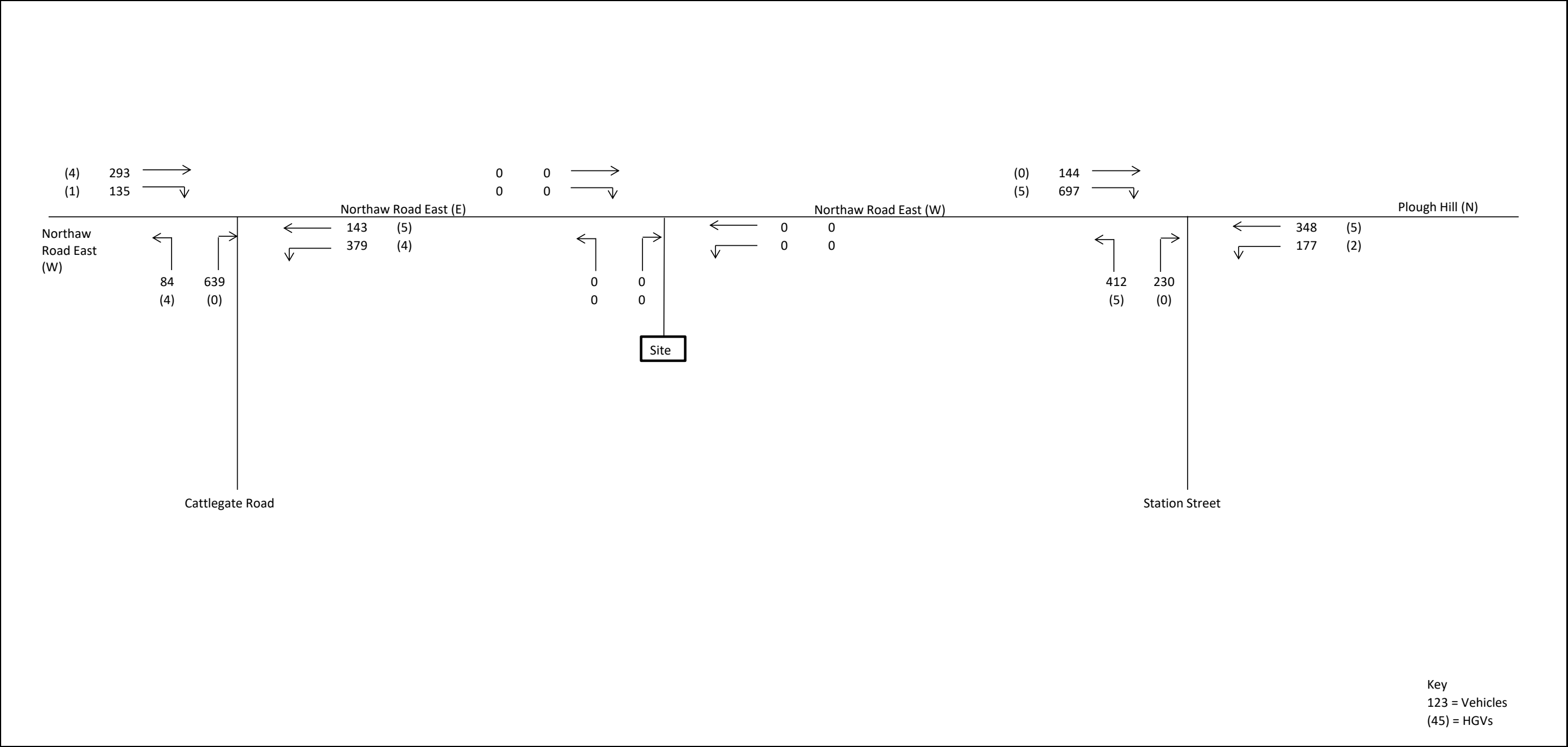


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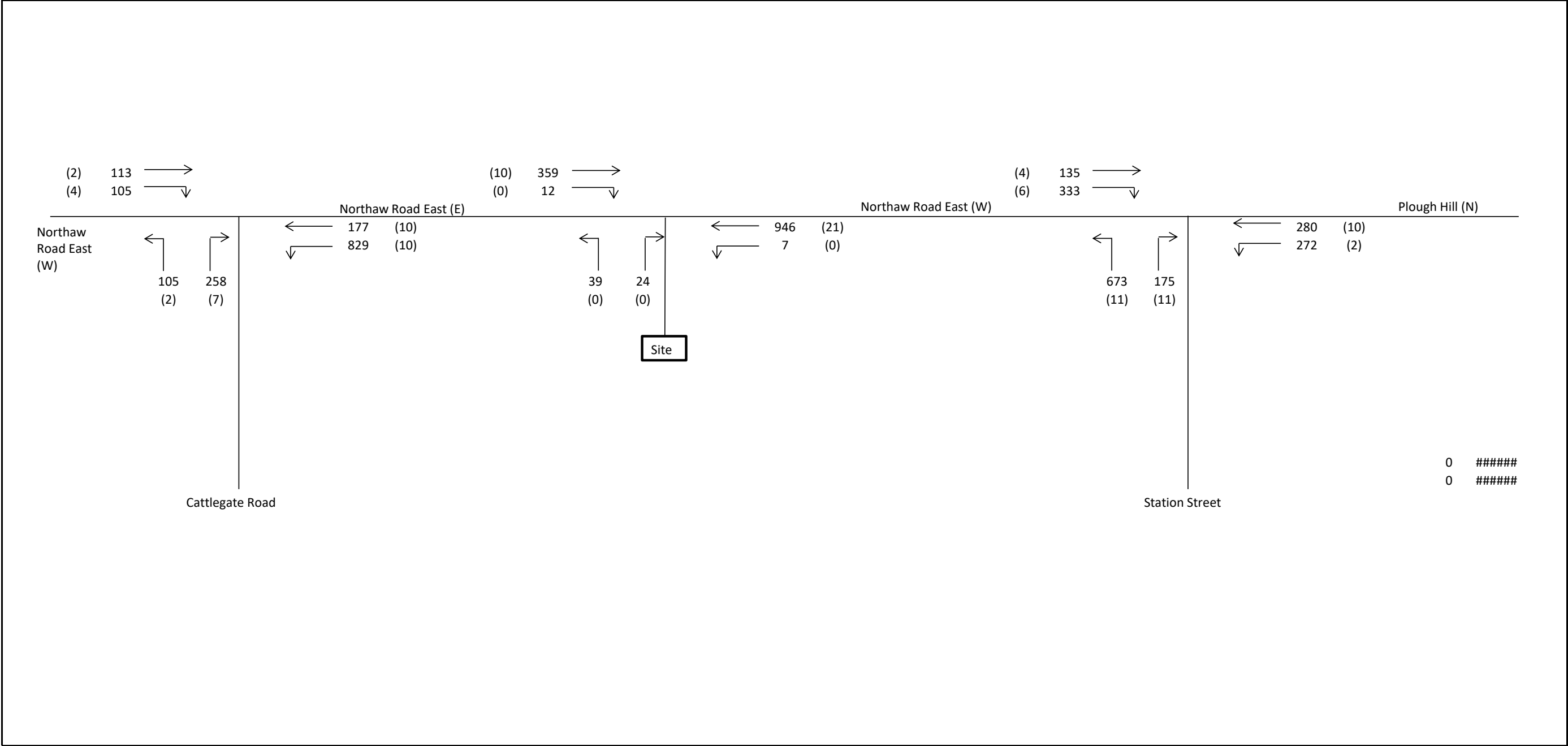


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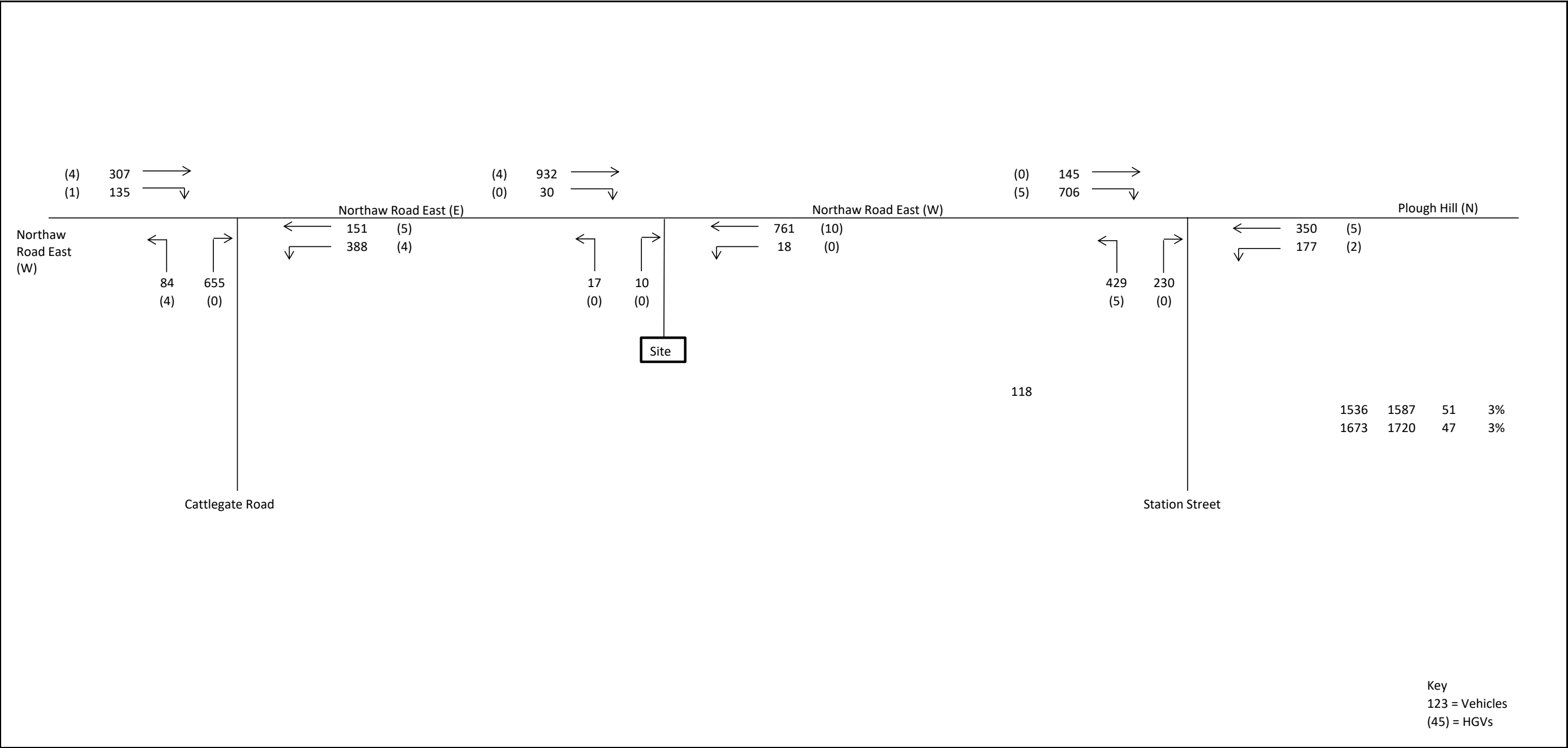




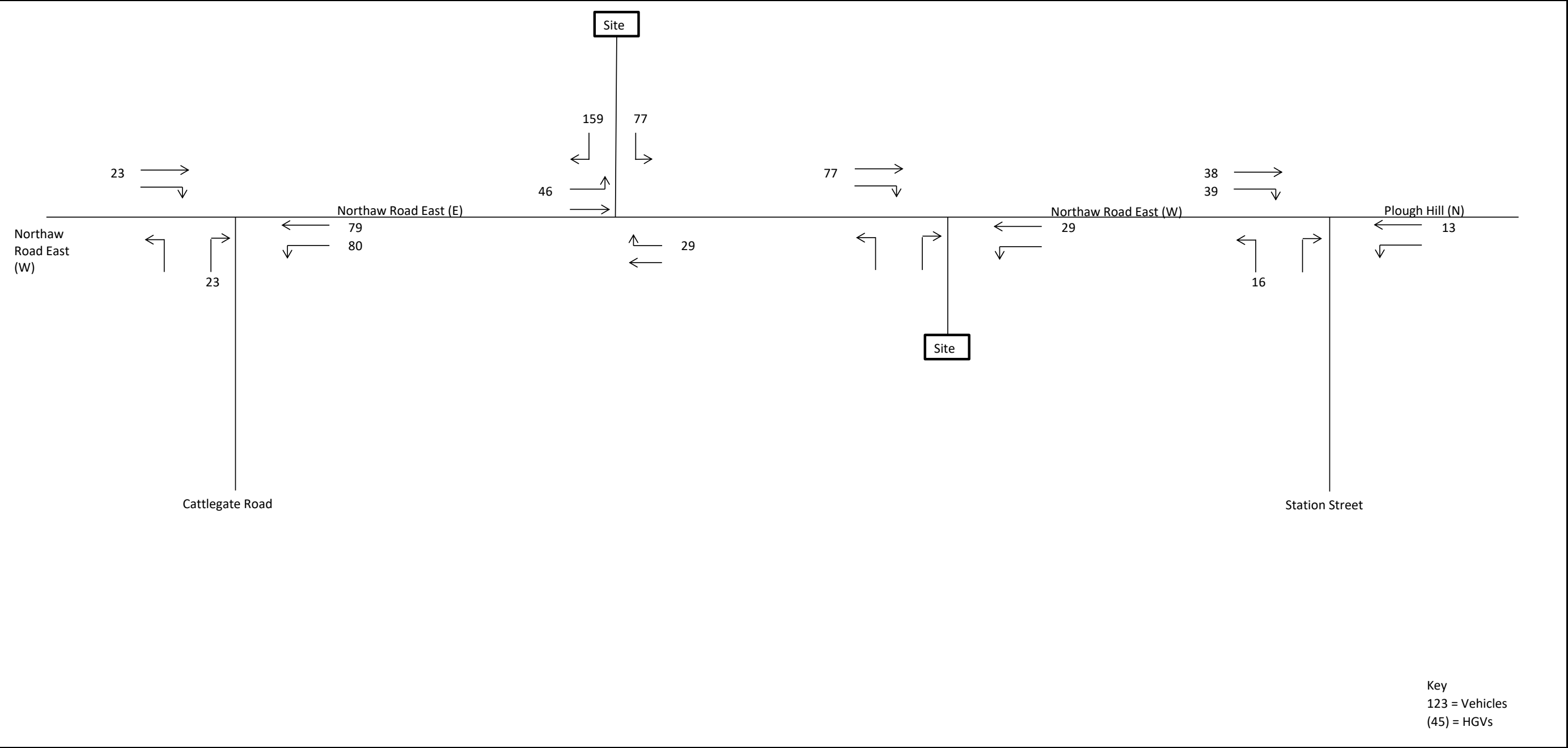
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	Client: Lands Improvement	Figure Title: PM 2025 (1700-1800)				Figure No: 7



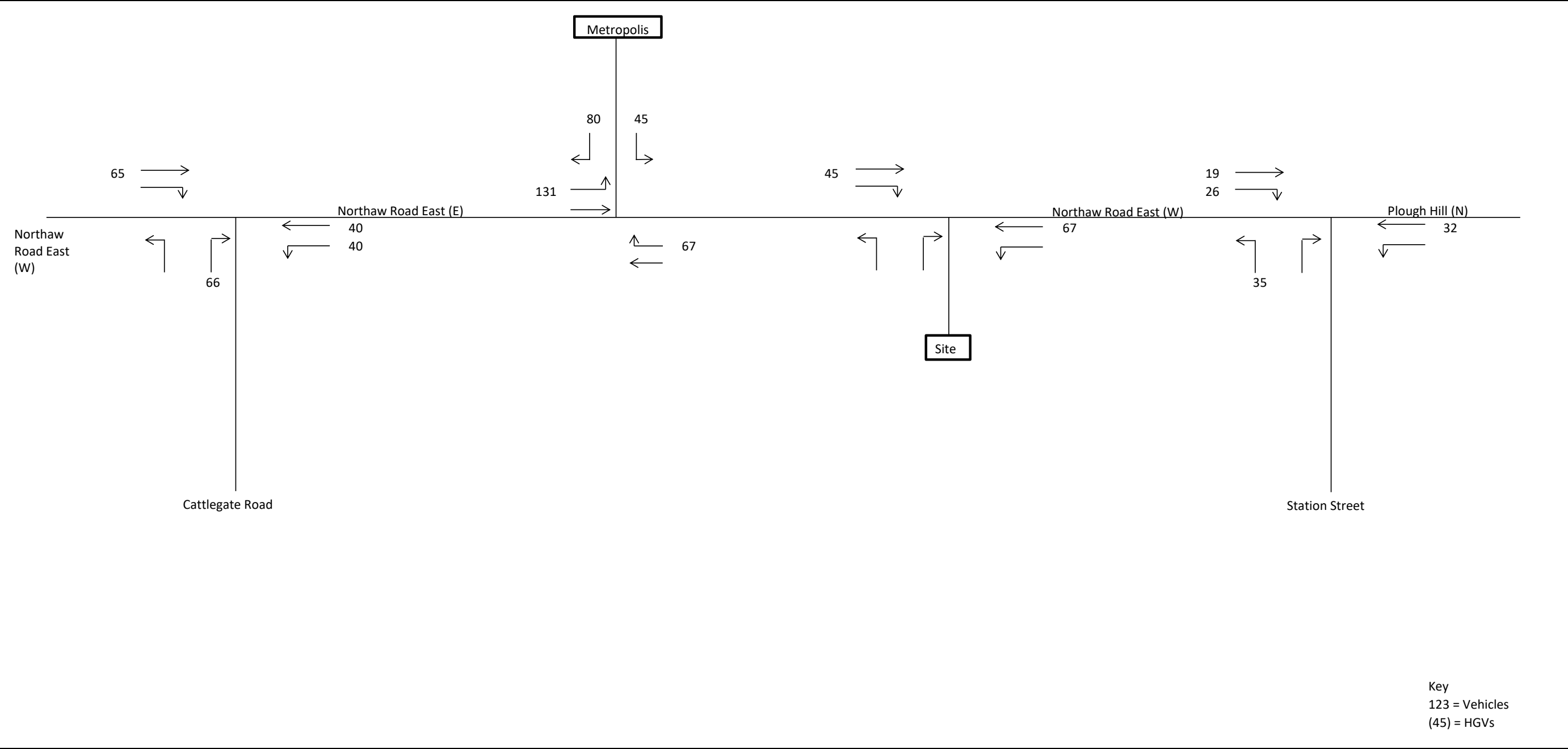
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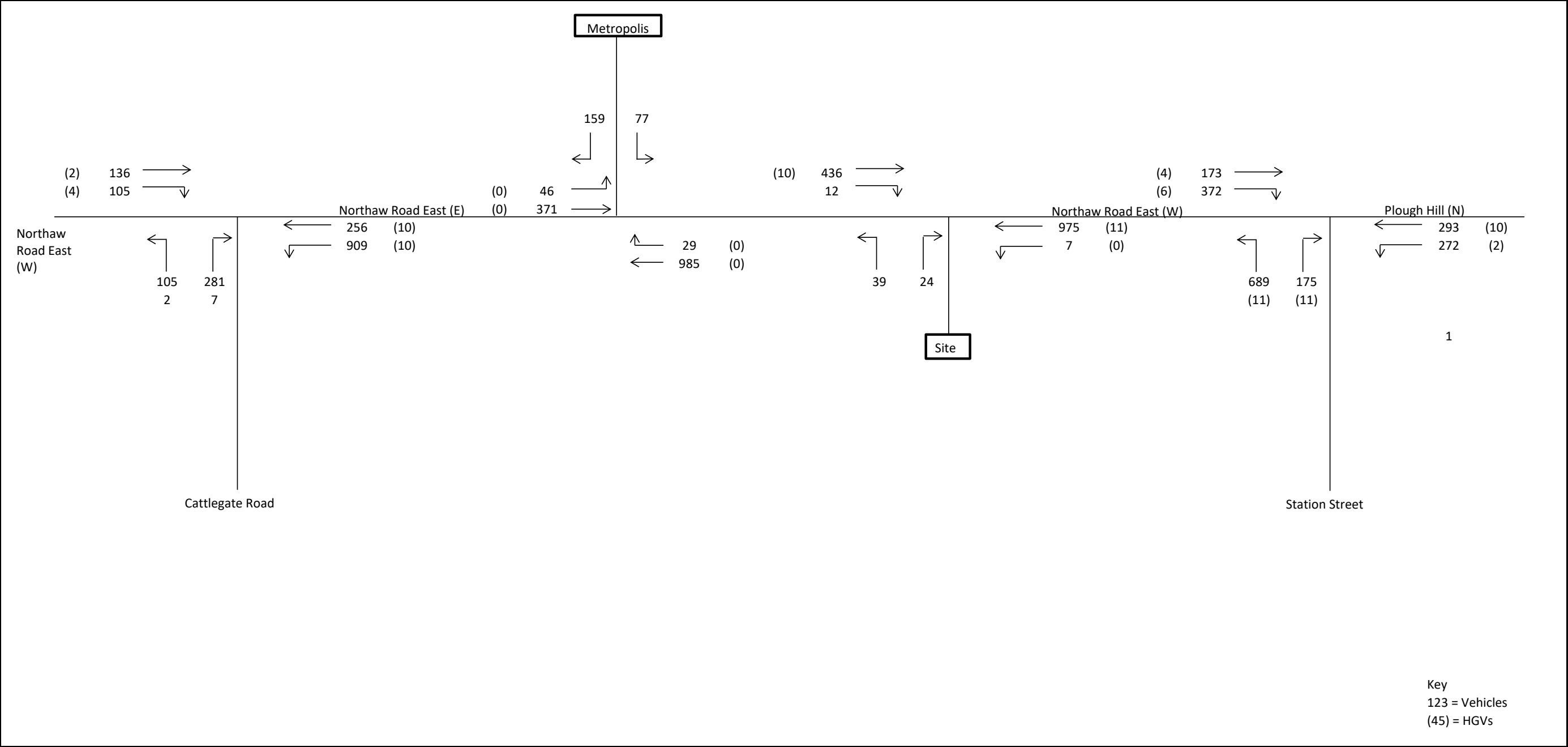
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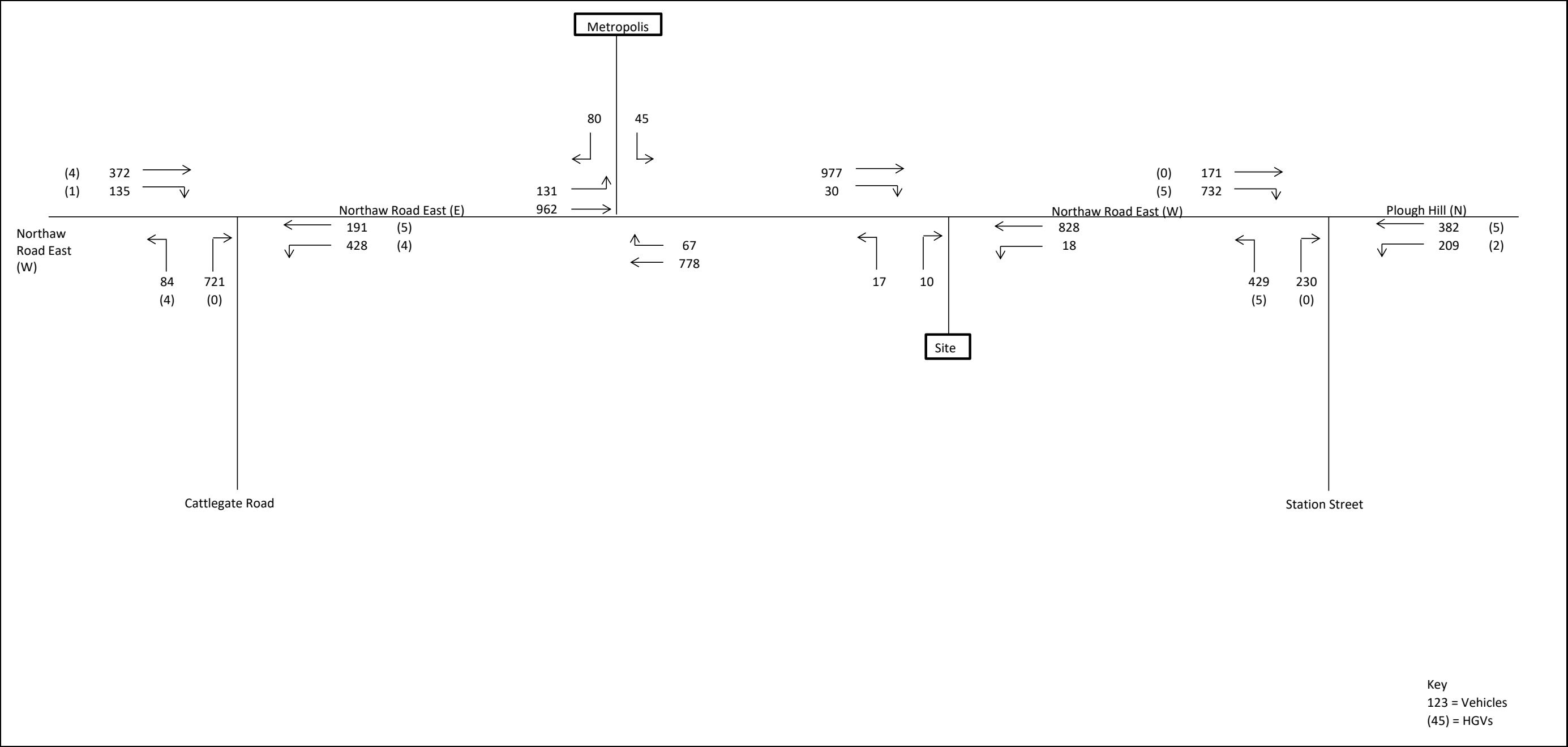
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	Client: Lands Improvement	Figure Title: Metropolis Developemt AM				Figure No: 10



<div><div>vectos.</div><div>Network Building, 97 Tottenham Court Road, London W1T 4TP Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk</div></div>	<div>Project Title:</div> <div>Land to the north east of King George V Playing Fields</div>	<div>Scale:</div> <div>NTS</div>	<div>Drawn:</div> <div>H.J</div>	<div>Date:</div> <div>01/2021</div>	<div>Checked:</div> <div>M.M</div>	<div>Rev:</div>
	<div>Client:</div> <div>Lands Improvement</div>	<div>Figure Title:</div> <div>Metropolis Developemt PM</div>			<div>Figure No:</div> <div>11</div>	



<div><div>vectos.</div><div>Network Building, 97 Tottenham Court Road, London W1T 4TP Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk</div></div>	Project Title: Land to the north east of King George V Playing Fields	Scale: NTS	Drawn: H.J	Date: 01/2025	Checked: M.M	Rev:
	Client: Lands Improvement	Figure Title: Proposed Development + Metropolis Developemt 2025 AM				Figure No: 12



<div><div>vectos.</div><div>Network Building, 97 Tottenham Court Road, London W1T 4TP Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk</div></div>	<div>Project Title:</div> <div>Land to the north east of King George V Playing Fields</div>	<div>Scale:</div> <div>NTS</div>	<div>Drawn:</div> <div>H.J</div>	<div>Date:</div> <div>01/2025</div>	<div>Checked:</div> <div>M.M</div>	<div>Rev:</div>
	<div>Client:</div> <div>Lands Improvement</div>	<div>Figure Title:</div> <div>Proposed Development + Metropolis Developemt 2025 PM</div>				<div>Figure No:</div> <div>13</div>

# Appendix A



Planning Application Number:	S6/2015/1342/PP
Site Address:	Land to the north east of King George V Playing Fields Northaw Road East Cuffley Hertfordshire EN6 4RD
Description:	Outline planning application for residential development of up to 121 dwellings, associated infrastructure and a change of use from agricultural land to an extension of the King George V playing field. All matters reserved except for new vehicular access to serve the site, the provision of surface water discharge points and the levels of development platforms

### **Recommendation**

Planning permission to be granted subject to planning conditions and completion of a Section 106 Agreement between the applicant, Welwyn Hatfield Borough Council and Hertfordshire County Council to secure the following:

- 1 A financial contribution of £333,500 towards junction capacity improvements, public transport enhancements serving the development, measures to encourage walking routes between the site and the village centre, village centre enhancement and to improve safety and address potential rat running.

The financial contribution is made up of two strands which are based on costs associated with delivering,

£215,000 - Station Road Enhancement, and,  
*Shown in principle on drawing 141386/A/50.1 Rev A*

£118,500 – Capacity improvements to either

- Northaw Road East (NRE) / Plough Hill / Station Road
- Northaw Road East (NRE) / Northaw Road West (NRW) / Cattlegate Road  
*shown in principle on drawing 131386/A/28 and / or 141386/A/27*

2. Improvements to the Right of Way Public Footpath 6 £2,500
3. Travel Plan Monitoring Contribution of £6,000

### Planning Conditions:

1. Prior to commencement of development, detailed drawings of all highway works including details of the internal road layout and all materials to be used for hard surfaced areas including roads, cycleways, footpaths and car parking shall be submitted to and approved in writing by the Local Planning Authority in consultation with the Highway Authority.

Reason: To ensure that the highways are constructed to the current Highway Authority's specification and that all highway areas are built to adoptable standards.

2. Prior to occupation, visibility splays of 2.4m x 215m to the south and 2.4m x 120m to the north, and for the avoidance of doubt as shown on drawing 141386/A/29 (no rev.) shall be provided and permanently maintained in each direction within which there shall be no obstruction to visibility between 600mm and 2 m above the carriageway level.

Reason: To provide adequate visibility for drivers entering or leaving the site.

3. Construction of the development hereby approved shall not commence until a Construction Management Plan has been submitted to and approved in writing by the local planning authority in consultation with the highway authority. Thereafter the construction of the development shall only be carried out in accordance with the approved Plan. The Construction Traffic Management Plan shall include details of:

- a. Construction vehicle numbers, type, routing;
- b. Traffic management requirements;
- c. Construction and storage compounds (including areas designated for car parking);
- d. Siting and details of wheel washing facilities;
- f. Cleaning of site entrances, site tracks and the adjacent public highway;
- g. Timing of construction activities to avoid school pick up/drop off times;
- h. Provision of sufficient on site parking prior to commencement of construction activities;
- i. Post construction restoration/reinstatement of the working areas and temporary access to the public highway.

Reason: In order to protect highway safety and the amenity of other users of the public highway and rights of way

4. Before first occupation of the development hereby permitted, site access as shown in principle on drawing 131386/A/35 Rev A and incorporating village gateway improvement on drawing 141386/A/34 shall be completed and constructed to the satisfaction of the Local Planning Authority in consultation with the Highway Authority.

Reason: To ensure that the access road can accommodate the vehicular and pedestrian traffic from the development in the interests of highway safety and free flow.

#### Informatives

It is recommended that the following advisory is included in planning permission documentation to ensure that any works within the highway are carried out in accordance with the provisions of the Highway Act 1980.

AN1.To ensure that work undertaken on the highway is constructed to the current Highway Authority's specification, to an appropriate standard and by a contractor who is authorised to work in the public highway. All works to be undertaken on the adjoining highway shall be constructed to the satisfaction of the Highway Authority and in accordance with Hertfordshire County Council publication "Roads in Hertfordshire - A Guide for New Developments". Before proceeding with the proposed development, the applicant should contact the Mid West Hertfordshire Highways Area Office at Highways House, 41-45 Broadwater Road, Welwyn Garden City, Herts, AL7 3AX to arrange this.

AN2) The applicant is advised that all new roads, unless subject to a S38 agreement secured as part of detailed design associated with this development will remain unadopted and the developer should put in place a permanent arrangement for long term maintenance. At the entrance of the new estate the road name plate should indicate that it is a private road to inform purchasers of their

future maintenance liabilities. Further information is available via the website <http://www.hertsdirect.org/services/transtreets/highways/> or by telephoning 0300 1234047.

AN3) applicant is advised that if it is the intention to request that Hertfordshire County Council as Highway Authority adopt any part of the highways included as part of this application as maintainable at the public expense then details of the specification, layout and alignment, width and levels of the said highways, together with all the necessary highway and drainage arrangements, including run off calculations must be submitted to the Highway Authority. No development shall commence until the details have been approved in writing and an Agreement made under Section 38 of the Highways Act 1980 is in place. The applicant is further advised that the County Council will only consider roads for adoption where a wider public benefit can be demonstrated. The extent of adoption as public highway must be clearly illustrated on a plan. Further information is available via the website <http://www.hertsdirect.org/services/transtreets/highways/> or by telephoning 0300 1234047.

AN4) The Public Right of Way should remain unobstructed by vehicles, machinery, materials, tools and any other aspects of the construction during works.

- The safety of the public using the route and any other routes to be used by construction traffic should be a paramount concern during works, safe passage past the site should be maintained at all times.
- The condition of the route should not deteriorate as a result of these works. Any adverse effects to the surface from traffic, machinery or materials (especially overflows of cement & concrete) should be made good by the applicant to the satisfaction of this Authority.
- All materials should be removed at the end of the construction and not left on the Highway or Highway verges.

If the above conditions cannot reasonably be achieved then a Temporary Traffic Regulation Order would be required to close the affected route and divert users for any periods necessary to allow works to proceed. A fee would be payable to Hertfordshire County Council for such an order.

AN5) The applicant is advised that the storage of materials associated with the construction of this development should be provided within the site on land which is not public highway, and the use of such areas must not interfere with the public highway. If this is not possible, authorisation should be sought from the Highway Authority before construction works commence. Further information is available via the website <http://www.hertsdirect.org/services/transtreets/highways/> or by telephoning 0300 1234047.

AN6) It is an offence under section 137 of the Highways Act 1980 for any person, without lawful authority or excuse, in any way to wilfully obstruct the free passage along a highway or public right of way. If this development is likely to result in the public highway or public right of way network becoming routinely blocked (fully or partly) the applicant must contact the Highway Authority to obtain their permission and requirements before construction works commence. Further

information is available via the website <http://www.hertsdirect.org/services/transtreets/highways/> or by telephoning 0300 1234047.

AN7) Road Deposits: It is an offence under section 148 of the Highways Act 1980 to deposit mud or other debris on the public highway, and section 149 of the same Act gives the Highway Authority powers to remove such material at the expense of the party responsible. Therefore, best practical means shall be taken at all times to ensure that all vehicles leaving the site during construction of the development are in a condition such as not to emit dust or deposit mud, slurry or other debris on the highway. Further information is available via the website <http://www.hertsdirect.org/services/transtreets/highways/> or by telephoning 0300 1234047.

### **Comments:**

The planning application is supported by a Transport Assessment prepared on behalf of Land Improvements by Vectos dated June 2015.

Discussions were held in agreeing the scope of the Transport Assessment to be provided in support of any formal planning application (October 2014 and subsequently discussions held between HCC and the applicants appointed Transport Consultant (Vectos) in December 2014.

The site is located on the southern boundary of Cuffley, adjacent to Tennis Club and fronted by Northaw Road East. The site is bounded to the south by Public Right of Way footpath number 6.

Northaw Road East at this point is the B156, providing a Secondary Distributor within the Hertfordshire road hierarchy. Posted vehicle speeds on Northaw Road East change from national limit (60mph) to 30mph just to the south of the applicant site. Assessed vehicle speeds (85%ile) past the site have been assessed at 39mph.

In the immediate vicinity of the site HCC recognise that a separate application S6/2014/1697/PP, for land known as Land at Northaw Road East is presently placed upon the LPA, and at time of this response undetermined by the LPA in respect of an outline planning application for residential led mixed use development comprising up to 493 residential dwellings; 115 retirement units with associated care and administrative facilities; 3,138 sqm of retail/leisure/community floorspace; primary school; energy centre, together with associated infrastructure including new vehicular access, public open space, landscaping, car parking and other associated works with all matters reserved except for access and scale [number of storeys].. This separate application is not considered within this response as either committed, nor is it identified within the Boroughs Local Plan.

### **Trip Rates**

The TA seeks to demonstrate likely trips associated with the development, and has utilised TRICS in establishing total person trip rates for private housing.

HCC confirms that pre-application discussions included scoping for the preparation of a Transport Assessment to accompany a formal application, and this discussion included the identification of appropriate methodology for trip generation (October 2014). Use of TRICS was agreed, and sample selection criteria agreed. The TA has presented this analysis and applied it to the maximum proposed quantum of development (128 dwellings).

It is necessary to observe that the TA is predicated on a quantum of development of 128 dwellings, whereas outline consent for 121 dwellings is sought. The TA is therefore considered a robust assessment, and HCC accept that actual rates may be slightly lower than predicted as a result.

The TA demonstrates to the satisfaction of the County Council as Highways Authority that a residential development of this scale shall reasonably generated 0.232 total people arrivals in the AM peak, and 0.577 in the PM peak (weekday). Total people departures shall be 0.758 in the AM peak, and 0.329 in the PM peak (weekday). A total trip rate (total people) of 0.99 trips / dwelling in the AM peak is therefore expected, and 0.906 in the evening peak.

The TA table 6.1 incorrectly suggests that the trip rates of 0.99 / 0.906 are vehicle trips / dwelling, reference to Appendix K confirms these are total people trips.

The TA has then utilised census 2011 ward data (3 super output areas surrounding / including the site), as agreed in scoping discussions (however updated to 2011, not 2001 as originally agreed). The Travel to Work census data has then been applied to these trips to establish journeys by mode.

Table 6.2 of the TA summarises this assessment, and identifies that 128 dwellings shall generate 83 (rounding) vehicle trips in the AM peak (19 IN, 63 OUT). This demonstrates the bias towards car use for this area of the Borough (69%), noting that borough wide car use (census 2011) is 36%.

In the PM peak vehicle trips are assessed as 48 arrivals, 28 departures.

A daily predicted level of vehicle trips of 334 In, 354 out is predicted (total 688 one way vehicle trips).

The above analysis is considered appropriate.

The TA utilises an older version of TRICS (vers 7.1.2) subsequent communication between the Highways Authority and the applicant has resulted in the analysis re-run to version 7.2.2 however the results are negligible and, for ease, all figures quoted in this response are to the conclusions of the TA (June 2015)

### **Traffic Distribution**

Census 2011 Travel to Work origin / destination has been used to establish where vehicle trips direct, and used this to establish movements from the site access. HCC directed that all trips originating and ending in the application Ward (Northaw and Cuffley) shall be directed to Cuffley (right out of site) noting that limited destinations within the Ward exist on leaving to the west.

HCC consider that the conclusion of 62% of traffic heading west from the site is appropriate (and broadly aligns with that accepted for similar developments in this area (in particular S6/2014/1697/PP).

## Local Traffic Impact

Trip rates and distribution have been applied within the TA to local junctions identified at scoping stage. The immediate impacts of the development shall be to junctions;

- Northaw Road East (NRE) / Plough Hill / Station Road
- Northaw Road East (NRE) / Northaw Road West (NRW) / Cattlegate Road

The Highways Authority considers that local junctions already suffer a degree of congestion (2014 base year).

Cattlegate Road / NRW experiences an RFC of 1.029 in the PM peak on the Cattlegate Road arm, resulting in queues forming in the PM peak.

Similarly in the AM peak the junction of Plough Hill / NRE / NRW has an RFC of 1.1572 in the base year on Station Road, again resulting in queues forming and in the PM peak the movement from Northaw Road East into Station Road experiences congestion (RFC 1.024).

The degree of saturation of a junction or road is a measure of how much demand it is experiencing compared to its total capacity.

Identified solutions to addressing the impacts that any development traffic shall have on these junctions include the change of priority to each junction to favour dominant flows. Such proposals have been subject to testing, safety audit, and found acceptable by the Highway Authority. The results of this mitigation relieve the congestion at these junctions and result in the performance of the junction improving, with future year traffic congestion with mitigation being less than existing, even with development flows applied, however the junction remains over capacity.

Possible junction improvements shall be either to change priorities through Station Road / Plough Hill / NRE. Presently traffic on Station Road (B156) is presented with a priority junction with NRE (B156) and Plough Hill (B197). Dominant, existing flows are B156 traffic, and therefore change to priority does not change priorities in respect of road hierarchy.

The identified change to priorities at the Cattlegate Road junction also change to respect dominant flows. It is accepted that flows direct from a classified B road, to an unnumbered Classified Road (C-Road), however the Highways Authority are satisfied that this shall not be prejudicial to traffic flows, residential amenity, or highway safety.

The County Council, as Highways Authority, consider that in order that the development accords with the requirements of the NPPF, there shall be a requirement to address the above concerns, and contribute to highway improvements. A financial contribution of £118,500 is requested via S106 to enable either junction to be addressed. This figure has been calculated based on 'in principle' junction designs for both Station Road / Plough Hill / NRE and NRE / Cattlegate Road.

Traffic impacts associated with the development further beyond the immediate area, i.e. Goffs Lane j/w Lt Ellis Way, Cattlegate Road j/w Coopers Lane Road, Causeway j/w Hatfield Road (respectively max 22 / 21 / 18 vehicles AM peak) are not considered sufficient to require detailed assessment.

## Sensitivity Tests

As described above, the adjacent site (known as Land at Northaw Road East (S6/2014/1697/PP)) is subject to a separate, presently undetermined outline planning application. At scoping on this application HCC identified that the TA should consider the impact of the adjacent application (without prejudice to the county councils, or LPAs, decision on such matters) in order to demonstrate that the cumulative impact locally has been assessed.

The modelling in respect of cumulative impacts has only considered the site access, including development flows likely associated the adjacent application. This demonstrates that the site access operates without problems even with the inclusion of flows associated with the proposals for the adjacent site. Similarly, the access to the adjacent site operates without difficulty including development flows for the proposed site.

### **Strategic Road Network**

The LPA are directed to ensure that Highways England (HE, formerly Highway Agency) are satisfied that traffic associated with the development shall not be considered to have an unacceptable impact on M25 J 24 and J25.

### **Access**

The proposed development proposes a single point of vehicular access, by way of priority junction onto Northaw Road East. (Drawing 141386/A/35 Rev A). The applicant has also provided drawings showing an example of Village Gateway Improvement which will be incorporated into the access design.

Evidence has been submitted that presents Annual Average Daily Traffic two-way flows for Northaw Road East as 12,660. Such an assessment is drawn from surveys between 5/7/14 and 11/7/15 conducted by intelligent Data Collection Ltd. The proposed development represents (across an entire day) 688 two way trips and would marginally increase trips to above 13,000 on NRE. Regard given to DMRB – TD42/95 Volume 6 – Section 2 – Part 6 - ‘Geometric Design of Major / Minor Priority Junctions’, table 2/2 would suggest that a ghosted right hand turn lane might be appropriate to a development generating the predicted level of trips.

The Transport Assessment has presented that the proposed site access operates with an RFC of 0.03 (IN, AM peak) and 0.21 (OUT, AM peak). PM peak operation is similar. The modelling demonstrates that no queuing is expected.

It is necessary to observe that junctions (existing) along NRE provide for access to similar, or greater levels of housing density without provision of dedicated right hand turn lanes.

The access shall represent 5.5m wide carriageway width, appropriate to Roads in Herts table 4.1.1.1 and sufficient to represent a Major Access. 5.5m is sufficient in width to enable two way vehicle flow without interference. Access is provided with verge and footway both sides, footway width shown to 2m, again in accordance with RiH. Bellmouth radii appears to be 5.5m, and swept path plots are provided that demonstrate the access accommodates fire / refuse vehicles.

HCC accept that a single access may serve up to 300 dwellings and this standard is therefore not exceeded by the proposed density of 121 dwellings.

Visibility as shown on drawing 141386/A/29 (no revision) is to be provided to the NE to a distance of 120m, appropriate for vehicle speeds of 40mph. Visibility to the SW shall be to 215m, appropriate for vehicle speeds of 60mph. Each splay measured from a point 2.4m back from carriageway edge.

Traffic Data provides that 85%ile speeds past the site are 39mph, however given that current highway layout includes change of speed limits in close proximity to the site, it is not unreasonable to require the increased visibility splay in a SW direction.

### **Rights of Way network**

The Hertfordshire Rights of Way Improvement Plan (ROWIP) details the desire for Northaw footpath 6 and Cheshunt footpath 59 to be upgraded to bridleway, in order that cycles and horse riders can reach Cheshunt bridleways 17, 70 and 73 near Burnt Farmhouse,

Regarding costs upgrading of the footpaths to bridleways, this would just be the officer time and advertising costs for the section 25 dedication order, which is £2,500. As the footpath already follows a track, very few works would be required on the ground to make this suitable for bridleway use.

Further, the applicant provides details on drawing 141386/A/51 showing details of a proposed cycleway / footway link between the site and South Drive. Such works fall outside of the red line boundary.

It is understood that the line of this route is existing, and (informally) evident. It is expected that local walkers shall be submitting an application to record a path that was previously used between footpath 6 and South Drive, and it was the recommendation of the County Councils that a connection along this line be provided. The developer provides details of a proposed shared cycleway / footway link however this is not fully within the applicant's control.

### **Adoption**

At this time it is understood that no part of the internal road network shall be offered by the Developer for adoption. Adoption shall only extend to the access, and broadly considered shall extend to the limits shown on drawing 141386/A/35 rev A. The County Councils policy on adoption is that roads serving public utility shall be considered for adoption. Given that illustrative masterplan for the development includes links to the North to Public Footpath 6, the County Council may consider adoption of roads beyond that offered. The developer is encouraged to discuss further with the Highways Authority.

The developer shall be required, for all roads not offered for adoption, to put into place a permanent arrangement for the long term maintenance of such areas, and the use of private road name plates include notification of the private nature of such roads for future potential occupiers of the site.

### **Travel Plan**



A framework Travel plan accompanies the Transport Assessment. The Framework Travel Plan identifies that given the outline nature of the proposals, management arrangements are not fully developed, but does identify the appointment of a Travel Plan coordinator. The Travel Plan includes targets towards encouraging a shift towards non-private car modes of travel, and includes provisions in respect of measures aimed at promoting such modes. As discussed in 'mitigation' below, further off-site measures shall be provided.

The framework travel plan provides that a baseline travel survey shall be undertaken at 75% occupation (this is circa 90 dwellings, and would be around the quantum of development that HCC would require a residential travel plan) and therefore an appropriate stage of development, and that the outputs of this survey shall be used to review targets presented within the framework Travel Plan.

Any grant of consent shall require an obligation towards the implementation of the Framework Travel Plan and subsequent Full Travel Plan.

It is the approach of HCC, within their approved document 'Hertfordshire's Travel Plan Guidance for Business and Residential Development' (available <http://www.hertsdirect.org/docs/pdf/g/greentravelplans.pdf>) to secure a contribution towards the ongoing monitoring, support and review of the travel plan. For a development of this nature and scale a contribution of £6000 shall be required.

### **Mitigation / S106 obligations / other matters**

It is Hertfordshire County Councils policy to seek a planning obligation in respect of Sustainable Transport including for all developments. NPPF promotes accessibility by sustainable means including bus, cycling and walking, and the provisions of S106 of the Town and Country Planning Act allows that planning obligations, governed by the guidance within CIL Regulations may be used to mitigate the impact of development.

Full details on HCC's policy towards planning obligations may be found at the following web address; <http://www.hertsdirect.org/infobase/docs/pdfstore/planobsjan8.pdf>

### ***Station Road Public Realm Scheme***


An indicative proposal for Station Road Public Realm works is shown on drawing no 141386/A/50.1 Rev A and 50.2 Rev A. A financial contribution from this proposal may be used to fund a project of this nature and fully comply with CIL regs. The works may include features such as:-

- Two additional pedestrian crossings along Station Road
- Speed reduction from the station all the way up the road to 20mph
- Raised table crossings to assist pedestrians and discourage rat running
- Carriageway resurfacing and meridian strip running through Station Road
- Enhanced paved mini roundabout at railway station entrance
- Enhanced Gateway feature

The features included in the scheme would improve accessibility to the local facilities and railway station and therefore can be demonstrated to be directly related to the proposed development. However, as the accessibility features have obvious implications to the overall character of the village centre further consultation is required to ensure an appropriate scheme can be delivered. A scheme featuring similar features as shown in principle in drawings no. 141386/A/50.1 Rev A and 50.2 Rev A has a cost estimate of £215,000. Further funding may be required, to provide environmental style enhancements. The final scheme may include improvements to Station Road / Plough Hill / NRE junction, if this is the case it is reasonable to assume both contributions may be combined into a single scheme. However, as previously stated, due to the location and the sensitivity of the village centre location significant further consultation with the local community will be required.

# Appendix B

REV	DATE	CHANGES	BY	CHK	ISSUE FOR
A	07.10.14	FIRST ISSUE	RB	JH	COMMENT



OMEGA PARTNERSHIP  
ARCHITECTS & URBAN DESIGNERS  
GLENAYON HOUSE, 39 COMMON ROAD, CLAYDON LE, SUREY, KT10 0HG  
TEL: 01372 470 913 E-MAIL: firmname@omegapartnership.co.uk

client

LANDS IMPROVEMENT

project

NORTHAW ROAD EAST, CUFLEY

description

LOCATION PLAN

project number	drawing number	revision
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2271	A-1000	A
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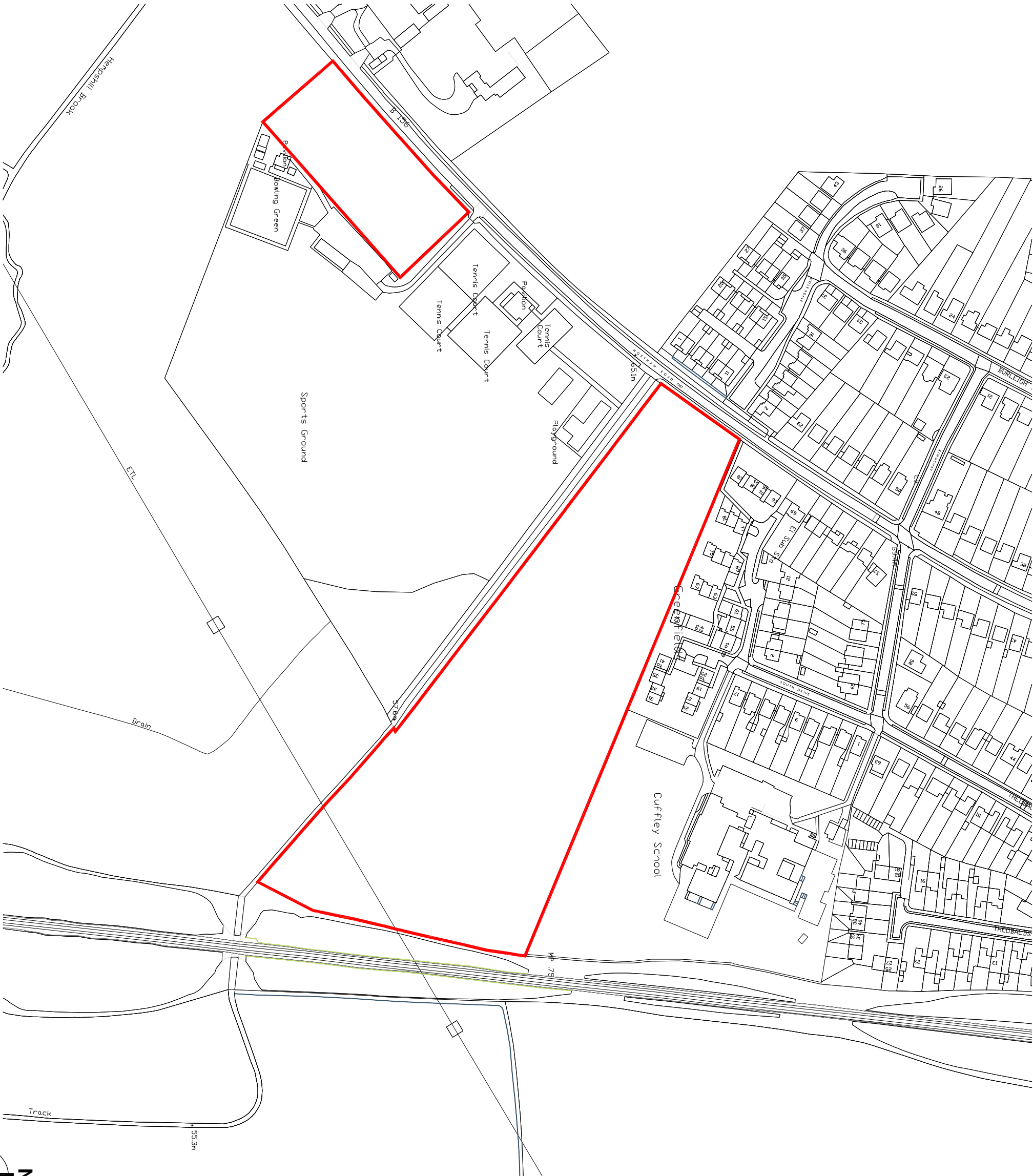
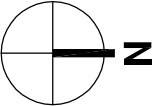
scale	date
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1:2500 @ A3	AUGUST 2014
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status

PRELIMINARY

LOCATION PLAN  
SCALE 1:2500



# Appendix C

# Northaw Road East Cuffley

Legend

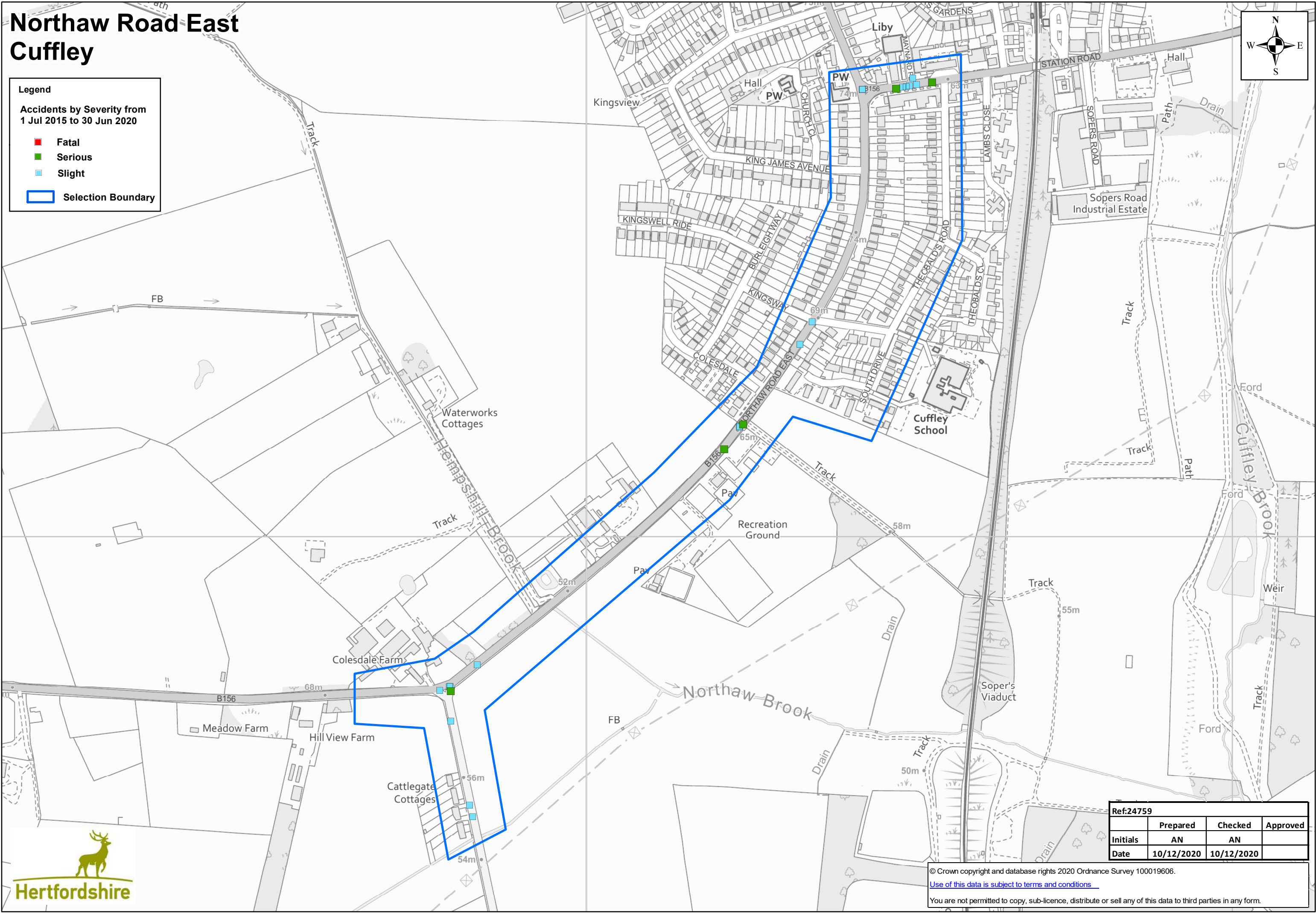
Accidents by Severity from  
1 Jul 2015 to 30 Jun 2020

Fatal

Serious

Slight

Selection Boundary



Ref:24759			
	Prepared	Checked	Approved
Initials	AN	AN	
Date	10/12/2020	10/12/2020	

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**Full Confidential Accident Report**

Date Produced: 10-Dec-20

Set Name (if saved) : 24759

Set Total : 23

**Accident Details:**

Acc Ref:	2019-410917762	1st / 2nd Rd:	B156/14 NONE	Jun Detail:	Notjunct	Weather:	Rain	Num Cas:	1
Day of Week:	Tue	Parish:		Jun Control:	Notjunct	Light:	Darklit	Num Peds:	0
Date:	17/12/2019 15:55:00	District:	WelHat	Spec Conditions:	None	Road Surface:	Wet	Num Vehicles:	1
Acc Severity:	Serious	Speed Limit:	30mph	C/way Hazard:	None	C/way Type:	Single	Ped Xing:	Npernox
B156 Northaw Road East Cuffley Approx 245m Sw J/w U684 Theobalds Road								On Site:	Yes

V1 M/c 125cc Trav Sw On Northaw Road East Over Speed Hump When Front Wheel Has Slipped On Paint Causing Rider To Fall

Easting: 530213

Northing: 202136

**Contributory Factors**

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Slipweat	Trafcalm				
V 1	B			Badweath			

**Casualty Details**

Acc Ref:	2019-410917762	Cas Class:	Driver	Car Passenger:	No	Cas Severity:	Serious	Ped Movement:	Notped
Veh Ref:	1	Cas Age:	53	PSV Passenger:	No	Road User Class:	Motorcyclists	Ped Location:	Notped
Cas Ref:	1	Cas Gender:	Male	Seat Belt:	Notapp	School Pupil:		Ped Work on Rd:	Notped

**Vehicle Details**

Acc Ref:	153911	Manoeuvre:	Ahead	Skidding:	None	Impact Point:	Front	Driver Breath Test:	Negati	Driver Age:	53
Veh Ref:	1	Location:	Carw	Object in Cway:	None	From:	Ne	Hit and Run:	Nothtrun		
Veh Type:	Mc<=500	Junction:	Notjunct	Object off Cway	None	To:	Sw	Driver Gender:	Male		
Foreign Veh:		Towing:	None	velcwy	No	J Purpose:	Other	Driver Severity:	Serious		

### ***Accident Details:***

<b>Acc Ref:</b> 2019-410865516	<b>1st / 2nd Rd:</b> C57/10 NONE	<b>Jun Detail:</b> Notjunct	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Mon	<b>Parish:</b>	<b>Jun Control:</b> Notjunct	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 15/07/2019 17:00:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
C57 Cattlegate Road Cuffley O/s No 8 & Approx 190m South J/w B156 Northaw Road West				<b>On Site:</b> Yes

Both Vs Cars Trav North On Cattlegate Road In Slow Moving Traffic. Driver V1 Became Unwell & Failed To See V2 Stopping & Collided With Rear V2

**Easting:** 529818

**Northing:** 201584

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Illdrivr					

### ***Casualty Details***

<b>Acc Ref:</b> 2019-410865516	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 33	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Wornnot	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 153071	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Ntprov	<b>Driver Age:</b> 74
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> S	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> None	<b>To:</b> N	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Tofrowrk	<b>Driver Severity:</b> None	

<b>Acc Ref:</b>	<b>Manoeuvre:</b> Stopping	<b>Skidding:</b> None	<b>Impact Point:</b> Back	<b>Driver Breath Test:</b> Ntprov	<b>Driver Age:</b> 33
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> S	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> None	<b>To:</b> N	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Tofrowrk	<b>Driver Severity:</b> Slight	



### ***Accident Details:***

<b>Acc Ref:</b> 2019-410837016	<b>1st / 2nd Rd:</b> B156/14 NONE	<b>Jun Detail:</b> Notjunct	<b>Weather:</b> Fine	<b>Num Cas:</b> 2
<b>Day of Week:</b> Sun	<b>Parish:</b>	<b>Jun Control:</b> Notjunct	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 17/02/2019 10:54:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 60mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road East Cuffley Approx 50m Ne J/w C57 Cattlegate Road				<b>On Site:</b> Yes

V1 Car Trav Ne On Northaw Road East Has Lost Control & Collided With O/s V2 Trav Sw Before Leaving C/way N/s Through & Fence, Colliding With A Tree & Overturning

**Easting:** 529830

**Northing:** 201802

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Lostcont	Newdrivr				

### ***Casualty Details***

<b>Acc Ref:</b> 2019-410837016	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 17	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Wornind	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2019-410835145	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Frontsea	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 11	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 2	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Wornind	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 152588	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> Skidovtu	<b>Impact Point:</b> Offside	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 17
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Sw	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> Tree	<b>To:</b> Ne	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> Nearside	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> Slight	

<b>Acc Ref:</b>	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Offside	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 39
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Ne	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> None	<b>To:</b> Sw	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	

### ***Accident Details:***

<b>Acc Ref:</b> 2018-410334963	<b>1st / 2nd Rd:</b> B157/60 B156/16	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 3
<b>Day of Week:</b> Sat	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 29/09/2018 12:52:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B157 Plough Hill Cuffley J/w B156 Station Road				<b>On Site:</b> Yes

Both Vs Cars. V2 Trav South On Plough Hill Has Been Hit To N/s By V1 Turning Right Out Of Station Road To V2 N/s

**Easting:** 530427      **Northing:** 202693

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Flookdri					
V 1	B		Sun				

### ***Casualty Details***

<b>Acc Ref:</b> 2018-410334963	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Frontsea	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 12	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2018-410334963	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Rearseat	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 9	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 3	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2018-410334963	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Rearseat	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 9	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 4	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 151831	<b>Manoeuvre:</b> Turnrigh	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b>
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Emain	<b>Object off Cway</b> None	<b>To:</b> N	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	

<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Ahead	<b>Skidding:</b>	None	<b>Impact Point:</b>	Nearside	<b>Driver Breath Test:</b>	Negati	<b>Driver Age:</b>	31
<b>Veh Ref:</b>	2	<b>Location:</b>	Carw	<b>Object in Cway:</b>	None	<b>From:</b>	N	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Middle	<b>Object off Cway</b>	None	<b>To:</b>	S	<b>Driver Gender:</b>	Female		
<b>Foreign Veh:</b>		<b>Towing:</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Unknown	<b>Driver Severity:</b>	None		

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### ***Accident Details:***

<b>Acc Ref:</b> 2018-410333430	<b>1st / 2nd Rd:</b> B156/16 NONE	<b>Jun Detail:</b> Notjunct	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Mon	<b>Parish:</b>	<b>Jun Control:</b> Notjunct	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 03/09/2018 15:00:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Serious	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Station Road Cuffley Approx 55m East J/w B156 Northaw Road East				<b>On Site:</b> Yes

Both Vs Cars. V1 Trav West On Station Road When Driver Suffered Cardiac Arrest & Collided With N/s V2 Car Parked To N/s

**Easting:** 530479

**Northing:** 202695

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Illdrivr					

### ***Casualty Details***

<b>Acc Ref:</b> 2018-410333430	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Serious	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 63	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Wornnot	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 151485	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Ntprov	<b>Driver Age:</b> 63
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> Parked	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> Serious	

<b>Acc Ref:</b>	<b>Manoeuvre:</b> Parked	<b>Skidding:</b> None	<b>Impact Point:</b> Back	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 32
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> P	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> None	<b>To:</b> P	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	

### ***Accident Details:***

<b>Acc Ref:</b> 2018-410320297	<b>1st / 2nd Rd:</b> B156/15 NONE	<b>Jun Detail:</b> Entrance	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Fri	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 03/08/2018 08:55:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Serious	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road East Cuffley At Entrance To King George V Playing Fields & Approx 205m Sw J/w U684 Theobalds Road				<b>On Site:</b> Yes
V2 M/c Trav Sw On Northaw Road East Overtaking Stationary Traffic Has Been Hit To N/s By V1 Car Turning Right Out Of King George Playing Fields To V2 N/s Through Gap In Traffic Causing Rider V2 To Fall				

**Easting:** 530242

**Northing:** 202174

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 2	A	Poorturn					

### ***Casualty Details***

<b>Acc Ref:</b> 2018-410320297	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Serious	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 50	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Motorcyclists	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Notapp	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 151127	<b>Manoeuvre:</b> Turnrigh	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 53
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Se	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Emain	<b>Object off Cway</b> None	<b>To:</b> Ne	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> None	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Otakesta	<b>Skidding:</b> None	<b>Impact Point:</b> Nearside	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 50
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Ne	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Meuk	<b>Junction:</b> Middle	<b>Object off Cway</b> None	<b>To:</b> Sw	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> Offside	<b>J Purpose:</b> Tofrowrk	<b>Driver Severity:</b> Serious	

### Accident Details:

Acc Ref:	2018-410826705	1st / 2nd Rd:	B156/14 C57/10	Jun Detail:	T	Weather:	Fine	Num Cas:	3
Day of Week:	Thu	Parish:		Jun Control:	Giveway	Light:	Darknone	Num Peds:	0
Date:	02/08/2018 22:45:00	District:	WelHat	Spec Conditions:	None	Road Surface:	Dry	Num Vehicles:	2
Acc Severity:	Slight	Speed Limit:	40mph	C/way Hazard:	None	C/way Type:	Single	Ped Xing:	Npernox
B156 Northaw Road East Cuffley J/w C57 Cattlegate Road								On Site:	Yes

Both Vs Cars. V1 Trav Sw On Northaw Road East Has Collided With V2 Turning Right Out Of Cattlegate Road To V1 N/s Across Path V1

Easting: 529788

Northing: 201768

### Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 2	B	Flookdri	Misspeed	Reckdriv			

### Casualty Details

Acc Ref:	2018-410826705	Cas Class:	Driver	Car Passenger:	No	Cas Severity:	Slight	Ped Movement:	Notped
Veh Ref:	1	Cas Age:	78	PSV Passenger:	No	Road User Class:	Car Users	Ped Location:	Notped
Cas Ref:	1	Cas Gender:	Male	Seat Belt:	Wornnot	School Pupil:		Ped Work on Rd:	Notped

Acc Ref:	2018-410826705	Cas Class:	Driver	Car Passenger:	No	Cas Severity:	Slight	Ped Movement:	Notped
Veh Ref:	2	Cas Age:	39	PSV Passenger:	No	Road User Class:	Car Users	Ped Location:	Notped
Cas Ref:	2	Cas Gender:	Female	Seat Belt:	Wornnot	School Pupil:		Ped Work on Rd:	Notped

Acc Ref:	2018-410826705	Cas Class:	Passenge	Car Passenger:	Frontsea	Cas Severity:	Slight	Ped Movement:	Notped
Veh Ref:	1	Cas Age:	77	PSV Passenger:	No	Road User Class:	Car Users	Ped Location:	Notped
Cas Ref:	3	Cas Gender:	Female	Seat Belt:	Wornnot	School Pupil:		Ped Work on Rd:	Notped

### Vehicle Details

Acc Ref:	152430	Manoeuvre:	Ahead	Skidding:	None	Impact Point:	Front	Driver Breath Test:	Notreq	Driver Age:	78
Veh Ref:	1	Location:	Carw	Object in Cway:	None	From:	Ne	Hit and Run:	Notthrun		
Veh Type:	Car	Junction:	Middle	Object off Cway	None	To:	Sw	Driver Gender:	Male		
Foreign Veh:		Towing:	None	velcwy	No	J Purpose:	Other	Driver Severity:	Slight		



<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Turnrigh	<b>Skidding:</b>	None	<b>Impact Point:</b>	Front	<b>Driver Breath Test:</b>	Negati	<b>Driver Age:</b>	39
<b>Veh Ref:</b>	2	<b>Location:</b>	Carw	<b>Object in Cway:</b>	None	<b>From:</b>	S	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Emain	<b>Object off Cway</b>	None	<b>To:</b>	Ne	<b>Driver Gender:</b>	Female		
<b>Foreign Veh:</b>		<b>Towing:</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	Slight		

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***Accident Details:***

<b>Acc Ref:</b> 2018-410318266	<b>1st / 2nd Rd:</b> B157/60 B156/16	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 2
<b>Day of Week:</b> Fri	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 27/07/2018 15:05:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Wet	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npercntr
B157 Plough Hill Cuffley J/w B156 Station Road				<b>On Site:</b> Yes

Both Vs Cars. V1 Trav North On Plough Hill Has Turned Right Into Station Road Across Path V2 Trav South & V2 Has Collided With N/s V1

**Easting:** 530427

**Northing:** 202694

***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Flookdri	Misspeed				
V 1	B			Poorturn	Speeding		
V 2	B					Poorindi	

***Casualty Details***

<b>Acc Ref:</b> 2018-410318266	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 46	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2018-410318266	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 22	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 2	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

***Vehicle Details***

<b>Acc Ref:</b> 151112	<b>Manoeuvre:</b> Turnrigh	<b>Skidding:</b> None	<b>Impact Point:</b> Nearside	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 46
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> S	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Lmain	<b>Object off Cway:</b> None	<b>To:</b> E	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> Slight	

<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Ahead	<b>Skidding:</b>	None	<b>Impact Point:</b>	Front	<b>Driver Breath Test:</b>	Notreq	<b>Driver Age:</b>	22
<b>Veh Ref:</b>	2	<b>Location:</b>	Carw	<b>Object in Cway:</b>	None	<b>From:</b>	N	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Middle	<b>Object off Cway</b>	None	<b>To:</b>	S	<b>Driver Gender:</b>	Female		
<b>Foreign Veh:</b>		<b>Towing:</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Unknown	<b>Driver Severity:</b>	Slight		

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***Accident Details:***

<b>Acc Ref:</b> 2018-410334831	<b>1st / 2nd Rd:</b> B156/15 NONE	<b>Jun Detail:</b> Entrance	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Mon	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 25/06/2018 13:32:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road East Cuffley O/s No 65 & Approx 45m Sw J/w U684 Theobalds Road				<b>On Site:</b> Yes
Both Vs Trav Sw On Northaw Road East. V1 Car Begins To Turn Left Into Driveway No 65 & V2 M/c 125-500cc Has Begun To Overtake V1. V1 Then Reverses Back Into C/way & V2 Has Collided With Rear V1				

**Easting:** 530330**Northing:** 202298***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 2	A	Misspeed					

***Casualty Details***

<b>Acc Ref:</b> 2018-410334831	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 57	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Motorecyclists	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Notapp	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

***Vehicle Details***

<b>Acc Ref:</b> 151483	<b>Manoeuvre:</b> Turnleft	<b>Skidding:</b> None	<b>Impact Point:</b> Back	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 38
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Ne	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Lmain	<b>Object off Cway</b> None	<b>To:</b> Se	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Otakemov	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 57
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Ne	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Mc<=500	<b>Junction:</b> Middle	<b>Object off Cway</b> None	<b>To:</b> Sw	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> Slight	

### ***Accident Details:***

<b>Acc Ref:</b> 2018-410264751	<b>1st / 2nd Rd:</b> 0U464/1 B156/16	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 2
<b>Day of Week:</b> Mon	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 2
<b>Date:</b> 29/01/2018 11:59:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 1
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
U464 Maynard Place Cuffley Approx 10m North J/w C156 Station Road				<b>On Site:</b> Yes

V1 Car Trav West On Station Road Has Turned Right Into Maynard Place On Wrong Side Of C/way & Collided With Two Peds Crossing C/way From V1 N/s Trav East

**Easting:** 530505      **Northing:** 202711

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	B	Flookdri					

### ***Casualty Details***

<b>Acc Ref:</b> 2018-410264751	<b>Cas Class:</b> Pedestri	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Xnrside
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 45	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Pedestrians	<b>Ped Location:</b> Elsewher
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Notapp	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notapp

<b>Acc Ref:</b> 2018-410264751	<b>Cas Class:</b> Pedestri	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Xnrside
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 87	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Pedestrians	<b>Ped Location:</b> Elsewher
<b>Cas Ref:</b> 2	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Notapp	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notapp

### ***Vehicle Details***

<b>Acc Ref:</b> 150222	<b>Manoeuvre:</b> Turnrigh	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 70
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Exit	<b>Object off Cway:</b> None	<b>To:</b> N	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy:</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> None	

### ***Accident Details:***

<b>Acc Ref:</b> 2017-410250634	<b>1st / 2nd Rd:</b> B156/15 NONE	<b>Jun Detail:</b> Entrance	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Wed	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 15/11/2017 08:33:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 3
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road East Cuffley At Entrance To Tennis Club & Approx 200m Sw J/w U402 Kingsway				<b>On Site:</b> Yes
All Vs Cars. V1 Followed By V3 Trav Ne On Northaw Road East. V1 Slowed To Turn Right Into Tennis Club & V3 Has Swerved But Collided With Rear V1 And Then Front V2 Trav Sw				
<b>Easting:</b> 530236	<b>Northing:</b> 202170			

### ***Casualty Details***

<b>Acc Ref:</b> 2017-410250634	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 52	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 150127	<b>Manoeuvre:</b> Waitrigh	<b>Skidding:</b> None	<b>Impact Point:</b> None	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 34
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Sw	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Lmain	<b>Object off Cway</b> None	<b>To:</b> Se	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 52
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Ne	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Approach	<b>Object off Cway</b> None	<b>To:</b> Sw	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> Slight	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 24
<b>Veh Ref:</b> 3	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Sw	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Approach	<b>Object off Cway</b> None	<b>To:</b> Ne	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	



### ***Accident Details:***

<b>Acc Ref:</b> 2017-410242066	<b>1st / 2nd Rd:</b> B156/15 0U402/1	<b>Jun Detail:</b> Crossrd	<b>Weather:</b> Fog/mist	<b>Num Cas:</b> 1
<b>Day of Week:</b> Thu	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 19/10/2017 08:05:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Wet	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road East Cuffley J/w U402 Kingsway				<b>On Site:</b> Yes

V2 Mgv Trav Ne On Northaw Road East Approaching Jct. V1 Car Turning Right Out Of Kingsway, Driver Failed To See V2 & Pulled Out Colliding With V2. Driver V1 Claims Not To Have Seen V2 Due To Fog

**Easting:** 530349

**Northing:** 202333

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Badweath					
V 1	B		Flookdri				

### ***Casualty Details***

<b>Acc Ref:</b> 2017-410242066	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 58	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 150040	<b>Manoeuvre:</b> Starting	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 58
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Nw	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Emain	<b>Object off Cway</b> None	<b>To:</b> Sw	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> Slight	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 54
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Sw	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Gdmdwght	<b>Junction:</b> Middle	<b>Object off Cway</b> None	<b>To:</b> Ne	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Work	<b>Driver Severity:</b> None	

### ***Accident Details:***

<b>Acc Ref:</b> 2017-410229491	<b>1st / 2nd Rd:</b> B156/16 0U464/1	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Tue	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 19/09/2017 07:45:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Station Road Cuffley Approx 10m West J/w U464 Maynard Place				<b>On Site:</b> Yes

Both Vs Cars. V1 Trav West On Station Road When N/s V1 Has Collided With O/s V2 Parked To V1 N/s

**Easting:** 530495

**Northing:** 202698

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Flookdri	Reckdriv				

### ***Casualty Details***

<b>Acc Ref:</b> 2017-410229491	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 31	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 149343	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Nearside	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 31
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> Parked	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Exit	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Work	<b>Driver Severity:</b> Slight	

<b>Acc Ref:</b>	<b>Manoeuvre:</b> Parked	<b>Skidding:</b> None	<b>Impact Point:</b> Offside	<b>Driver Breath Test:</b> Notcon	<b>Driver Age:</b> 58
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> P	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Exit	<b>Object off Cway</b> None	<b>To:</b> P	<b>Driver Gender:</b> Unknown	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> None	

### ***Accident Details:***

<b>Acc Ref:</b> 2017-410212664	<b>1st / 2nd Rd:</b> B156/16 0U464/1	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Fri	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 16/06/2017 10:56:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Station Road Cuffley J/w U464 Maynard Place				<b>On Site:</b> Yes

V2 Car W/bound On Station Road Waiting For Uk Veh Ahead To Turn Right Into Maynard Place. V1 Car Trav West Collided With Rear V2

**Easting:** 530511

**Northing:** 202701

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Tooclose	Flookdri				
V 2	A			Stopping			

### ***Casualty Details***

<b>Acc Ref:</b> 2017-410212664	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 20	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 149160	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 31
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Approach	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Work	<b>Driver Severity:</b> None	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Waitahea	<b>Skidding:</b> None	<b>Impact Point:</b> Back	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 20
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Approach	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> Slight	

### ***Accident Details:***

<b>Acc Ref:</b> 2017-410186534	<b>1st / 2nd Rd:</b> B156/16 NONE	<b>Jun Detail:</b> Entrance	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Sat	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 1
<b>Date:</b> 06/05/2017 12:10:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 1
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Station Road Cuffley Est 32m East J/w Theobolds Road				<b>On Site:</b> No

Pedestrian Intending To Cross Station Road From South Opposite Entrance To Car Park Has Seen U/k Vehicle Trav West Approaching Indicating To Turn Right Into Car Park & Ped Stepped To Cross As V1 Car Emerged Fromn Car Park Turning Right Onto Station Road

**Easting:** 530500

**Northing:** 202699

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
C 1	B		Maskpedx				
V 1	A	Flookdri					

### ***Casualty Details***

<b>Acc Ref:</b> 2017-410186534	<b>Cas Class:</b> Pedestri	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Xnrside
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 84	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Pedestrians	<b>Ped Location:</b> Elsewher
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Notapp	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notapp

### ***Vehicle Details***

<b>Acc Ref:</b> 148677	<b>Manoeuvre:</b> Turnrigh	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notcon	<b>Driver Age:</b> 56
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> N	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Emain	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	

### Accident Details:

Acc Ref:	2016-410140467	1st / 2nd Rd:	C57/10 B156/14	Jun Detail:	T	Weather:	Rain	Num Cas:	2
Day of Week:	Sun	Parish:		Jun Control:	Giveway	Light:	Darkunkn	Num Peds:	0
Date:	25/12/2016 00:15:00	District:	WelHat	Spec Conditions:	None	Road Surface:	Dry	Num Vehicles:	2
Acc Severity:	Serious	Speed Limit:	60mph	C/way Hazard:	None	C/way Type:	Single	Ped Xing:	Npernox
C57 Cattlegate Road Cuffley J/w B15 Northaw Road East								On Site:	Yes

V1 Car Trav Sw On Northaw Road East Has Turned Left Into Cattlegate Road & Collided With O/s V2 Taxi Waiting At Jct To Turn Right. V1 Fts

Easting: 529789

Northing: 201761

### Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Swerved					

### Casualty Details

Acc Ref:	2016-410140467	Cas Class:	Driver	Car Passenger:	No	Cas Severity:	Serious	Ped Movement:	Notped
Veh Ref:	2	Cas Age:	48	PSV Passenger:	No	Road User Class:	Car Users	Ped Location:	Notped
Cas Ref:	1	Cas Gender:	Male	Seat Belt:	Wornnot	School Pupil:		Ped Work on Rd:	Notped

Acc Ref:	2016-410140467	Cas Class:	Passenge	Car Passenger:	Rearseat	Cas Severity:	Serious	Ped Movement:	Notped
Veh Ref:	2	Cas Age:	73	PSV Passenger:	No	Road User Class:	Car Users	Ped Location:	Notped
Cas Ref:	2	Cas Gender:	Female	Seat Belt:	Wornnot	School Pupil:		Ped Work on Rd:	Notped

### Vehicle Details

Acc Ref:	147676	Manoeuvre:	Turnleft	Skidding:	None	Impact Point:	Offside	Driver Breath Test:	Notcon	Driver Age:	50
Veh Ref:	1	Location:	Carw	Object in Cway:	None	From:	Ne	Hit and Run:	Hit&run		
Veh Type:	Car	Junction:	Lmain	Object off Cway	None	To:	S	Driver Gender:	Male		
Foreign Veh:		Towing:	None	velcwy	Offside	J Purpose:	Other	Driver Severity:	None		

Acc Ref:		Manoeuvre:	Waitrigh	Skidding:	None	Impact Point:	Offside	Driver Breath Test:	Negati	Driver Age:	48
Veh Ref:	2	Location:	Carw	Object in Cway:	None	From:	S	Hit and Run:	Nothtrun		
Veh Type:	Taxi	Junction:	Approach	Object off Cway	None	To:	Ne	Driver Gender:	Male		
Foreign Veh:		Towing:	None	velcwy	No	J Purpose:	Work	Driver Severity:	Serious		

### Accident Details:

<b>Acc Ref:</b> 2016-410148588	<b>1st / 2nd Rd:</b> B156/16 0U464/1	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 2
<b>Day of Week:</b> Wed	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 12/10/2016 10:45:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Station Road Cuffley Approx 15m West J/w U464 Maynard Place				<b>On Site:</b> Yes

Both Vs Cars Trav West On Station Road. V1 Stopped To Allow Uk Veh To Pull Into C/way From Parking Space To N/s & V2 Has Collided With Rear V1

**Easting:** 530489

**Northing:** 202697

### Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 2	A		Distrout	Newdrivr			
V 2	B	Flookdri					

### Casualty Details

<b>Acc Ref:</b> 2016-410148588	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 19	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2016-410148588	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Frontsea	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 63	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 2	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### Vehicle Details

<b>Acc Ref:</b> 147703	<b>Manoeuvre:</b> Waitahea	<b>Skidding:</b> None	<b>Impact Point:</b> Back	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 67
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Exit	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> None	

<b>Acc Ref:</b>	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 19
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Exit	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> Slight	



### ***Accident Details:***

<b>Acc Ref:</b> 2016-4100B0115	<b>1st / 2nd Rd:</b> B156/13 C57/15	<b>Jun Detail:</b> T	<b>Weather:</b> Rain	<b>Num Cas:</b> 4
<b>Day of Week:</b> Fri	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Darklit	<b>Num Peds:</b> 0
<b>Date:</b> 05/02/2016 22:30:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Wet	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 60mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road West Northaw J/w C57 Cattlegate Road				<b>On Site:</b> Yes

Both Vs Cars. V1 Trav East On Northaw Road West Following Uk Van Which Braked. V1 Braked & Swerved Into Opposite Side Of C/way & Collided Head On With V2 Trav West

**Easting:** 529772      **Northing:** 201762

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Misspeed	Stopping	Swerved	Lostcont	Slipweat	

### ***Casualty Details***

<b>Acc Ref:</b> 2016-4100B0115	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 26	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2016-4100B0115	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 26	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 2	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2016-4100B0115	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Frontsea	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 25	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 3	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2016-4100B0115	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Frontsea	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 25	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 4	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 145480	<b>Manoeuvre:</b> Stopping	<b>Skidding:</b> Skidded	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 26
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> W	<b>Hit and Run:</b> Nothtrun	

**Set Name (if saved) :** 24759

<b>Veh Type:</b>	Car	<b>Junction:</b>	Middle	<b>Object off Cway</b>	None	<b>To:</b>	E	<b>Driver Gender:</b>	Female
<b>Foreign Veh:</b>		<b>Towing:</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	Slight
<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Ahead	<b>Skidding:</b>	None	<b>Impact Point:</b>	Front	<b>Driver Breath Test:</b>	Negati
<b>Veh Ref:</b>	2	<b>Location:</b>	Carw	<b>Object in Cway:</b>	None	<b>From:</b>	E	<b>Hit and Run:</b>	Nothtrun
<b>Veh Type:</b>	Car	<b>Junction:</b>	Middle	<b>Object off Cway</b>	None	<b>To:</b>	W	<b>Driver Gender:</b>	Male
<b>Foreign Veh:</b>		<b>Towing:</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	Slight

### ***Accident Details:***

<b>Acc Ref:</b> 2015-4100B0799	<b>1st / 2nd Rd:</b> B156/16 0U684/1	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Fri	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Darklit	<b>Num Peds:</b> 1
<b>Date:</b> 18/12/2015 15:53:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 1
<b>Acc Severity:</b> Serious	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Nperpelx
B156 Station Road Cuffley Approx 18m West J/w U684 Theobalds Road				<b>On Site:</b> Yes

V1 Car Trav Slowly West On Station Road Has Collided With Ped Who Ran Across C/way From V1 N/s

**Easting:** 530535      **Northing:** 202704

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
C 1	A	Reckped					

### ***Casualty Details***

<b>Acc Ref:</b> 2015-4100B0799	<b>Cas Class:</b> Pedestri	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Serious	<b>Ped Movement:</b> Xnrside
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 79	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Pedestrians	<b>Ped Location:</b> Within50
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Notapp	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notapp

### ***Vehicle Details***

<b>Acc Ref:</b> 144965	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 25
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> E	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Exit	<b>Object off Cway</b> None	<b>To:</b> W	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> Nearside	<b>J Purpose:</b> Tofrowrk	<b>Driver Severity:</b> None	

### Accident Details:

<b>Acc Ref:</b> 2015-4100B0695	<b>1st / 2nd Rd:</b> B156/15 NONE	<b>Jun Detail:</b> Entrance	<b>Weather:</b> Fine	<b>Num Cas:</b> 3
<b>Day of Week:</b> Sun	<b>Parish:</b>	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 01/11/2015 12:17:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Wet	<b>Num Vehicles:</b> 3
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 60mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road East Cuffley At Entrance To Cuffley Football Club & Approx 208m Sw J/w U684 Theobalds				<b>On Site:</b> Yes
All Vs Cars. V1 Following V2 Trav Ne On Northaw Road East. V2 Stops Waiting To Turn Right Into Football Club & V1 Has Collided With Rear V2 Pushing V2 Across C/way Into Front V3 Trav Sw				

**Easting:** 530237      **Northing:** 202171

### Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A		Toofast	Flookdri			
V 1	B	Tooclose			Distrout	Sun	

### Casualty Details

<b>Acc Ref:</b> 2015-4100B0695	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Rearseat	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 3	<b>Cas Age:</b> 14	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Wornind	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped
<b>Acc Ref:</b> 2015-4100B0695	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 2	<b>Cas Age:</b> 69	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 2	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Wornnot	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped
<b>Acc Ref:</b> 2015-4100B0695	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Frontsea	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 3	<b>Cas Age:</b> 13	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 3	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### Vehicle Details

<b>Acc Ref:</b> 144712	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 73
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> Sw	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Approach	<b>Object off Cway:</b> None	<b>To:</b> Ne	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy:</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> None	

<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Waitrigh	<b>Skidding:</b>	None	<b>Impact Point:</b>	Back	<b>Driver Breath Test:</b>	Notreq	<b>Driver Age:</b>	69
<b>Veh Ref:</b>	2	<b>Location:</b>	Carw	<b>Object in Cway:</b>	None	<b>From:</b>	Sw	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Approach	<b>Object off Cway</b>	None	<b>To:</b>	Ne	<b>Driver Gender:</b>	Female		
<b>Foreign Veh:</b>		<b>Towing:</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	Slight		
<hr/>											
<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Ahead	<b>Skidding:</b>	None	<b>Impact Point:</b>	Front	<b>Driver Breath Test:</b>	Notreq	<b>Driver Age:</b>	52
<b>Veh Ref:</b>	3	<b>Location:</b>	Carw	<b>Object in Cway:</b>	None	<b>From:</b>	Ne	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Approach	<b>Object off Cway</b>	None	<b>To:</b>	Sw	<b>Driver Gender:</b>	Male		
<b>Foreign Veh:</b>		<b>Towing:</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	None		
<hr/>											

### ***Accident Details:***

<b>Acc Ref:</b> 2015-4100B0679	<b>1st / 2nd Rd:</b> C57/10 NONE	<b>Jun Detail:</b> Notjunct	<b>Weather:</b> Fine	<b>Num Cas:</b> 2
<b>Day of Week:</b> Sat	<b>Parish:</b>	<b>Jun Control:</b> Notjunct	<b>Light:</b> Darklit	<b>Num Peds:</b> 0
<b>Date:</b> 24/10/2015 23:12:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Wet	<b>Num Vehicles:</b> 1
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 60mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
C57 Cattlegate Road Cuffley Approx 60m South J/w B156 Northaw Road East				<b>On Site:</b> Yes

V1 Car Trav At Speed Has Turned Left Into Cattlegate Road From Northaw Road East, Lost Control & Left C/way O/s Into A Ditch

**Easting:** 529789

**Northing:** 201714

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Slipweat		Toofast			
V 1	B		Speeding				

### ***Casualty Details***

<b>Acc Ref:</b> 2015-4100B0679	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 22	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

<b>Acc Ref:</b> 2015-4100B0679	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Frontsea	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 22	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 2	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 144529	<b>Manoeuvre:</b> Ahead	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 22
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> N	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> Inditch	<b>To:</b> S	<b>Driver Gender:</b> Female	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> Offside	<b>J Purpose:</b> Other	<b>Driver Severity:</b> Slight	

### ***Accident Details:***

<b>Acc Ref:</b> 2015-4100B0593	<b>1st / 2nd Rd:</b> C57/10	NONE	<b>Jun Detail:</b> Notjunct	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Thu	<b>Parish:</b>		<b>Jun Control:</b> Notjunct	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 01/10/2015 17:40:00	<b>District:</b> WelHat		<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 60mph		<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
C57 Cattlegate Ropad Northaw O/s No 5 & Approx 205m South J/w B156 Northaw Road West					<b>On Site:</b> Yes
Both Vs Cars Trav North On Cattlegate Road In Heavy Traffic & V2 Has Collided With Rear V1					

**Easting:** 529823

**Northing:** 201566

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 2	B	Distrcin					

### ***Casualty Details***

<b>Acc Ref:</b> 2015-4100B0593	<b>Cas Class:</b> Passenge	<b>Car Passenger:</b> Rearseat	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 58	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Female	<b>Seat Belt:</b> Wornind	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 144514	<b>Manoeuvre:</b> Stopping	<b>Skidding:</b> None	<b>Impact Point:</b> Back	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 39
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> S	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> None	<b>To:</b> N	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> None	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Stopping	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Negati	<b>Driver Age:</b> 58
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> S	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Notjunct	<b>Object off Cway</b> None	<b>To:</b> N	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Other	<b>Driver Severity:</b> None	



### ***Accident Details:***

<b>Acc Ref:</b> 2015-4100B0511	<b>1st / 2nd Rd:</b> B156/14 C57/10	<b>Jun Detail:</b> T	<b>Weather:</b> Fine	<b>Num Cas:</b> 1
<b>Day of Week:</b> Sat	<b>Parish:</b> Northaw	<b>Jun Control:</b> Giveway	<b>Light:</b> Day	<b>Num Peds:</b> 0
<b>Date:</b> 15/08/2015 16:45:00	<b>District:</b> WelHat	<b>Spec Conditions:</b> None	<b>Road Surface:</b> Dry	<b>Num Vehicles:</b> 2
<b>Acc Severity:</b> Slight	<b>Speed Limit:</b> 30mph	<b>C/way Hazard:</b> None	<b>C/way Type:</b> Single	<b>Ped Xing:</b> Npernox
B156 Northaw Road East Cuffley J/w C57 Cattlegate Road				<b>On Site:</b> Yes

Both Vs Cars. V1 Trav North On Cattlegate Road Has Turned Right Into Northaw Road East & Been Hit N/s By V2 Trav East On Northaw Road West & Turning Right Into Cattle Gate Road

**Easting:** 529787

**Northing:** 201768

### ***Contributory Factors***

Participant	Confidence	Factor 1	2	3	4	5	6
V 2	A	Newdrivr					

### ***Casualty Details***

<b>Acc Ref:</b> 2015-4100B0511	<b>Cas Class:</b> Driver	<b>Car Passenger:</b> No	<b>Cas Severity:</b> Slight	<b>Ped Movement:</b> Notped
<b>Veh Ref:</b> 1	<b>Cas Age:</b> 28	<b>PSV Passenger:</b> No	<b>Road User Class:</b> Car Users	<b>Ped Location:</b> Notped
<b>Cas Ref:</b> 1	<b>Cas Gender:</b> Male	<b>Seat Belt:</b> Unknown	<b>School Pupil:</b>	<b>Ped Work on Rd:</b> Notped

### ***Vehicle Details***

<b>Acc Ref:</b> 144134	<b>Manoeuvre:</b> Turnrigh	<b>Skidding:</b> None	<b>Impact Point:</b> Nearside	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 28
<b>Veh Ref:</b> 1	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> S	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Emain	<b>Object off Cway</b> None	<b>To:</b> E	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Tofrowrk	<b>Driver Severity:</b> Slight	
<b>Acc Ref:</b>	<b>Manoeuvre:</b> Turnrigh	<b>Skidding:</b> None	<b>Impact Point:</b> Front	<b>Driver Breath Test:</b> Notreq	<b>Driver Age:</b> 91
<b>Veh Ref:</b> 2	<b>Location:</b> Carw	<b>Object in Cway:</b> None	<b>From:</b> W	<b>Hit and Run:</b> Nothtrun	
<b>Veh Type:</b> Car	<b>Junction:</b> Middle	<b>Object off Cway</b> None	<b>To:</b> S	<b>Driver Gender:</b> Male	
<b>Foreign Veh:</b>	<b>Towing:</b> None	<b>velcwy</b> No	<b>J Purpose:</b> Unknown	<b>Driver Severity:</b> None	

# Appendix D



client  
**LANDS IMPROVEMENT**

project  
**LAND TO THE NORTH EAST OF  
KGV PLAYING FIELDS, CUFFLEY**

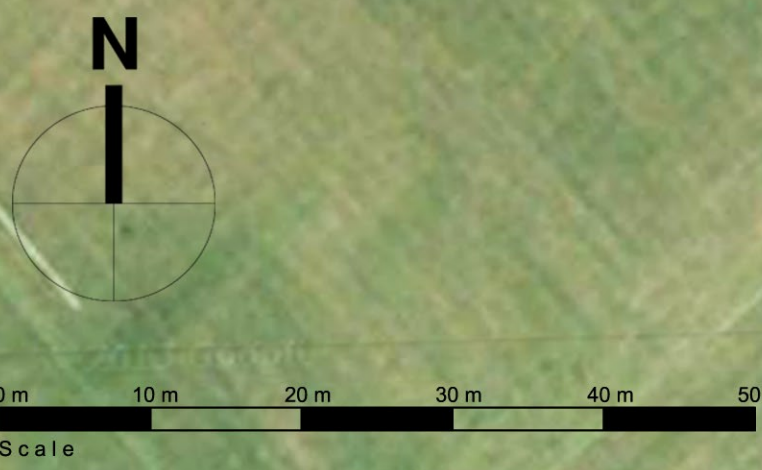
description  
**ILLUSTRATIVE MASTERPLAN**

scale  
**1:500@A1**

date  
**MAY 2015**

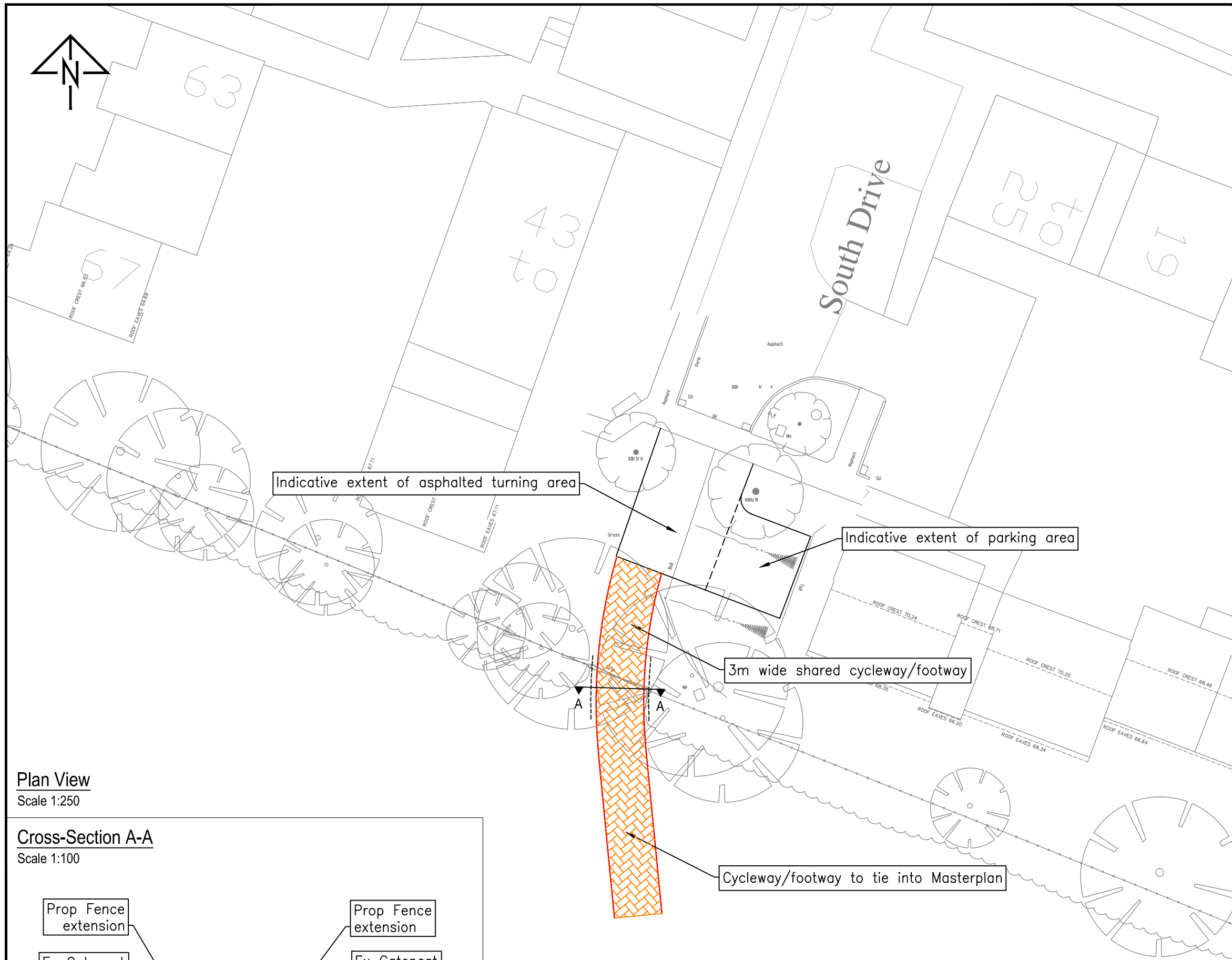
status  
**PLANNING**

**2271-C-1005-B**





# Appendix W

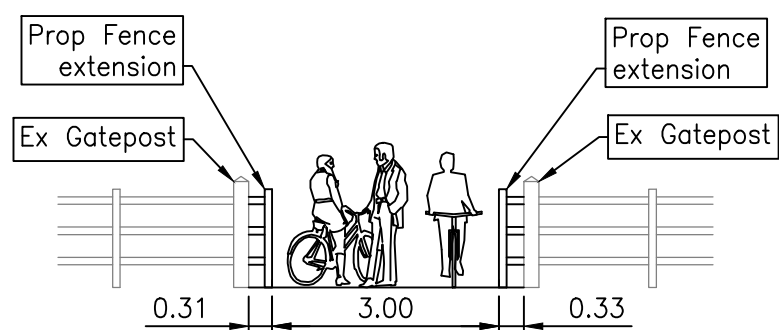


Plan View

Scale 1:250

Cross-Section A-A

Scale 1:100



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Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.
3. Topographical Survey is 1667\_0 by Landscape.

A	Cross-Section A-A	JM	MMcC	11/06/2015
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King  
George V Playing Fields

DRAWING TITLE:

Proposed Shared  
Cycleway/Footway Link  
South Drive

SCALES:

As Shown at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	05/06/2015
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Network Building, 97 Tottenham Court Road, London W1T 4TP  
t: 020 7580 7373 e: enquiries@vectos.co.uk

DRAWING NUMBER:

141386/A/37

REVISION:

A

# Appendix F





- KEY**
- Red Line Boundary
  - Proposed Development (See Plan 2051.16/10A)
  - Indicative new planting along northern edge of Northaw Brook (Tree and scrub planting)
  - Existing Definitive Rights of Way (Including Hertfordshire Way and Chain Walk)
  - Proposed permissive paths

CLIENT:  
Land Improvement Holdings

PROJECT:  
Land at Northaw Road, Cuffley

TITLE:  
Illustrative Landscape Framework

SCALE AT A3: 1:2,500

DATE:  
June 2015

2130.19/09G

**HDA 6**

Based on Ordnance Survey mapping with permission of Her Majesty's Stationery Office  
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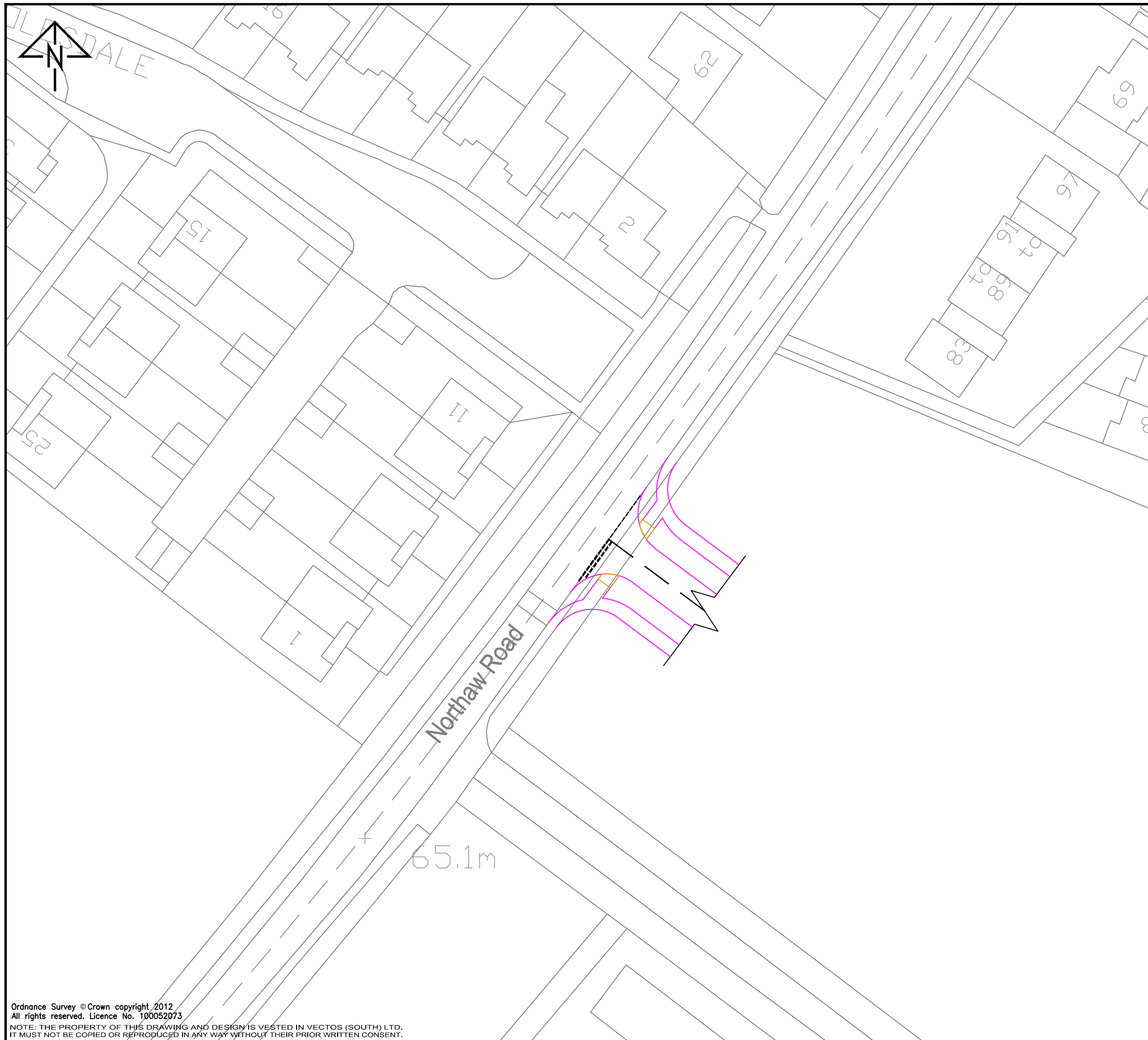
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The Stables, Howbery Park, Benson Lane, Wallingford, OX10 8BA  
t 01491 838175 e consult@hda-enviro.co.uk w www.hda-enviro.co.uk

Landscape Architecture  
Masterplanning  
Ecology





# Appendix G



**Notes:**

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

A	Tactiles shown	JM	MMcC	12/06/2015
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields


DRAWING TITLE:

Highways Layout for  
Determination  
Site Access

SCALES:

1:500 at A3

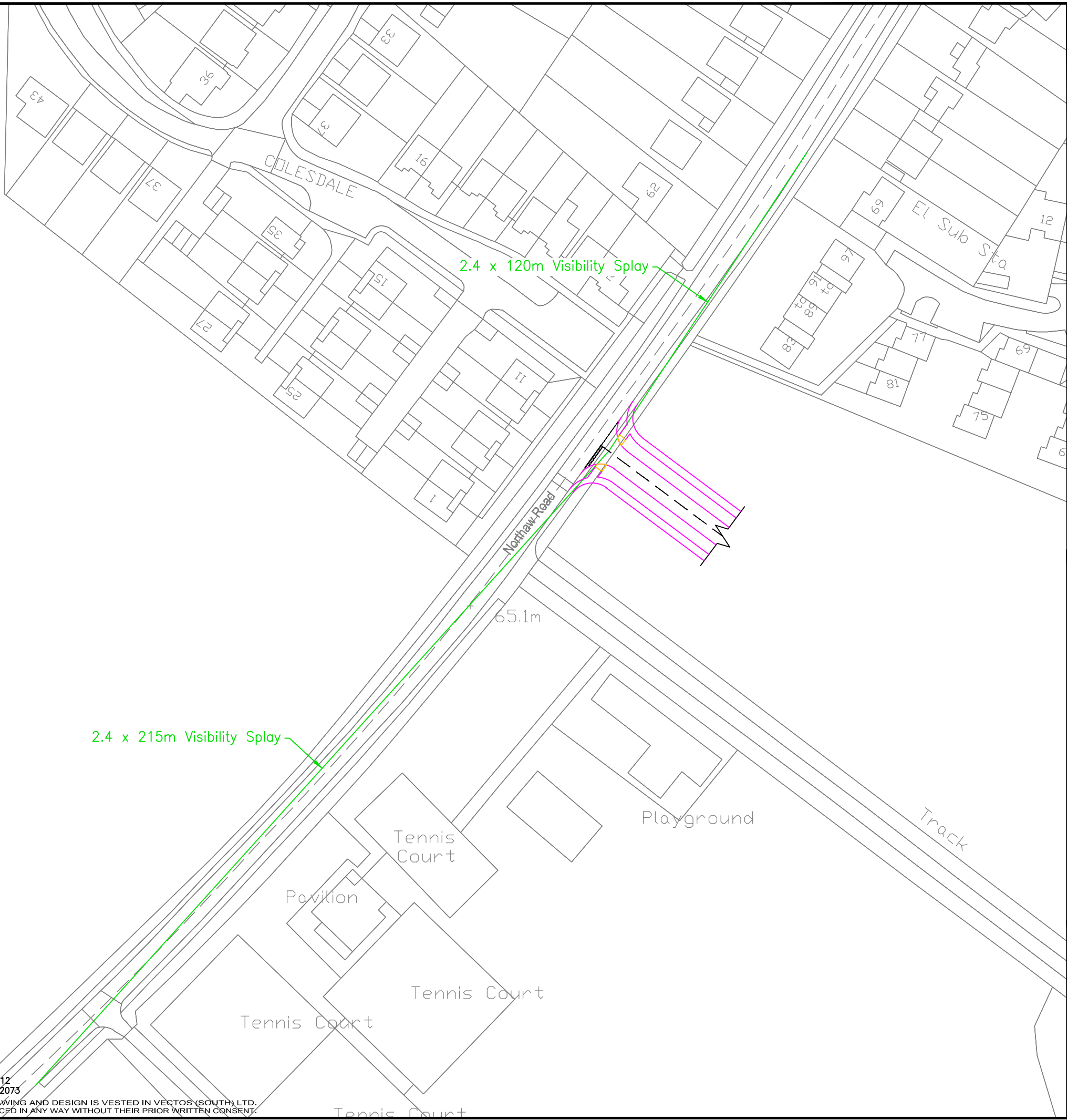
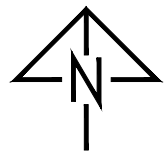
DRAWN:	JM	CHECKED:	MMcC	DATE:	21/05/2015
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transport planning specialists

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t: 020 7580 7373 e: enquiries@vectors.co.uk

DRAWING NUMBER:	141386/A/35	REVISION:	A
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- Notes:
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  2. White lining is indicative only.
  3. Site Access design from 141386/A/01.

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Proposed Site Access  
Visibility Splays

SCALES:

1:1000 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	17/11/2014
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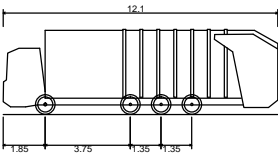


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DRAWING NUMBER:	141386/A/29	REVISION:	.
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- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
  - 2. White lining is indicative only.
  - 3. Site Access from 141386\_A\_01 Rev C.



12.1m Mercedes Econic 3233LL 8x4 chassis)  
Overall Length 12.100m  
Overall Width 2.490m  
Overall Body Height 3.749m  
Min Body Ground Clearance 0.302m  
Track Width 2.490m  
Lock to Lock Time 4.00s  
Wall to Wall Turning Radius 11.250m

A	1:100 Scale insets added	JM	MMcC	25/06/2015
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:  
**Lands Improvement**

PROJECT:  
**Land to the north east of King George V Playing Fields**

DRAWING TITLE:  
**Swept Path Analysis  
Site Access  
Refuse**

SCALES:  
**1:500 at A3**

DRAWN:	JM	CHECKED:	MMcC	DATE:	17/11/2014
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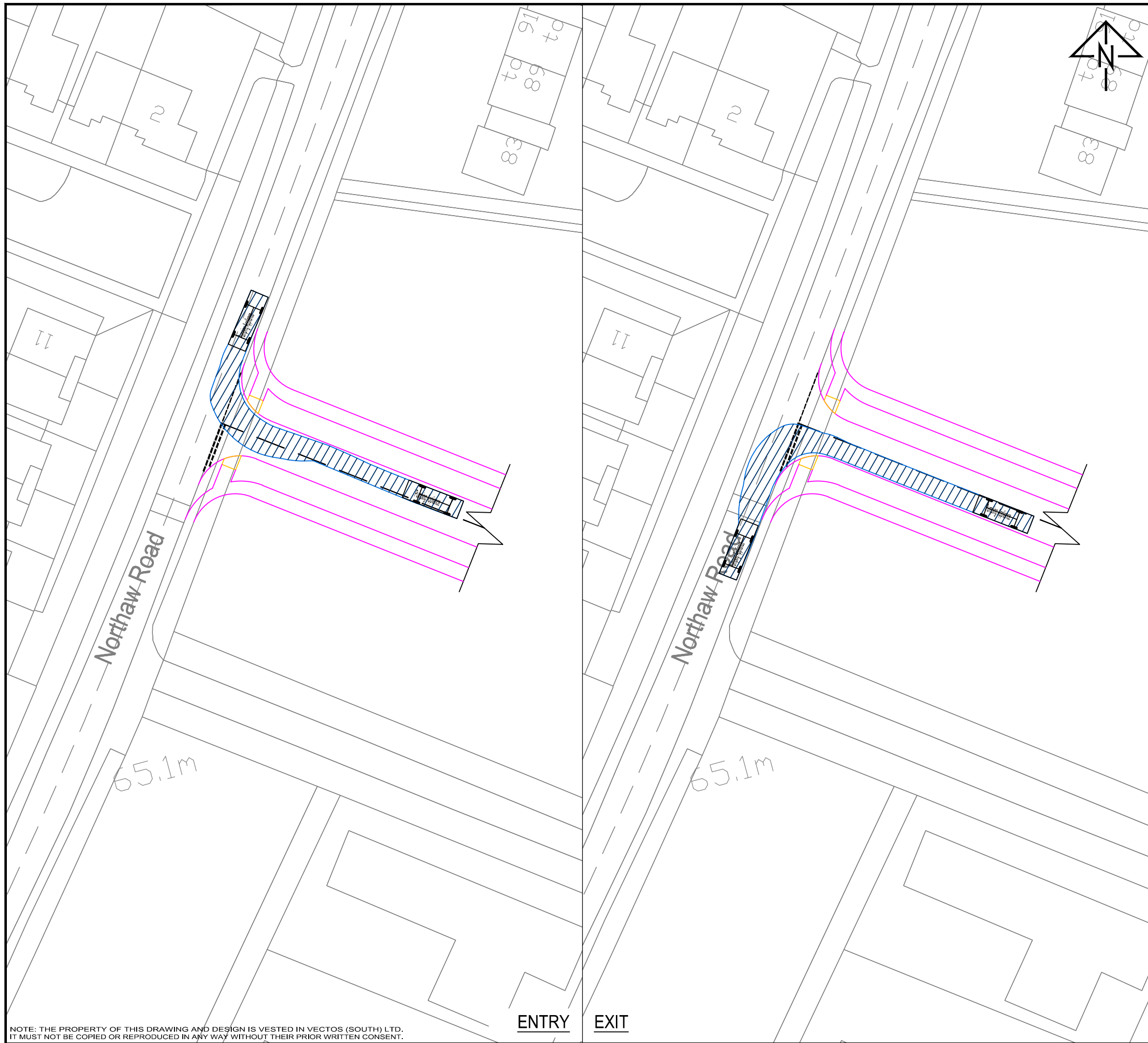


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t: 020 7580 7373 e: enquiries@vectors.co.uk

DRAWING NUMBER:	141386/AT/G01	REVISION:	A
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**Notes:**

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.
3. Site Access from 141386\_A\_01 Rev C.

Pumping Appliance	7.900m
Overall Length	2.500m
Overall Width	3.300m
Overall Body Height	0.140m
Min Body Ground Clearance	2.500m
Track Width	4.00s
Lock to Lock Time	7.750m
Kerb to Kerb Turning Radius	

REV.	DETAILS	DRAWN	CHECKED	DATE

**CLIENT:**

Lands Improvement

**PROJECT:**

Land to the north east of King George V Playing Fields

**DRAWING TITLE:**

Swept Path Analysis  
Site Access  
Fire Tender

**SCALES:**

1:500 at A3

<b>DRAWN:</b> <p>JM</p>	<b>CHECKED:</b> <p>MMcC</p>	<b>DATE:</b> <p>17/11/2014</p>
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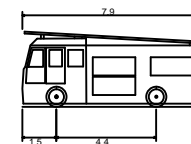
Network Building, 97 Tottenham Court Road, London W1T 4TP  
t: 020 7580 7373 e: enquiries@vectos.co.uk

<b>DRAWING NUMBER:</b> <p>141386/AT/H01</p>	<b>REVISION:</b> <p>.</p>
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- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
  - 2. White lining is indicative only.
  - 3. Site Plan is 2271-C-1005-B Illustrative Masterplan by Omega Architects.



Pumping Appliance  
Overall Length 7.900m  
Overall Width 2.500m  
Overall Body Height 3.300m  
Min Body Ground Clearance 0.140m  
Track Width 2.500m  
Lock to Lock Time 4.00s  
Kerb to Kerb Turning Radius 7.750m

C	Latest Site Plan	JM	MMcC	25/06/2015
B	Latest Site Plan	JM	MMcC	11/06/2015
A	Shared Surface included	JM	ID	29/10/2014
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:  

# Lands Improvement

PROJECT:  

## Land to the north east of King George V Playing Fields

DRAWING TITLE:  

### Swept Path Analysis Fire Tender Accessibility

SCALES:  

### 1:1000 at A3

DRAWN: JM	CHECKED: MMcC	DATE: 28/10/2014
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t: 020 7580 7373 e: enquiries@vectors.co.uk

DRAWING NUMBER: <h1>141386/AT/D01</h1>	REVISION: <h1>C</h1>
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**Notes:**

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2. White lining is indicative only.
3. Site Plan is 2271-C-1005-B Illustrative Masterplan by Omega Architects.

**Key**

- Bin Wheeling Distance
- Storage Point required (25m max distance)

Vulture 2225 (with Mercedes Eonic 2628LL 6x4 chassis)  
Overall Length 9.930m  
Overall Width 2.490m  
Overall Body Height 3.749m  
Min Body Ground Clearance 0.302m  
Track Width 2.490m  
Lock to Lock Time 4.00s  
Wall to Wall Turning Radius 9.100m

D	Latest Site Plan	JM	MMcC	25/06/2015
C	Latest Site Plan	JM	MMcC	11/06/2015
B	Shared Surface included	JM	ID	29/10/2014
A	Amenity Area proposal	JM	ID	27/10/2014

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

**Lands Improvement**

PROJECT:

**Land to the north east of King George V Playing Fields**

DRAWING TITLE:

**Swept Path Analysis  
Refuse Accessibility  
Clockwise**

SCALES:

**1:1250 at A3**

DRAWN:	JM	CHECKED:	MMcC	DATE:	20/10/2014
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t: 020 7580 7373 e: enquiries@vectos.co.uk

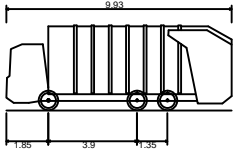
DRAWING NUMBER:	141386/AT/A01	REVISION:	D
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- Notes:
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  2. White lining is indicative only.
  3. Site Plan is 2271-C-1005-B Illustrative Masterplan by Omega Architects.



Vulture 2225 (with Mercedes Econic 2628LL 6x4 chassis)  
Overall Length 9.930m  
Overall Width 2.490m  
Overall Body Height 3.749m  
Min Body Ground Clearance 0.302m  
Track Width 2.490m  
Lock to Lock Time 4.00s  
Wall to Wall Turning Radius 9.100m

C	Latest Site Plan	JM	MMcC	25/06/2015
	Latest Site Plan	JM	MMcC	11/06/2015
	Shared Surface included	JM	ID	29/10/2014
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:  

# Lands Improvement

PROJECT:  

## Land to the north east of King George V Playing Fields

DRAWING TITLE:  

### Swept Path Analysis Refuse Accessibility Anti-Clockwise


SCALES:  

### 1:1250 at A3

DRAWN: JM

CHECKED: MMcC

DATE: 27/10/2014



transport planning specialists

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DRAWING NUMBER:  

# 141386/AT/B01

REVISION:  

# C



## Appendix H

# Land Improvement Holdings Limited

**Northaw Road, Cuffley  
Proposed Site Access - Option 2**

**Stage 1 Road Safety Audit**

**November 2014**



## Contents

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2</b>	<b>QUALIFICATIONS AND EXPERIENCE OF THE REPORT WRITERS .....</b>	<b>3</b>
<b>3</b>	<b>MATTERS ARISING FROM THIS AUDIT .....</b>	<b>4</b>
	Departures from Standards .....	4
	Audit Issues .....	4
<b>4</b>	<b>AUDIT TEAM STATEMENT.....</b>	<b>6</b>

## Appendices

<b>Appendix A</b>	<b>- Site Location Plan</b>
<b>Appendix B</b>	<b>- General Arrangement Drawing</b>
<b>Appendix C</b>	<b>- CV of Asa John Plant</b>

# 1 INTRODUCTION

- 1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on Tuesday 18th November 2014. The audit was carried out on the instructions of the Vectos Planning Team based in the London Office, on behalf of Lands Improvement Holdings Limited.
- 1.2 A site visit was undertaken on Tuesday 18th November 2014 at 14:30. The weather was dry and cloudy. Moderate levels of traffic were generally observed. A site location plan can be found at Appendix A of this report.
- 1.3 The terms of reference of the audit are as set out in HD 19/03 and the Chartered Institution of Highways and Transportation document "Road Safety Audit" 2008). Where appropriate, cognisance has also been taken of the Manual for Streets 1 and 2 (MfS1 and MfS2) and of the guidelines for reducing mobility handicaps. The writers have examined and reported only on road safety implications of the scheme as presented and have not examined or identified the compliance of the design to any other criteria.
- 1.4 The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical audit.
- 1.5 The proposals are to provide a new access on to Northaw Road to serve a new residential development.
- 1.6 An audit brief has been provided including layout plans, traffic accident data and traffic flow data. For ease of reference, the following general arrangement can be found at Appendix B:
- Vectos Drawing: W141386/A/01 Revision C

- 1.7 The Audit Team has reviewed the accident data provided. The accident data shows one serious accident involving a cyclist in the vicinity of the proposed site access (ref 2013-4100B0465). This accident would appear to be caused by rider error of the cyclist, overtaking other cyclists in the centre of the carriageway and colliding with the wing mirror of a northbound vehicle. Given this accident has occurred in isolation and there are no pattern of accidents within the vicinity of the site. The Audit Team do not believe there is an existing accident problem at this location.
- 1.8 Whilst recommendations have been made within this report, there may be equally satisfactory alternatives. The Audit Team will be pleased to consider alternatives if required.

## **2 QUALIFICATIONS AND EXPERIENCE OF THE REPORT WRITERS**

2.1 This Audit has been carried out by the following:

A J PLANT MCIHT, MSoRSA, HA Certificate of Competency – Audit Team Leader  
Associate  
Vectos

M CHAMBERLAIN BSc (Hons) Env. Eng., MICE, MCIHT, MSoRSA - Audit Team Member  
Independent Road Safety Consultant

2.2 A summary of the team leader's qualifications and experience can be found in Appendix C of this report.

### **3 MATTERS ARISING FROM THIS AUDIT**

#### **Departures from Standards**

- 3.1 The Auditors are not advised of any departures from standards.

#### **Audit Issues**

##### **3.2 PROBLEM**

Location: General.

Summary: Details of lighting, surface water drainage and tactile paving have not been provided.

##### **RECOMMENDATION**

Ensure lighting, surface water drainage and tactile paving is provided in accordance with design standards.

##### **3.3 PROBLEM**

Location: General.

Summary: New service provision may be required for the proposed development and existing services may need to be diverted. Inspection covers which become polished by traffic action may create skid hazards for two-wheeled vehicles.

##### **RECOMMENDATION**

Ensure as far as practical that no manholes or inspection chambers are located where they are likely to be traversed by two-wheeled vehicles during turning manoeuvres. Where this is unavoidable, use skid resistant covers and ensure that they are regularly inspected and maintained.



### **3.4 PROBLEM**

Location: General.

Summary: Swept path tracking has been provided for a refuse vehicle and fire tender. The swept path manoeuvre for the refuse vehicle is very tight and appears to cross over the footway on the western side of Northaw Road, resulting in potential conflict with pedestrians.

### **RECOMMENDATION**

Ensure swept path manoeuvres can be accommodated within the carriageway.

## 4 AUDIT TEAM STATEMENT

- 4.1 I certify that this Audit has been carried out in accordance with the requirements of HD 19/03.

Signed:   
A J PLANT (Audit Team Leader)

Date: 21<sup>st</sup> November 2014

- 4.2 A summary of the team leader's qualifications and experience can be found in Appendix C of this report.

## **APPENDIX A**

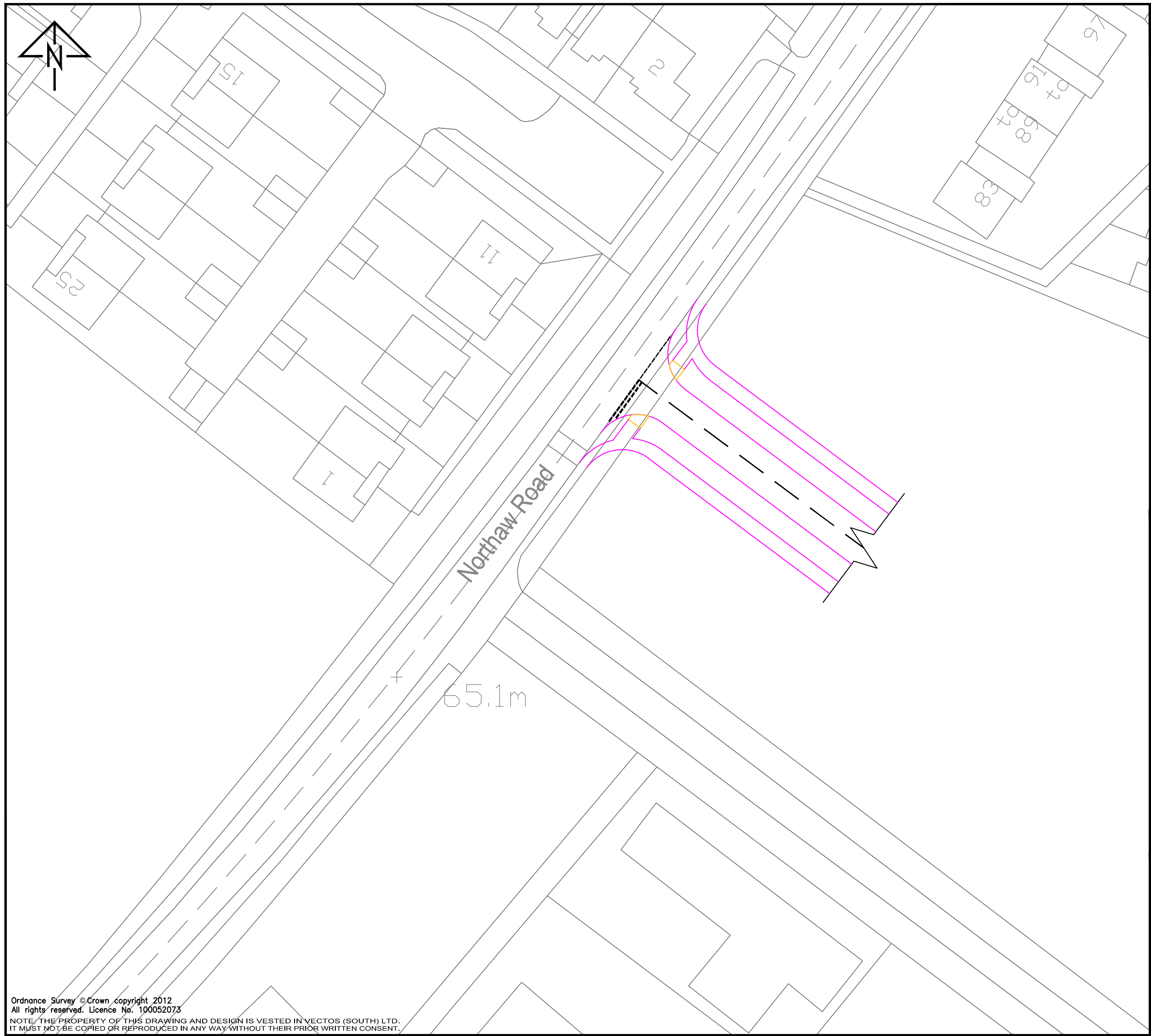
### **Site Location Plan**





## **APPENDIX B**

### **General Arrangement Plan**



- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
  - 2. White lining is indicative only.
  - 3. Tree survey provided by HDA: 2130.38/01, 02, 03 (shown in green)

C	Verge, vis splays & tactiles added.	JM	MMcC	17.11.2014
B	Existing access & distance to new access removed.	JM	MMcC	16.10.2014
A	Access location moved to south. Tree survey added.	TF	ID	13.08.2014

REV.	DETAILS	DRAWN	CHECKED	DATE
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CLIENT:  
**Lands Improvement Holdings Limited**

PROJECT:  
**Cuffley**

DRAWING TITLE:  
**Proposed Site Access Option 2**

SCALES:  
**1:1000 at A3**

DRAWN:	TF	CHECKED:	MM	DATE:	01.08.2014
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DRAWING NUMBER:	<b>141386/A/01</b>	REVISION:	<b>C</b>
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## **APPENDIX C**

### **CV of Asa John Plant**

MCIHT	Member of the Chartered Institution of Highways and Transportation
MSoRSA	Member of the Society of Road Safety Auditors
ROSPA	Road Safety Engineering Accreditation
HA / TMS	Certificate of Competency

asa.plant@vectos.co.uk

#### SUMMARY OF EXPERIENCE

Asa has some 10 years' experience in highway engineering and transport planning, including highway layouts, junction design, junction modelling and 8 years' experience in road safety and remedial engineering.

Asa has completed the RoSPA Road Safety and Accident Investigation and Prevention Course run by TMS and has maintained his CPD in this field. Asa's experience includes transport planning and highways design, including junction design and modelling, road safety and remedial engineering.

Responsible for project management and advising clients from both the public and private sectors in regard to highways, traffic, transportation and road safety matters relating to various land use development proposals, highway schemes and safety studies. This encompasses the following:

- Initial site appraisals
- Master Planning
- Travel Plans
- Transport Assessments / Highways Statements
- Highway design

He regularly acts as a Team Leader / Team Member on the preparation of Safety Audit Reports for Clients in both the Public and Private Sector.

He has attended numerous events providing CPD in the fields of safety audit and investigation. Including:

- ROSPA / TMS - Road Safety Engineering Accident Investigation and Prevention – 10 days
- University of Newcastle upon Tyne - Accident Investigation and Prevention – 2 days
- TMS - Road Safety Audit – 1 day

Asa has obtained the Highways Agency Certificate of Competency in Road Safety Audit. He holds a CSCS Professionally Qualified Persons Card and has attended the HA site induction for Area 4.

#### RECENT CPD

- Highways Agency Certificate of Competency TMS – 17th April 2012 to 18th April 2012 (2 days)
- Can We Make Our Roads Safer For Cyclists? TMS - 14th May 2013 (1 day)
- Non-Motorised User Audits TMS - 23rd May 2013 (1 day)
- Traffex Live 2014 - 15th May 2014 (1 day)
- TMS Roundabout Audit Workshop - 10th June 2014 (1 day)

#### RECENT AUDITS

- Cane Hill, Coulsden – S1/2 RSA – May 2014
- Fornham All Saints Link Road – S2 RSA – April 2014
- Linpac Site, Woodley – S1/2 RSA – April 2014
- Fernham Road, Faringdon – S1/2 RSA – April 2014
- Rectory Park, Ealing – S2 RSA – February 2014





# **ROAD SAFETY AUDIT REPORT & DESIGNERS RESPONSE**

Stage 1

SCHEME TITLE

**Land to the north east of King George V Playing Fields, Cuffley  
Proposed Access Junction**

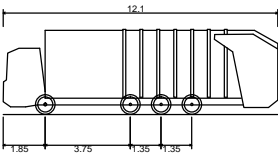
Paragraph Number	Problem	Recommendation	Designer's Response
	<b>Signalised Junction (141208/A/04 Rev C)</b>		
3.2	<b>Location:</b> General <b>Summary:</b> Details of lighting, surface water drainage and tactile paving have not been provided.	Ensure lighting, surface water drainage and tactile paving is provided in accordance with design standards.	Agreed. The details of lighting, surface water drainage and tactile paving will be provided at detail design stage.
3.3	<b>Location:</b> General <b>Summary:</b> New service provision may be required for the proposed development and existing services may need to be diverted. Inspection covers which become polished by traffic may create skid hazards for two-wheeled vehicles.	Ensure as far as practical that no manholes or inspection chambers are located where they are likely to be traversed by two-wheeled vehicles during turning manoeuvres. Where this is unavoidable, use skid resistant covers and ensure that they are regularly inspected and maintained.	Noted. Details of the location of any manholes or inspection chambers will be submitted and agreed at the detailed design stage.
3.4	<b>Location:</b> General <b>Summary:</b> Swept path tracking has been provided for a refuse vehicle and fire tender. The swept path manoeuvre for the refuse vehicle is very tight and appears to cross over the footways on the western side of Northaw Road, resulting in potential conflict with pedestrians.	Ensure swept path manoeuvres can be accommodated within the carriageway.	Noted. The swept path analysis of the refuse truck has been checked and this confirms that the manoeuvres can be undertaken within the carriageway. The updated drawing is included at <b>Appendix A</b> .

## **APPENDIX A**

### **Updated Swept Path Analysis**



- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
  - 2. White lining is indicative only.
  - 3. Site Access from 141386\_A\_01 Rev C.



12.1m Mercedes Econic 3233LL 8x4 chassis)  
Overall Length 12.100m  
Overall Width 2.490m  
Overall Body Height 3.749m  
Min Body Ground Clearance 0.302m  
Track Width 2.490m  
Lock to Lock Time 4.00s  
Wall to Wall Turning Radius 11.250m

A	1:100 Scale insets added	JM	MMcC	25/06/2015
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:  
**Lands Improvement**

PROJECT:  
**Land to the north east of King George V Playing Fields**

DRAWING TITLE:  
**Swept Path Analysis  
Site Access  
Refuse**

SCALES:  
**1:500 at A3**

DRAWN:	JM	CHECKED:	MMcC	DATE:	17/11/2014
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# Appendix I



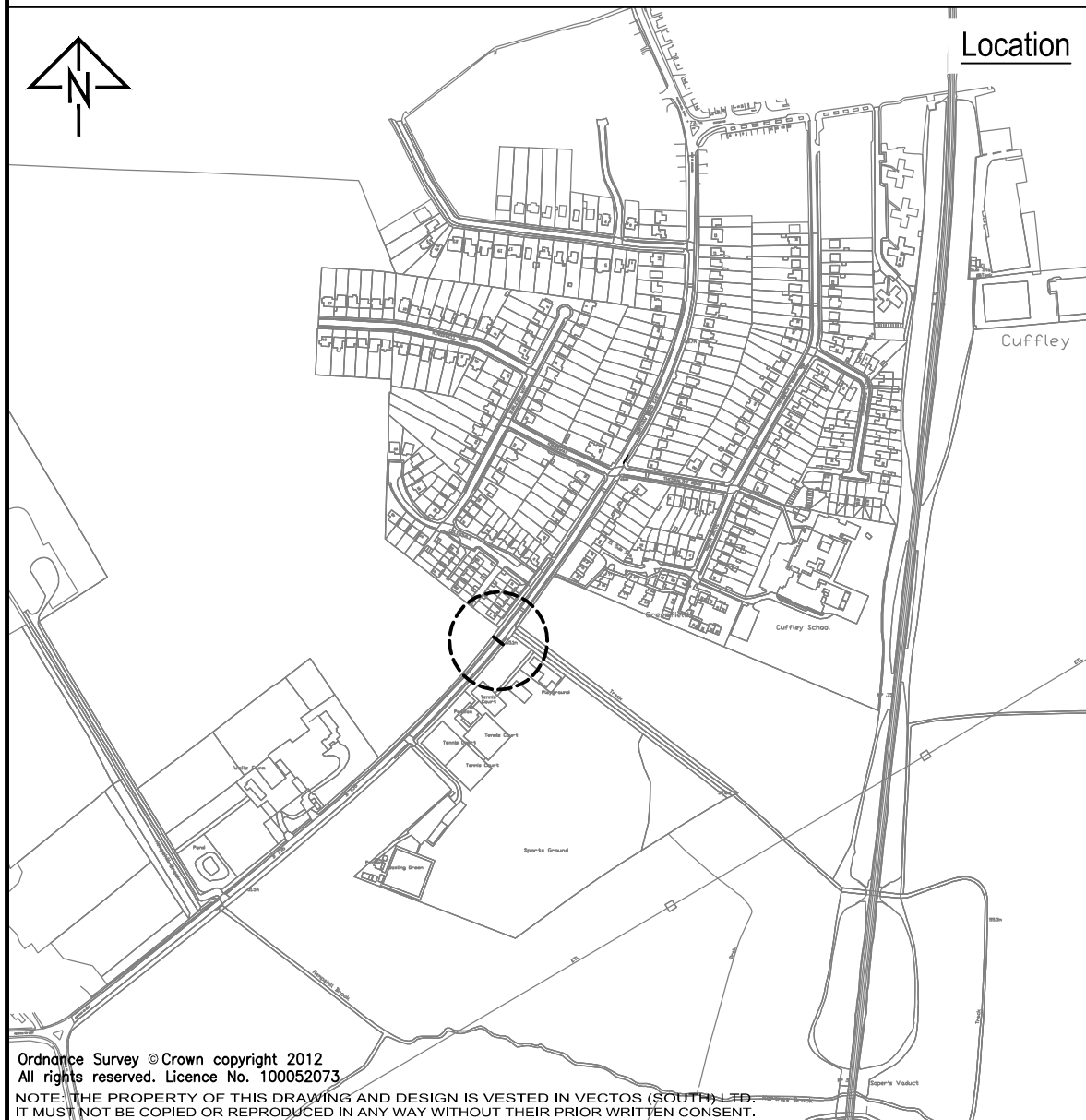
Existing



Proposed



Location



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Example



Alternative Example



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REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King  
George V Playing Fields

DRAWING TITLE:

Village Gateway Improvement

SCALES:

NTS at A3

DRAWN:	JM	CHECKED:	ID	DATE:	12/05/2015
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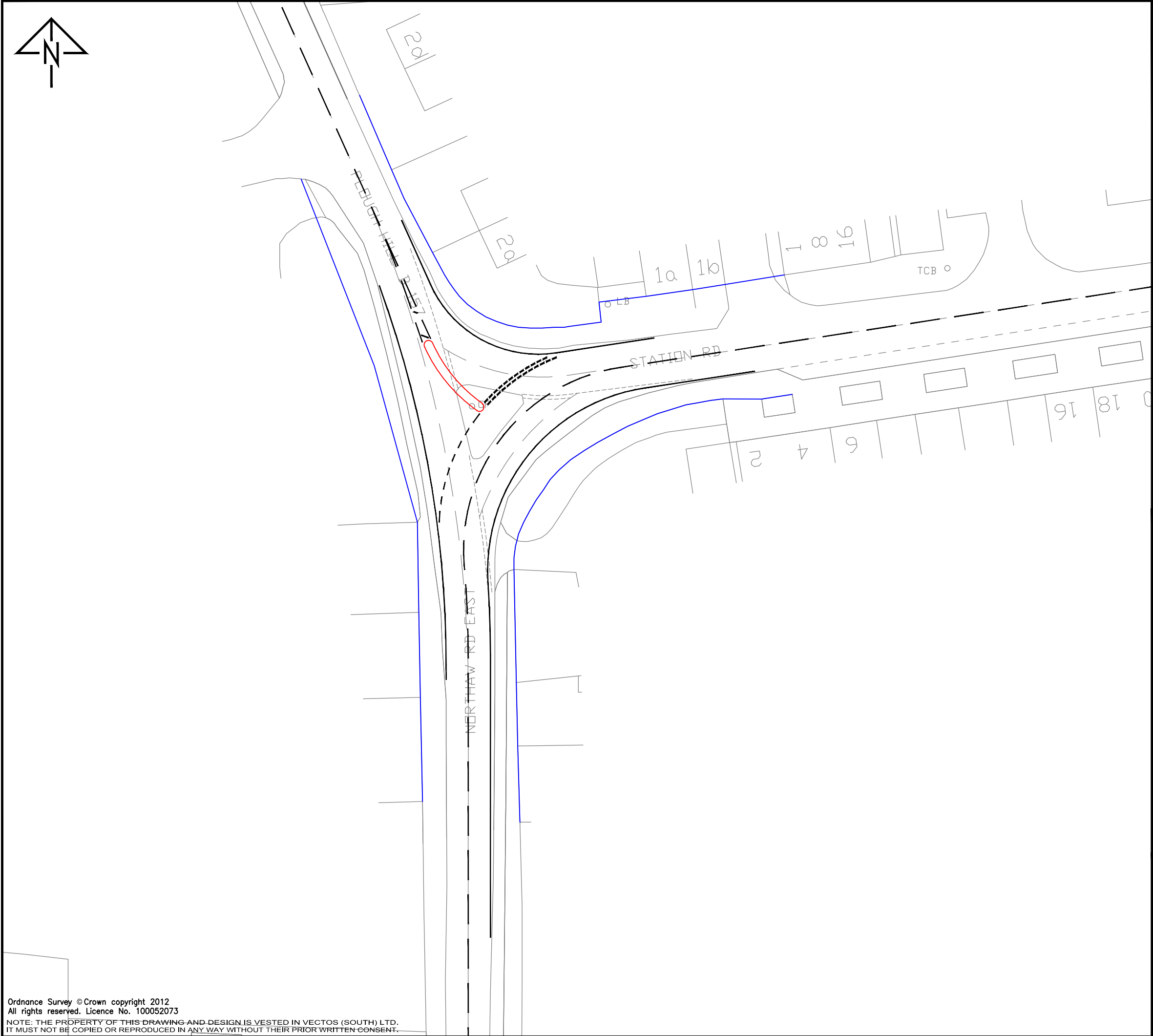


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# Appendix J





Notes:  
1. This is not a construction drawing and is intended for illustrative purposes only.  
2. White lining is indicative only.

Key

Highway Boundary

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:  
  
Lands Improvement

PROJECT:  
  
Land to the north east of King George V Playing Fields

DRAWING TITLE:  
  
Northaw Road East/Station Road Junction Priority Change

SCALES:  
  
1:500 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	12/11/2014
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t: 020 7580 7373 e: enquiries@vectos.co.uk

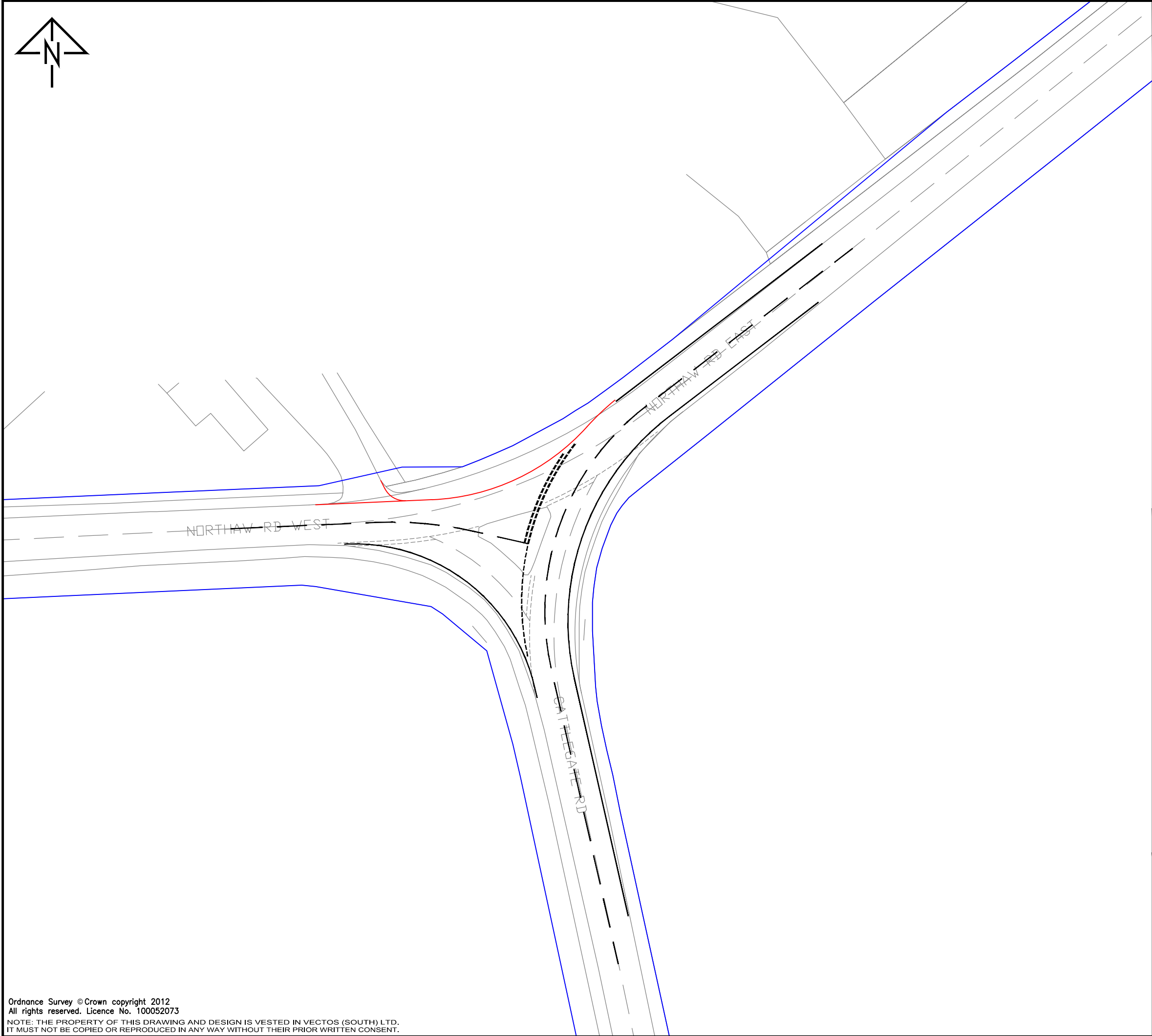
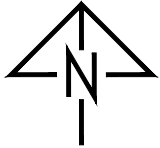
DRAWING NUMBER:

141386/A/27

REVISION:

.





**Notes:**

- 1. This is not a construction drawing and is intended for illustrative purposes only.
- 2. White lining is indicative only.

**Key**

- Highway Boundary

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Cattlegate Road/  
Northaw Road East  
Junction Priority Change

SCALES:

1:500 at A3

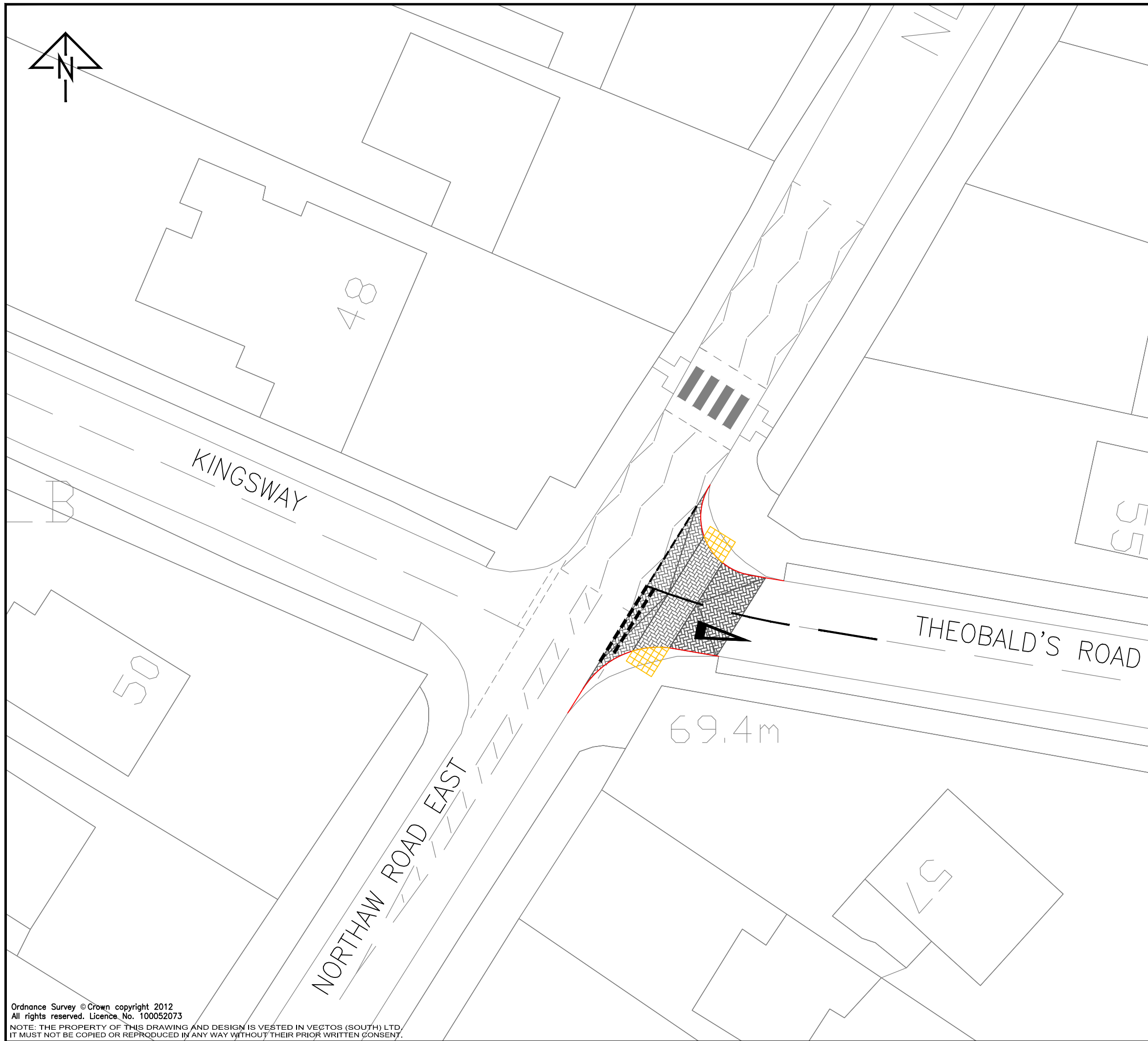
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**Notes:**  
1. This is not a construction drawing and is intended for illustrative purposes only.  
2. White lining is indicative only.

REV.	DETAILS	DRAWN	CHECKED	DATE


**CLIENT:**  
**Lands Improvement**

**PROJECT:**  
**Land to the north east of King George V Playing Fields**

**DRAWING TITLE:**  
**Proposed Kerbline Build-out & Raised Table - Theobald's Road/ Northaw Road East Junction**

**SCALES:**  
**1:500 at A3**

<b>DRAWN:</b> JM	<b>CHECKED:</b> MMcC	<b>DATE:</b> 05/06/2015
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<b>DRAWING NUMBER:</b> <b>141386/A/38</b>	<b>REVISION:</b> .
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# Appendix K

FRAMEWORK TRAVEL PLAN

# Land Improvements

Land to the north east of King George V Playing Fields,  
Cuffley

March 2021

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Framework Travel Plan



## Contents

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2 Site Location and Accessibility for Non-Car Modes.....	6
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5 Travel Plan Strategy.....	13
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Figure 2.3	– Public Rights of Way
Figure 2.4	– 2k Walking Catchment
Figure 2.5	– 5km Cycling Catchment
Figure 2.6	– Local Facilities

## Appendices

Appendix A	– Site Location
------------	-----------------

## Executive Summary

1. Vectos has been appointed by Lands Improvement to provide traffic and transport advice in support of a planning application for a residential development of up to 121 dwellings, associated infrastructure on the land to the north east of King George V Playing Fields, Hertfordshire.
2. An outline planning application (ref: S6/2015/1342/PP) for development proposals at the site comprising 121 dwellings was submitted in 2015 with a Transport Assessment and Travel Plan accompanying the application. As six years have passed, an updated Transport Assessment and Travel Plan has been prepared.
3. It is also noteworthy that Hertfordshire County Council (HCC) highways advised that they had no objection to planning permission being granted subject to planning conditions and completion of a Section 106. A copy of the highway's response note is attached at **Appendix A**.
4. This report therefore is an update on the previously submitted Transport Assessment and includes an updated Travel Plan.
5. The previously submitted report was prepared following an extensive consultation process with local residents and stakeholders. In relation to transport, this included:
  - Two Design Workshops;
  - Two rounds of public consultation through exhibitions;
  - Parish Council Meetings; and
  - Discussions and meetings with highways officers from Hertfordshire County Council (HCC).
6. Although six years has passed, the results of these discussions are taken into consideration for the scheme as they remain relevant given there are very few changes proposed to the scheme from a transport perspective
7. The site is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north, the grounds of Cuffley School to the south, a railway line to the east and the B156 Northaw Road (East) to the west.
8. The site is situated close to a variety of local facilities including education, retail, healthcare and recreation. The site has good links to public transport and two bus stops (eastbound and westbound) are located on Northaw Road East, approximately 60m and 100m from the site respectively. These provide an hourly service (Service number 242) between Waltham Cross and Potters Bar.
9. Cuffley Railway Station is located approximately 850m from the site which provides a frequent service between London and Hertford North. During the weekday AM and PM peak periods, there are circa 5 trains per hour to London, with a journey time of less than 30 minutes.
10. This report sets out a Framework Travel Plan (FTP) for the proposed residential development. It provides an over-arching framework which will drive the production of the Full Travel Plan, once the

site becomes occupied. It has been prepared in consultation with guidance from HCC and with the National Planning Practice Guidance (NPPG).

11. The objectives of this Travel Plan are to:
  - Increase resident awareness of the advantages and availability of sustainable modes of transport over the car;
  - Introduce a package of measures that will facilitate resident travel by sustainable modes; and therefore,
  - Limit unnecessary or unsustainable use of the car for journeys to and from the site by residents.
12. The Action Targets for this Framework Travel Plan are:
  - To appoint a Travel Plan Coordinator (see Travel Plan Strategy, **Section 6**)
  - To coordinate baseline travel surveys (see Monitoring and Review, **Section 8**)
13. The Aim Targets for this Framework Travel Plan are to reduce single occupancy vehicle use by 5% and in turn, increase the modal share of sustainable travel modes such as public transport, walking and cycling by 5%.
14. In the absence of actual data, the modal share targets for the site have been derived using Census 2011 Journey to Work data for the Cuffley and Northaw Ward. Subsequently, an initial survey of travel patterns will be carried out and this will be undertaken once the site is occupied. Occupation is defined as when 75% of the residential units are occupied. The exact nature of the survey will be discussed and agreed in advance with Hertfordshire County Council and the Travel Plan Coordinator (TPC) will be responsible for ensuring a 50% response rate.
15. The TPC is a part time role and they will be appointed by the site management company to manage the day to day running of the Travel Plan. The TPC role, the Travel Plan and its accompanying measures and initiatives will be funded by the developer throughout the five year period. The contact details for the TPC will be provided to HCC upon their appointment and prior to the occupation of the site
16. The developer will also provide £50 per flat and £100 per house for sustainable travel incentives, in line with HCC guidance and a Travel Plan Monitoring Contribution, to support the assessment and monitoring of the Plan.
17. A number of initiatives will be implemented as part of the Travel Plan, including awareness measures, such as the promotion of health benefits associated with walking and cycling and information measures, such as the provision of travel packs for residents.
18. Each year, a Review Report will be prepared by the TPC, outlining the progress of the Travel Plan and its initiatives, as well as an assessment of the survey results and any updates to the targets and initiatives that may subsequently be required. If targets are not being delivered, then the Travel Plan measures will be adjusted or added to, instead of simply revising down the target.

19. After five years, the TPC responsibilities will be passed on to the Residents Association to continue monitoring and management once the scheme is running effectively.



# 1 Introduction

## Background

- 1.1 Vectos have been appointed by Lands Improvements to provide traffic and transport advice in support of a planning application for a residential development at the land to the north east of King George V Playing Fields, Cuffley.
- 1.2 The site is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north and north-west; the grounds of Cuffley Primary School also adjoin the site along its northern boundary.
- 1.3 The planning application seeks permission for a residential development of up to 121 dwellings, associated infrastructure and a change of use from agricultural land to an extension of the King George V playing fields. All matters reserved except for new vehicular access to serve the site, the provision of surface water discharge points and the levels of the development level platforms.
- 1.4 The change of use of the agricultural land to an extension of the King George V Playing Fields will result in no material changes to the transport proposals.
- 1.5 An outline planning application (ref: S6/2015/1342/PP) for development proposals at the site comprising 121 dwellings was submitted in 2015 with a Transport Assessment and Travel Plan accompanying the application. As six years have passed, an updated Transport Assessment is being submitted. However, it is noteworthy that from a transport perspective, there is little to no change proposed from the previous scheme.
- 1.6 It is also noteworthy that during the previous discussions, HCC highways advised that planning permission was to be granted subject to planning conditions and Section 106 agreements. A copy of the highway's response note is attached at Appendix A of the Transport Assessment.
- 1.7 This report sets out a Framework Travel Plan (FTP) for the proposed residential development. It provides an over-arching framework which will drive the production of the Full Travel Plan, once the site becomes occupied.
- 1.8 This Travel Plan has been prepared in consultation with guidance from HCC and with the National Planning Practice Guidance (NPPG) document.

## Travel Plan Scope

- 1.9 This Travel Plan has been written as a stand-alone document. Once further information becomes available it will contain all the relevant information needed to effectively implement and monitor the Travel Plan itself.
- 1.10 The remainder of this document is structured as follows:
  - **Section 3** - Outlines the site location and accessibility by non-car modes;

- **Section 4** - Outlines the Baseline Travel Patterns for residents and employees of the site, based on 2011 census data;
- **Section 5** - Sets out the objectives and targets of the Framework Travel Plan;
- **Section 6** - Outlines the Framework Travel Plan strategy including how it will be managed;
- **Section 7** - Sets out the measures that will be implemented to help achieve the objectives and targets of the Framework Travel Plan;
- **Section 8** - Outlines the monitoring and review programme which will ensure the Framework Travel Plan continues to develop;
- **Section 9** - Sets out an Action Plan for the site.

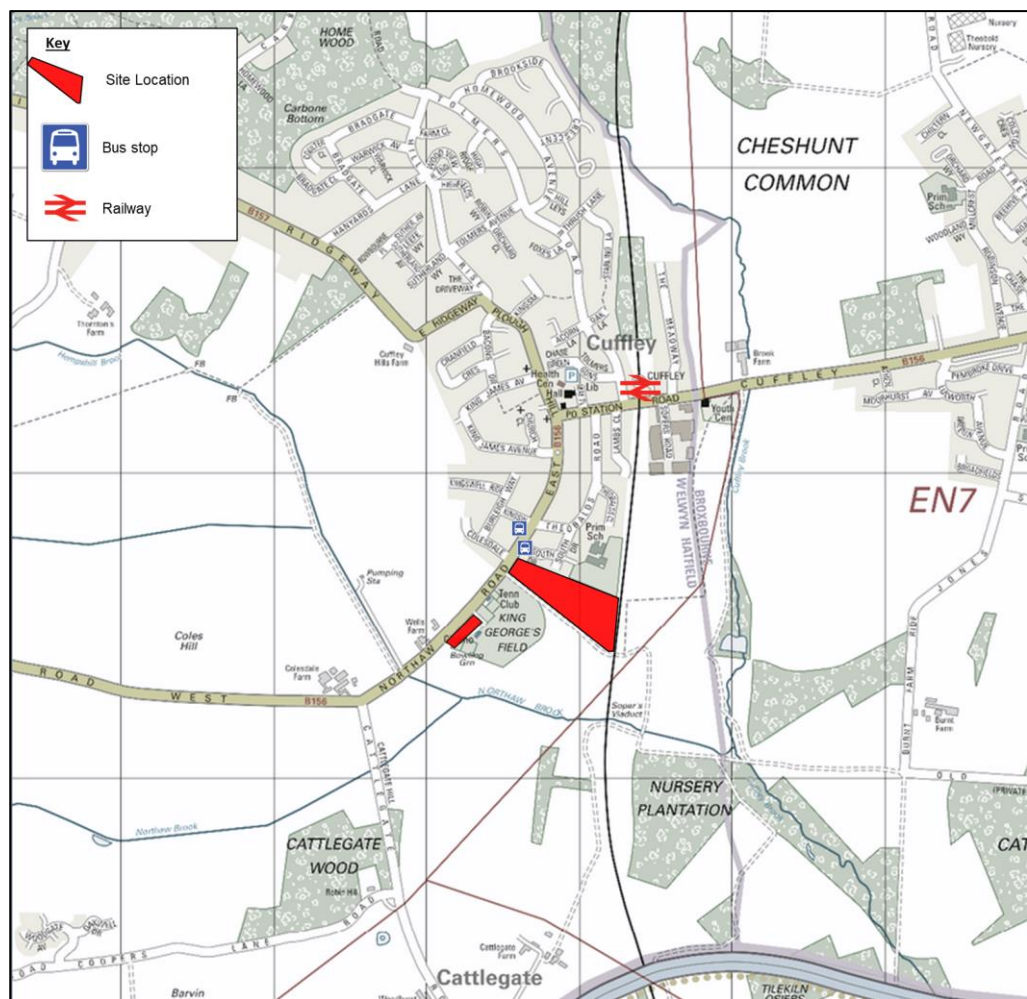
## 2 Site Location and Accessibility for Non-Car Modes

2.1 This section of the TP report provides a description of the transport conditions at the site and the surround area.

### Site Location

2.2 The strategic location of the site in its wider context can be seen in **Figure 2.1**. The local context is shown in below in **Figure 2.2**.

**Figure 2.2: Local Site Location**



- 2.3 The site location plan is included at **Appendix A**.
- 2.4 The site (4.89ha) is located to the south of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north and north-west; the grounds of Cuffley Primary School also adjoin the site along its northern boundary. The railway line and Northaw Road East (B156) form strong eastern and western boundaries respectively. The southern boundary is defined by a mature hedgerow and tree belt lining the Hertfordshire Way footpath. Beyond the footpath to the south west of the site is King George V Playing Fields, which contains three sports pavilions, a recreation area with hard surfaced Multi Use Games Areas (MUGA), sports pitches and a small area of formal play equipment.
- 2.5 The site also includes a rectangular parcel of land (0.63ha), in agricultural use, which is located to the south west of the King George V Playing Fields. Northaw Road East forms the western boundary of the land, beyond which lies a small number of residential properties and buildings associated with agricultural use. Further agricultural land lies to the south whilst tennis courts, sports pavilions and a bowling green are located to the north east and south east of the site.

## **Accessibility by Non-car Modes**

### **Walking and Cycling**

- 2.6 The public right of ways (PRoWs) in the vicinity of the site are shown in **Figure 2.3**.
- 2.7 A public footpath (PRoW number 6) runs along the southern boundary of the site. There is a further footpath to the south west of the site; this is also a recreational footpath that heads further west.
- 2.8 Northaw Road East has a footway running along its northern and southern edge; street lamps feature along the footway. The footway may be used by pedestrians to access Cuffley village centre.
- 2.9 It is reasonable to expect that typical able-bodied people are capable of walking at least 2km for day-to-day activities. The thrust of sustainable policy is that there will be an increasing propensity for people to use non-single car occupancy modes of which walking is one. People will choose their mode based upon their journey purpose and it is reasonable to conclude that residents will choose to walk for a fair proportion of their journey.
- 2.10 A 2km walk isochrone is included within this report as **Figure 2.4**. This figure demonstrates that a number of services and facilities can be accessed within this distance, including the centre of Cuffley and Cuffley Railway Station.
- 2.11 Central Government research states that cycling has the potential to substitute for short car trips, particularly those under 5km, and to form part of a longer journey by public transport.
- 2.12 Cycling is an attractive form of travel and it is reasonable to expect that for typical able-bodied people a cycle distance of 5km is readily achievable and attractive. The propensity for people to choose to cycle will depend on journey purpose and individual ethos as well as having a safe place to store their bicycle at the end of their journey.



- 2.13 A 5km cycle isochrone is included within this report as **Figure 2.5**, which shows the whole of the village is within 5km.

## **Public Transport**

### **Bus Provision**

- 2.14 There are bus stops located on both the east bound and west bound side of Northaw Road East; these are approximately 60m and 100m respectively from the site. From these stops there is one service that runs hourly during the week and a weekly service that runs only on Wednesday morning. Service number 242 runs hourly between Waltham Cross and Potters Bar. The Sunday service is extended as far as Waltham Cross to Welwyn Garden City.

### **Rail Provision**

- 2.15 Cuffley Railway station is located approximately 850m from the site. Cuffley is situated on the Great Northern service that runs a frequent service between London and Hertford North. The station provides a link to London with a journey time of less than 30 minutes to and from Finsbury Park Station. During the weekday AM and PM peak periods there are circa 5 trains per hour to London.

## **Existing Facilities**

- 2.16 The site's proximity to key facilities such as education, retail, healthcare and recreation is key in maintaining a sustainable development.
- 2.17 There are a number of facilities within walking distance of the site that are located within the village of Cuffley. These are shown in **Figure 2.6**.
- 2.18 For educational purposes there is a Primary school located approximately 300m from the frontage of the site on Northaw Road East which adjoins the northern boundary of the site.
- 2.19 Within the village centre there are several facilities including two retail units, a health centre and a public house.

## **Local Highway Network**

- 2.20 The site is bound to the west by the Northaw Road East, which leads into Cuffley village centre to the north. Northaw Road East consists of a single carriageway with one lane in both directions. Upon leaving Cuffley approximately 50m to the south of the site the road becomes de-restricted.
- 2.21 To the north there is the small cul-du sac of South Drive which provides access to the residential units situated there. There is an existing, gated maintenance access to the site from South Drive. Lands Improvement has access rights over this land.
- 2.22 Northaw Road East is classified as a secondary distributor road within Hertfordshire County Council's (HCC) road hierarchy and links Cuffley to Potter Bar and the M25 to the west. To the east, Northaw Road East travels through Cuffley High Street and allows access to Goff's Oak, Chestnut and Waltham Cross.

- 2.23 Through the entirety of Cuffley the speed limit is 30mph. This increases to 40mph in the east upon leaving Cuffley and up to 60mph in the south.

### 3 Baseline Travel Patterns

- 3.1 This section will set out the baseline modal split for Land to the north east of King George V Playing Fields, Cuffley, which will be used as platform for setting future targets in this Framework Travel Plan.
- 3.2 In the interim, Census 2011 Journey to Work data has been used to give an indication of expected modal split for residents. These are set out in **Table 3.1** below.

**Table 3.1 – Resident Modal Split for Cuffley & Northaw Ward**

Travel Mode	Percentage Modal Share
Car Driver	69%
Car Passenger	3%
Rail/ Light Rail/ Underground	21%
Bus	1%
Taxi	1%
Motorcycle	1%
Walk	3%
Cycle	1%
TOTAL	100%

- 3.3 Subsequently, an initial survey of travel patterns will be carried out and this will be undertaken once the site is occupied. Occupation is defined as when 75% of the residential units are occupied. The exact nature of the survey will be discussed and agreed in advance with Hertfordshire County Council.
- 3.4 The survey will provide baseline information on modal split for the site. It is anticipated that the travel behaviour will be established early on in the life of the development; however, the baseline data will be a useful guide in the setting of realistic targets for modal shift over the life of the development.
- 3.5 Prior to the occupation of the site, the modal share shown above in **Table 3.1** will be used to derive interim Travel Plan targets. If, after the baseline travel surveys have been carried out it is found that the expected modal share is not accurate, the targets will be adjusted to reflect the actual modal share.

## 4 Objectives and Targets

4.1 This chapter sets out the overarching objectives for the Framework Travel Plan, as well as targets for the short and medium term. It includes indicators through which progress towards meeting the targets will be measured. Further information on monitoring and review of the Travel Plan can be found in **Section 7**.

- Objectives are the high-level aims of the Travel Plan. They help to give the Travel Plan direction and provide a clear focus.
- Targets are the measurable goals by which progress will be assessed. The Travel Plan sets out targets which the development will seek to reach within the period covered by this Travel Plan. In addition, interim targets have been set.

### Objectives

4.2 The objectives of this Travel Plan are two-fold. Firstly, to increase awareness of sustainable travel modes available to residents and secondly to reduce the dependence of residents on travel by car to and from the development. Therefore, more specifically, the objectives of this Travel Plan are to:

- Increase resident awareness of the advantages and availability of sustainable modes of transport over the car;
- Introduce a package of measures that will facilitate resident travel by sustainable modes; and therefore,
- Limit unnecessary or unsustainable use of the car for journeys to and from the site by residents.

### Targets

4.3 Travel Plan targets are measurable goals by which progress can be assessed. These targets should be reviewed through a programme of monitoring (outlined in **Section 7**) to ensure they remain SMART (Specific, Measurable, Achievable Realistic and Timed).

4.4 Targets come in two forms – Action Targets and Aim Targets:

- Action Targets are non-quantifiable actions that need to be achieved by a certain time.
- Aim Targets are quantifiable and in the case of this Travel Plan relate to the degree of modal shift the plan is seeking to achieve.

### Action Targets

4.5 The Action Targets for this Framework Travel Plan are:

- To appoint a Travel Plan Coordinator (see Travel Plan Strategy, **Section 5**)
- To coordinate baseline travel surveys (see Monitoring and Review, **Section 7**)



## Aim Targets

- 4.6 As described previously, a baseline residential travel survey will be undertaken upon reaching 75% occupation of the site and this will form the results of the Year 0 survey, representing all types of journeys to/ from the site.
- 4.7 The Travel Plan Coordinator will achieve a sufficient response to ensure the survey results can be considered as representative. Door knocking, offer of incentives, or other techniques could be used as required to increase the response rate.
- 4.8 Prior to the baseline survey being undertaken, the following targets have been derived using the assumed modal split for the development as set out in **Section 3** above. **Table 4.1** below shows the target modal split for the development once the Travel Plan has been implemented.

**Table 4.1 – Assumed Development Modal Split and Post Travel Plan Implementation Target Split**

Mode	Modal Split (Census Data)	Modal Split Interim and Final Year Targets		
		Year 1	Year 3	Year 5
Car Driver	69%	67%	65%	64%
Sustainable Transport Modes*	26%	28%	30%	31%

\* Includes Public Transport, Walking and Cycling

- 4.9 The primary purpose of the Travel Plan is to limit unnecessary or unsustainable car journeys (particularly those with single occupants) to and from the development. The aim is to reduce single occupancy vehicle journeys and transfer these trips to a sustainable mode of travel, whether that be public transport, walking or cycling. Where it is not possible for residents to use these modes of travel, car sharing will be encouraged as an alternative.
- 4.10 If the subsequent baseline travel survey shows that the Census data modal split is not accurate the targets will be amended to take into account the surveyed modal split. Targets will be finalised and written into the Travel Plan once the travel surveys have been completed, the results analysed and discussions have been held with the HCC Travel Plan Officer.

## 5 Travel Plan Strategy

### Management

- 5.1 Although all details of how the site is to be managed are not known, it is expected that a single management company, or similar management entity, will be put in place to manage the site.
- 5.2 Under this scenario, the Management Company will appoint a Travel Plan Coordinator (TPC) who will manage the day to day running of the Travel Plan. The contact details for the TPC will be provided to HCC upon their appointment and prior to the occupation of the site
- 5.3 The role of the TPC will be part time and will vary throughout the year in response to campaigns/ sustainable transport events/ monitoring surveys etc. taking place. The TPC will be allocated enough time to effectively manage and implement the Travel Plan as agreed.

### Funding

- 5.4 The Travel Plan, its accompanying measures and initiatives and the TPC role will be funded by the developer throughout the five-year period. The developer will ensure that the TPC has sufficient funding to effectively implement the Plan.
- 5.5 In addition, current HCC guidance requests that developers provide for sustainable travel incentives to the value of £50 per flat and £100 per house. This can be used towards vouchers for cycle equipment or public transport tickets for example. This will be provided by the developer.
- 5.6 A Travel Plan monitoring contribution of £6,000 will also be paid to HCC to support the assessment and monitoring of the Travel Plan.

### TPC Responsibilities

- 5.7 The TPC will be responsible for the administration of the Travel Plan, the implementation of measures, and for the on-going monitoring and review of the Travel Plan. They will have overall responsibility for ensuring that said measures are successfully delivered on time and to budget.
- 5.8 The TPC will report to the management company and other involved stakeholders such as residents' associations (if applicable) and HCC, regarding the implementation and progression of the Travel Plan.
- 5.9 The formation of resident's associations will be encouraged by the TPC in order to understand their view and needs regarding sustainable travel, therefore enabling them to tailor the Travel Plan accordingly. The TPC will meet with said resident's groups on a semi-regular basis.
- 5.10 Administration of the Travel Plan will involve the maintenance of the necessary systems, data and paperwork, consultation and promotion associated with the implementation of the Travel Plan. Regular updating of the Travel Plan document is part of the responsibility of the nominated person.
- 5.11 A filing system will be established and maintained, for recording all correspondence relating to the Travel Plan, the results of periodic monitoring and the results of each review.

## 6 Measures and Initiatives

### Introduction

- 6.1 This section of the Framework Travel Plan outlines the specific physical and management measures to be implemented as part of the Travel Plan. The implementation of the listed measures, which include awareness initiatives, is the core of the Travel Plan. A section outlining measures that are not specific to either element is also included.
- 6.2 As described previously, the developer will provide for sustainable travel incentives to the value of £50 per flat and £100 per house. This can be used towards a variety of different initiatives such as those discussed below.

### Measures

#### Walking

- 6.3 The TPC will report the results of the travel survey to the relevant HCC Officer and will liaise with that Officer to establish the potential for improvements to existing off-site facilities.
- 6.4 The TPC will also seek to ensure that pedestrian routes are appropriately maintained.
- 6.5 The TPC will promote the Health benefits of walking and explore the possibility of using such schemes as '10,000 steps a day campaign.'
- 6.6 A contribution will be made to HCC for the improvements to Right of Way Public Footpath 6, details of which are contained within Appendix A of the Transport Assessment.

#### Cycling

- 6.7 Parking in line with the relevant standards will be provided, the location of which is to be confirmed but will be located in secure and covered areas.
- 6.8 The TPC will report the results of the travel survey to the Cycling Officer of HCC and will liaise with the Officer to establish the potential for improvements to existing off-site facilities.
- 6.9 The TPC will also seek to ensure that cycle routes are appropriately maintained. This will be achieved through a regular dialogue with HCC.
- 6.10 Residents will be provided with information and advice concerning safe cycle routes to the site. The TPC will also seek to promote cycling events such as 'National Bike Week' to increase the profile and knowledge of potential cycle schemes.
- 6.11 The TPC will explore with local bicycle retailers the possibility of providing discounts on cycling equipment to residents of the development. The take up of this discount, if agreed, will be monitored.

## Public Transport

- 6.12 The possibility of discounted travel with local bus and rail operators will be explored by the TPC in order to provide an incentive for residents to use such modes and form a habitual use from the outset.
- 6.13 Up-to-date details of bus, train and taxi services, including route information and service frequencies, will be permanently on display in locations to be agreed. Details of National Rail, Traveline and Car Share websites and enquiry phone numbers will also be displayed.
- 6.14 The TPC will liaise with HCC to ensure that issues periodically raised by residents are considered, for example, extension of services in mornings and evenings where services could be perceived to be lacking.
- 6.15 Taxis have an important role in providing for resident trips, in particular when other modes of transport may not be available. The TPC will ensure that the contact details for a local taxi operator are available on site.

## Marketing Strategy

- 6.16 An essential element of the Travel Plan strategy, and one which largely determines its success, is the promotion of the Travel Plan. In order to promote and increase awareness of the Travel Plan, the following measures will be adopted:
- Distribution of travel information packs to all future residents of the development. This will include maps, bus routes and frequencies and details of local amenities;
  - Display of key Travel Plan information on public notice boards, including posters and/ or leaflets;
  - Arrange Q&A sessions and offer a personalised travel planning service if demand is identified;
  - Promote national travel initiatives and organise site-wide events such as organised cycle rides and walking events
  - Developer will arrange for the display and distribution of sustainable travel information at the marketing suite for the development and on the marketing website; and
  - TPC will attend Residents' Meetings to promote the Travel Plan.
- 6.17 The communal notice boards, which will allow for continued promotion of the Travel Plan, will have a similar layout and content so that they become familiar and accessible to residents and visitors. The notice boards will contain up-to-date public transport information and information detailing walking and cycling opportunities. These will be updated by the TPC as and when new information becomes available.



### Welcome Pack and Travel Information Provision

- 6.18 As described previously, new residents will be provided with a Welcome Pack containing information on public transport services close to the site and other measures for encouraging use of non-car modes of travel. The same information will also be provided on communal noticeboards throughout the site.
- 6.19 The provision of information of alternatives to the car is an important aspect of residential Travel Plans. It is recommended that the packs contain the following information:
- A summarised version of the Travel Plan document, that sets out the purpose and benefits etc;
  - Timetables and route maps for public transport, particularly buses;
  - Contact numbers and web details for the Traveline Journey Planner and National Rail Enquiries;
  - Local taxi company details;
  - Local Car Club information;
  - Cycling and walking maps for the local area;
  - Web details for any community travel sites and community forum sites; and
  - Web and other contact details for major retailers offering home shopping facilities.
  - Contact details for Care Sharing schemes
- 6.20 Car sharing should be encouraged amongst residents of the site. Details of schemes such as [www.liftshare.com](http://www.liftshare.com) will be included in Welcome Packs and on notice boards. Sharing journeys to local employment sites or to rail stations should be encouraged as this will have a direct positive impact on traffic congestion and air quality levels as well as acting a good social networking opportunity.

## 7 Monitoring and Review

### Monitoring

- 7.1 The Travel Plan will be monitored for a period of five years, on an annual basis on the anniversary of the initial baseline survey. As described previously, the baseline travel survey will be undertaken when 75% of the residential units are occupied. The TPC will be responsible for ensuring the survey achieves a representative response rate.
- 7.2 The exact requirements for the monitoring and baseline surveys will be discussed with HCC. In line with HCC guidance, a Travel Plan monitoring contribution of £6,000 will be paid to support the assessment and monitoring of the Travel Plan prior to first occupation.
- 7.3 At the completion of this five year cycle the Travel Plan will be completely reviewed (detailed below).
- 7.4 Information gathered through the monitoring process will be recorded for input to the annual review (outlined below). The information will be made available to the HCC.

### Reporting

- 7.5 The TPC will compile an annual Review Report outlining the progress of the Travel Plan and its initiatives, as well as an assessment of the survey results and any updates to the targets and initiatives that may subsequently be required. If targets are not being delivered, then the Travel Plan measures will be adjusted or added to, instead of simply revising down the target.
- 7.6 It should be noted that any proposed changes to the Travel Plan, including targets and action plans will be discussed and agreed with the Travel Plan officers.
- 7.7 The report will also incorporate the results of on-going monitoring by the TPC such as cycle parking observations, the uptake of TPC travel planning sessions and any comments received from residents, throughout the preceding period. The report will be issued to HCC.
- 7.8 After five years, the TPC responsibilities will be passed on to the Residents Association to continue monitoring and management once the scheme is running effectively.

## 8 Action Plan

8.1 The Action Plan outlined below in **Table 8.1** sets out the measures included within the Travel Plan that are directed at influencing staff travel.

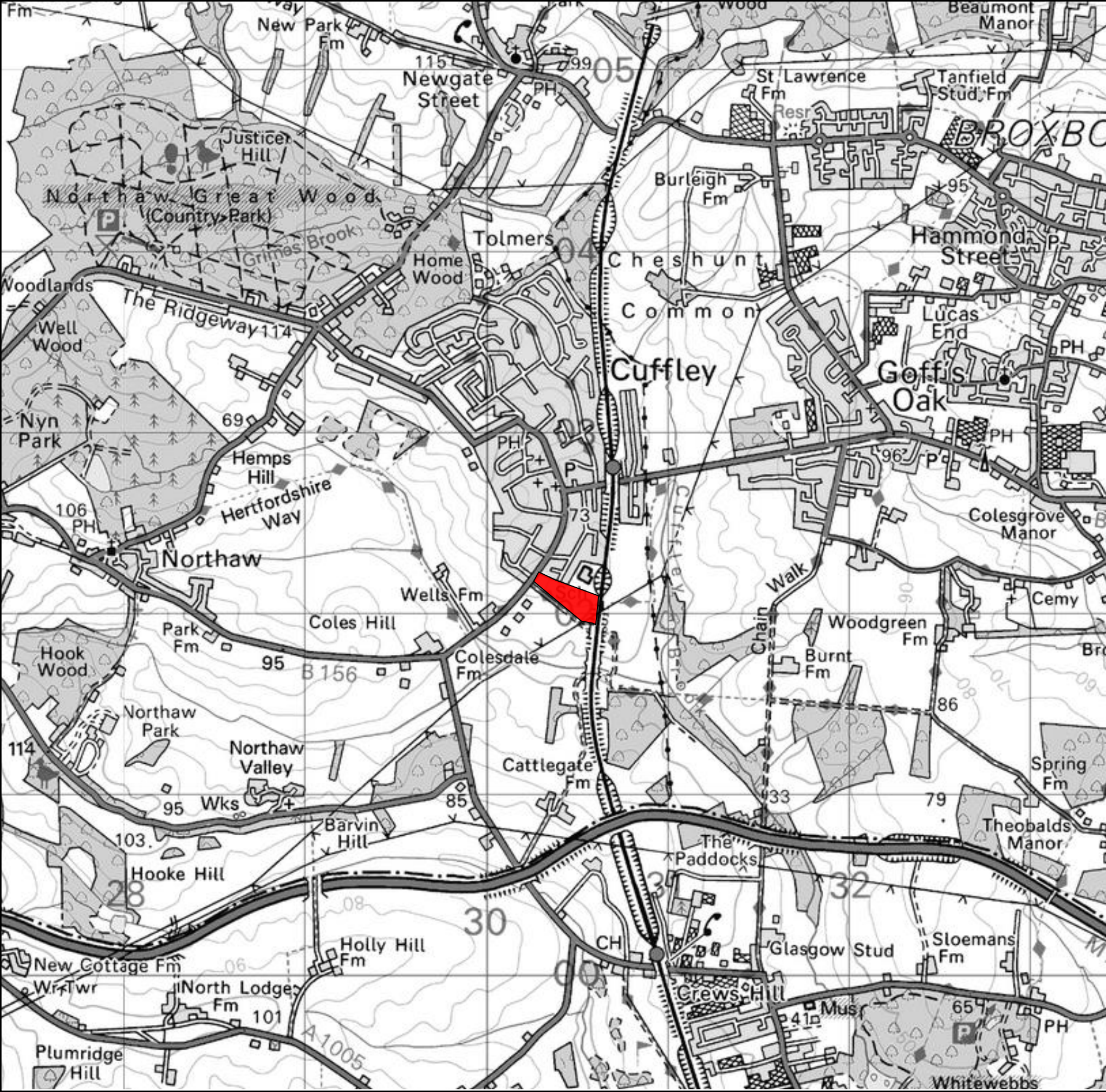
Action Type	Action	Responsibility	Timeframe
Management	Appointment of Travel Plan Coordinator (TPC)	Site Management Company	Three months prior to occupation
Baseline Travel Patterns	Baseline travel survey	TPC	Undertaken when 75% of the residential units are occupied
Travel Plan Document Progression	Finalisation of measures to be implemented	TPC and Planning Authority officers	Within 3 months of the baseline survey
	Target setting	TPC and planning authority officers	Within 3 months of the completion of the baseline survey
	Travel Plan document completion	TPC	Within 3 months of the completion of the baseline survey Revised at Year 3 after full review
Monitoring, Review & Reporting	Monitoring of measures and initiative take-up	TPC	On-Going
	First snapshot/monitoring survey	TPC	At Year 1
	Partial review and reporting 1	TPC and HCC	Following Year 1 snapshot survey result analysis
	Second snapshot/monitoring survey	TPC	At Year 3
	Full review and reporting	TPC and HCC	Following Year 3 monitoring survey results analysis
Implementation	Implementation of measures	TPC with liaison with Management Company	From the start of construction and on-going
	Provision of Travel Packs to all residents	TPC	Upon occupation of each unit
	Communal Notice Boards within site	As part of development and TPC	Within construction period and information to be reviewed by TPC every 6 months
	Personal Travel Planning Service	TPC	On-going

	Cycle Parking located on-site	As part of development and TPC to monitor maintenance/uptake	Within construction period and TPC to monitor uptake to ensure provision is sufficient
	Explore possibility of discounts at cycle retailers	TPC	On-going (dependent on interest from local residents)



# Figures





Key



Site Location

Land to the north east of King George V Playing Fields

Lands Improvement

Strategic site location

SCALES: NTS

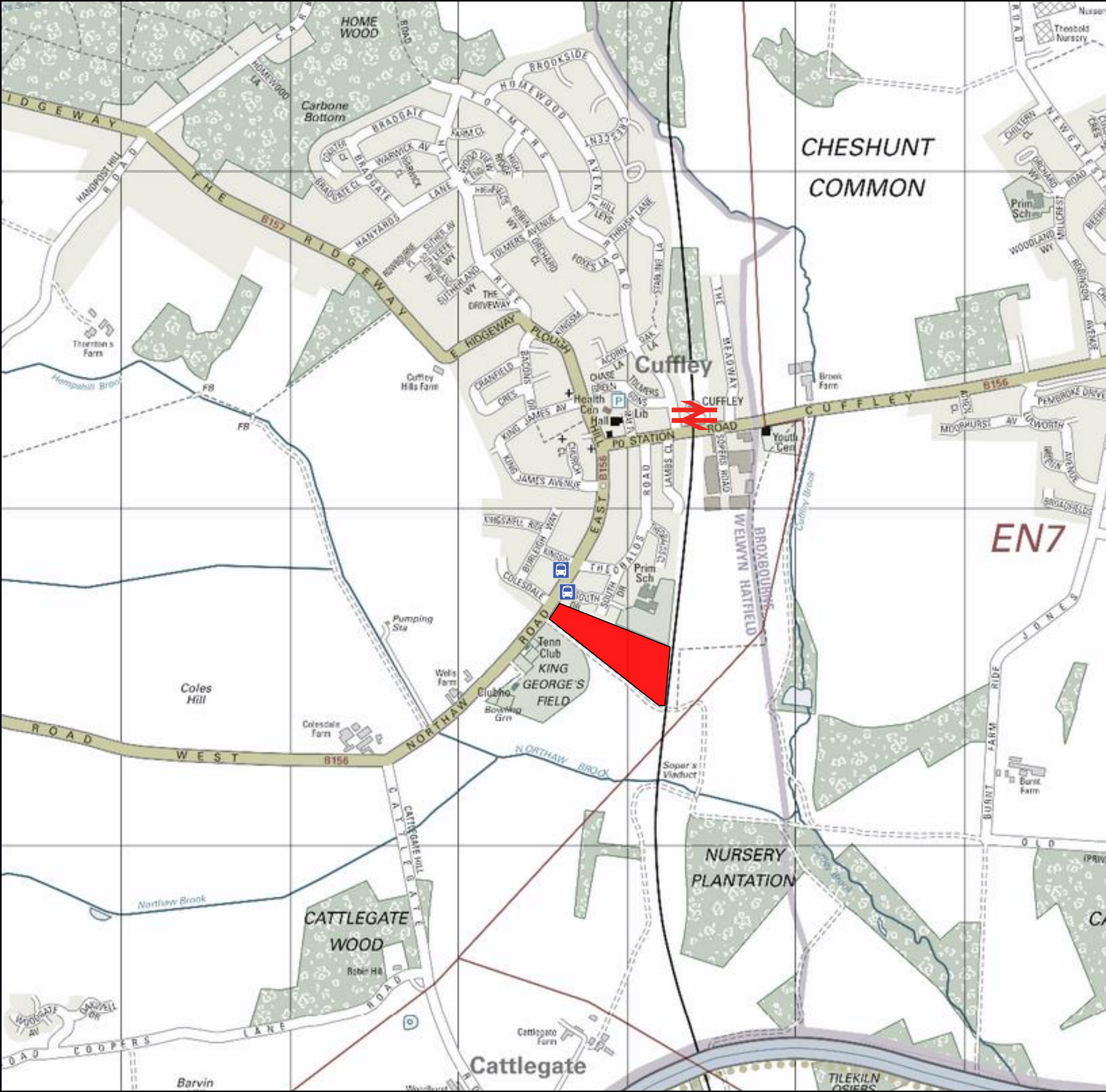
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H.J	M.M	12/01/2021	.



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Tel: 020 7580 7373 Email: vectos@vectos.co.uk www.vectos.co.uk

DRAWING REFERENCE: Figure 2.1





**Key**



Site Location



Bus stop



Railway

Cuffley

Lands Improvements  
Holdings

Local site location

SCALES: NTS

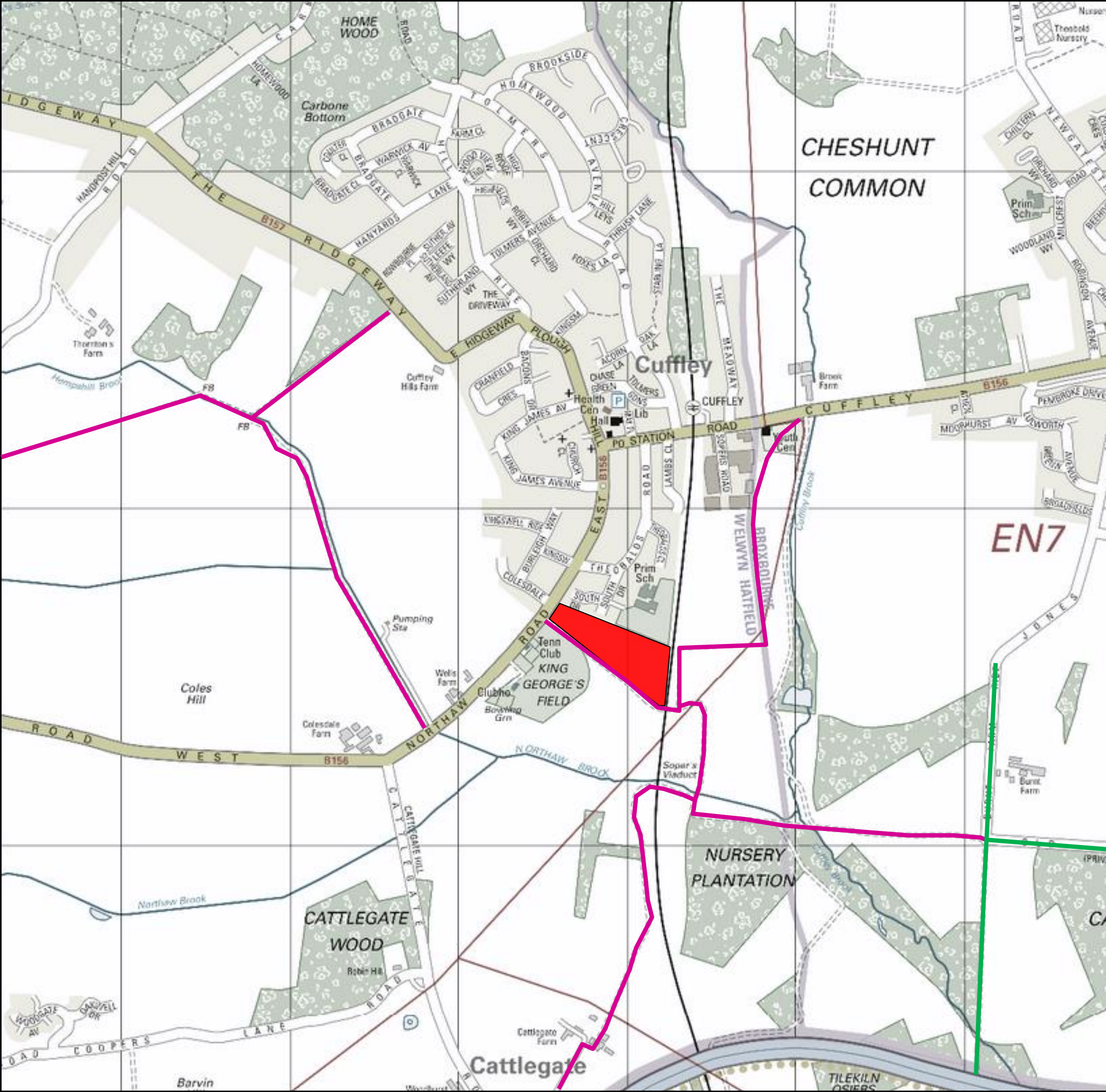
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DRAWING REFERENCE: Figure 2.2





**Key**

- Site Location
- Footpath
- Bridleway

Land to the northeast of King George V Playing Fields

Lands Improvement

Public rights of way

SCALES: NTS

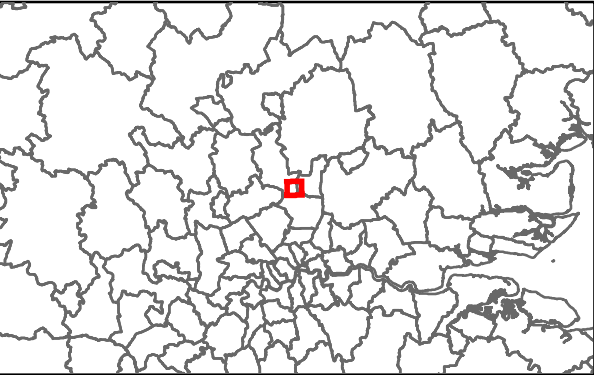
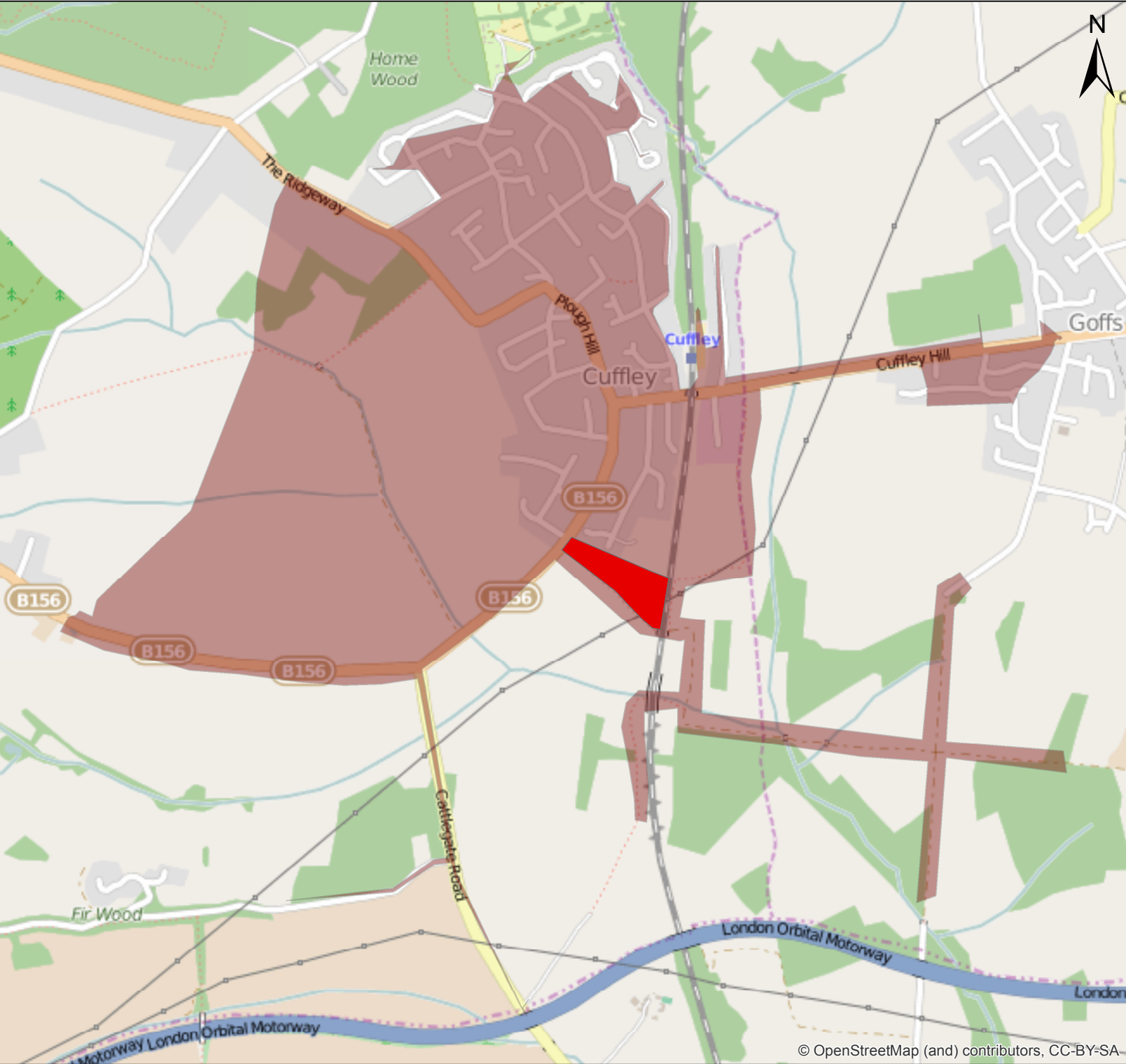
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DRAWING REFERENCE: Figure 2.3





**Legend**

Site Location

2km Walking Catchment

**Land to the north east of King George V Playing Fields**

**Lands Improvements**

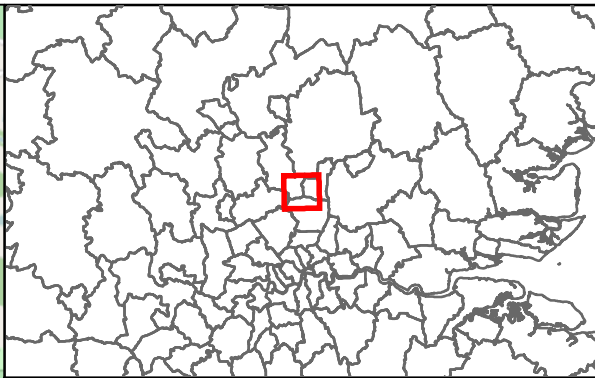
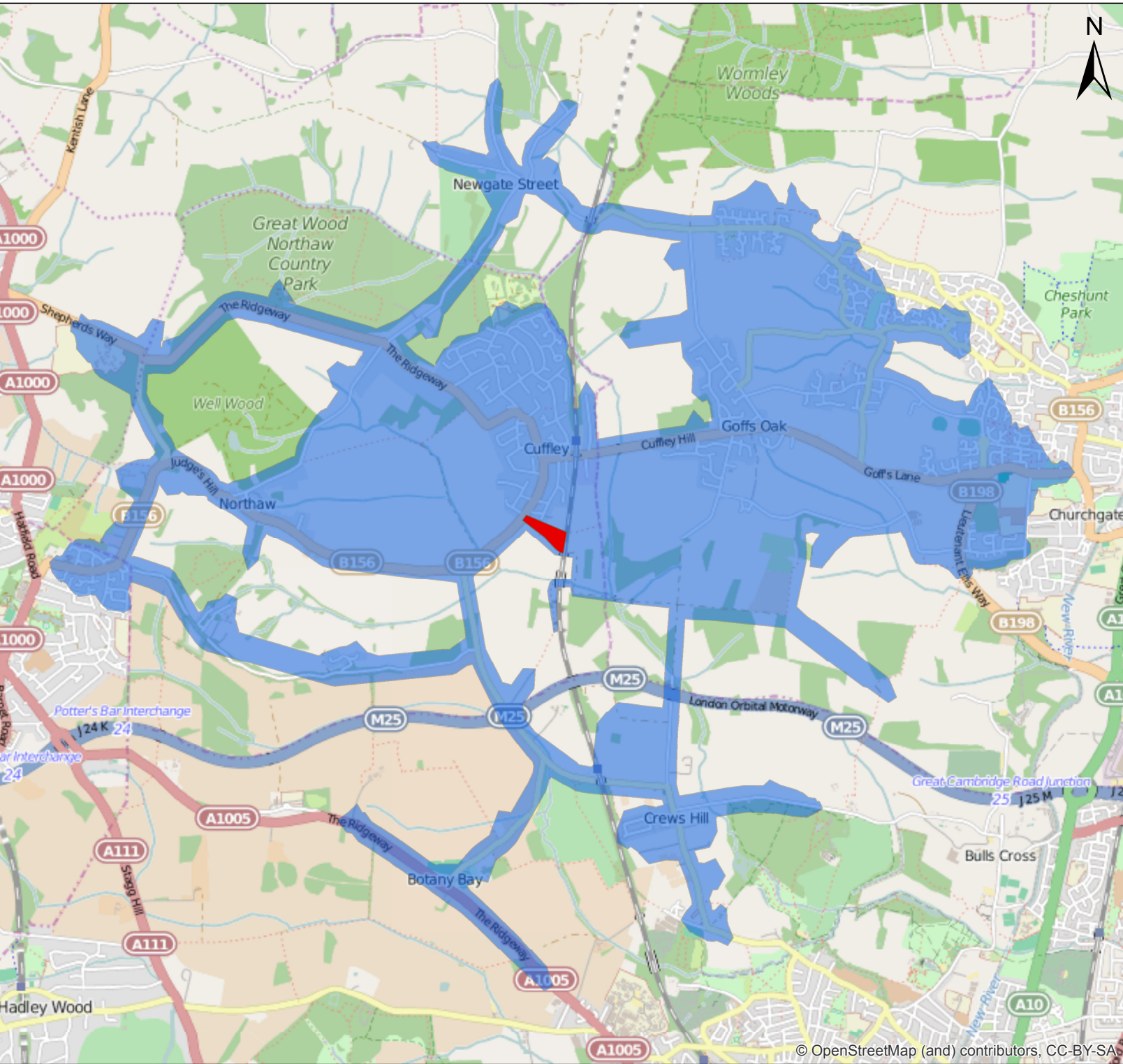
**2km Walking Isochrone**

**vectos.**

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**Figure 2.4**

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**Legend**

Site Location

5km Cycling Catchment

**Land to the north east of King George V Playing Fields**

**Lands Improvements**

**5km Cycling Isochrone**

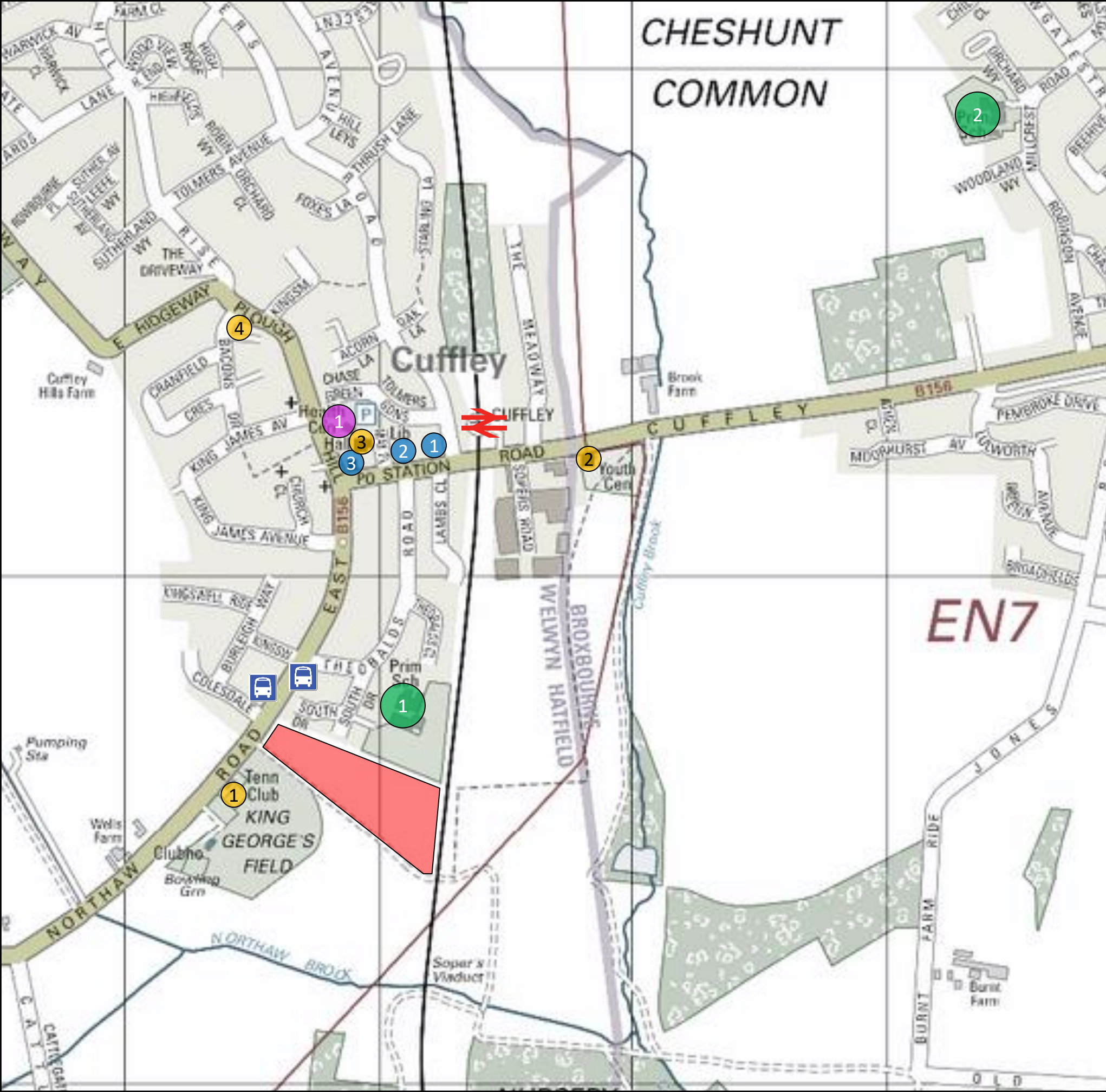
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**Figure 2.5**

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**Key**

-  Site Location
-  Bus stop
-  Railway
-  Education
  - 1 Cuffley Primary School
  - 2 Goffs Oak Primary School
-  Retail
  - 1 Tescos Express
  - 2 The Co-operative Food
  - 3 Hallmark Post office
-  Recreational
  - 1 Cuffley football and tennis club
  - 2 Cuffley Youth Centre
  - 3 Cuffley Village Hall and Library
  - 4 The Plough Public House
-  Healthcare
  - 1 Cuffley Health Centre and surgery

Cuffley

Lands Improvements Holdings

Facilities Plan

SCALES:		NTS		
DRAWN:	H.J	CHECKED:	M.M	DATE: 24/07/14
				REVISION: .

  
Network Building, 97 Tottenham Court Road, London W1T 4TP  
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DRAWING REFERENCE: Figure 2.6

# Appendix





REV	DATE	CHANGES	BY	CHK	ISSUE FOR
A	07.10.14	FIRST ISSUE	RB	JH	COMMENT

OMEGA

PARTNERSHIP

ARCHITECTS & URBAN DESIGNERS

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client

LANDS IMPROVEMENT

project

NORTHAW ROAD EAST, CUFLEY

description

LOCATION PLAN

project number	drawing number	revision
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2271	A-1000	A
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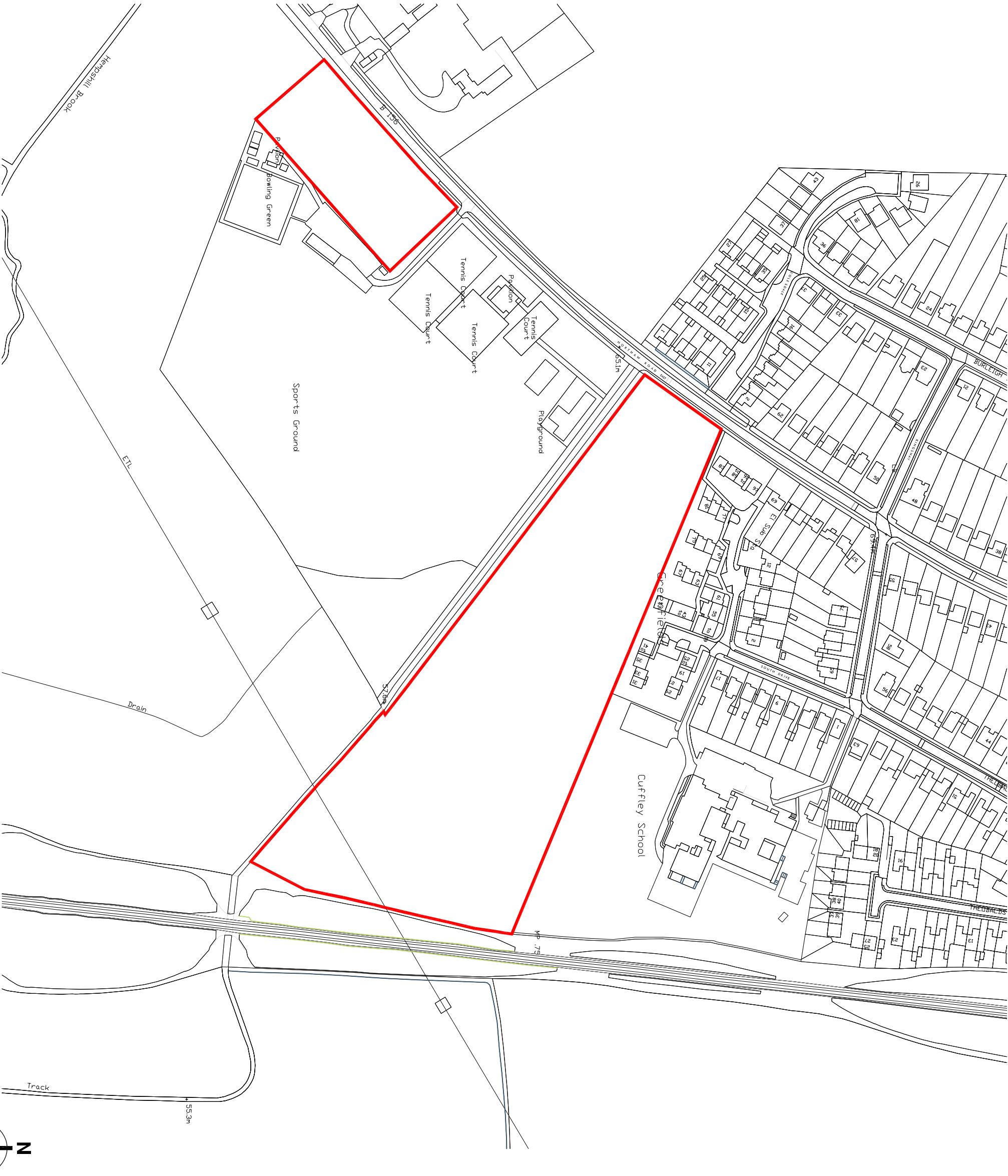
scale	date
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1:2500 @ A3	AUGUST 2014
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status

PRELIMINARY

2271-A-1000-A



LOCATION PLAN  
SCALE 1:2500

## Contact

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### **Registered Office**

**Vectos (South) Limited**  
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**London W1T 4TP**  
**Company no. 7591661**

# Appendix L

## TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

03	SOUTH WEST	
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days

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

## Filtering Stage 2 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: 98 to 166 (units: )  
 Range Selected by User: 90 to 180 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/06 to 22/10/12

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

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

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	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	6
Out of Town	1
No Sub Category	2



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.

Filtering Stage 3 selection:

Use Class:

C3

9 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:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
15,001 to 20,000	4 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	3 days
125,001 to 250,000	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	2 days
1.1 to 1.5	7 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

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.

VECTOS 97 TOTTENHAM COURT ROAD LONDON

Licence No: 152301

LIST OF SITES relevant to selection parameters

1	CH-03-A-06 CREWE ROAD	SEMI-DET./BUNGALOWS	CHESHIRE
	CREWE Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 129 Survey date: TUESDAY 14/10/08		Survey Type: MANUAL
2	LN-03-A-01 BRANT ROAD BRACEBRIDGE LINCOLN Edge of Town Residential Zone Total Number of dwellings: 150 Survey date: TUESDAY 15/05/07	MIXED HOUSES	LINCOLNSHIRE
3	NF-03-A-02 DEREHAM ROAD	HOUSES & FLATS	NORFOLK
	NORWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 98 Survey date: MONDAY 22/10/12		Survey Type: MANUAL
4	NT-03-A-03 B6018 SUTTON ROAD	SEMI DETACHED	NOTTINGHAMSHIRE
	KIRKBY-IN-ASHFIELD Edge of Town Residential Zone Total Number of dwellings: 166 Survey date: WEDNESDAY 28/06/06		Survey Type: MANUAL
5	NY-03-A-06 HORSEFAIR	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	BOROUGHBRIDGE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 115 Survey date: FRIDAY 14/10/11		Survey Type: MANUAL
6	SF-03-A-03 BARTON HILL FORNHAM ST MARTIN BURY ST EDMUNDS Edge of Town Out of Town Total Number of dwellings: 101 Survey date: MONDAY 15/05/06	MIXED HOUSES	SUFFOLK
7	SH-03-A-04 ST MICHAEL'S STREET	TERRACED	SHROPSHIRE
	SHREWSBURY Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 108 Survey date: THURSDAY 11/06/09		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	WL-03-A-01 MAPLE DRIVE	SEMI D./TERRACED W. BASSETT	WILTSHIRE
	WOOTTON BASSETT		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	99	
	Survey date: MONDAY	02/10/06	Survey Type: MANUAL
9	WO-03-A-03 BLAKEBROOK BLAKEBROOK KIDDERMINSTER	DETACHED	WORCESTERSHIRE
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	138	
	Survey date: FRIDAY	05/05/06	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.

VECTOS 97 TOTTENHAM COURT ROAD LONDON

Licence No: 152301

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

MULTI-MODAL TOTAL PEOPLE

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	9	123	0.113	9	123	0.426	9	123	0.539
08:00 - 09:00	9	123	0.232	9	123	0.758	9	123	0.990
09:00 - 10:00	9	123	0.241	9	123	0.348	9	123	0.589
10:00 - 11:00	9	123	0.235	9	123	0.294	9	123	0.529
11:00 - 12:00	9	123	0.274	9	123	0.284	9	123	0.558
12:00 - 13:00	9	123	0.285	9	123	0.281	9	123	0.566
13:00 - 14:00	9	123	0.288	9	123	0.253	9	123	0.541
14:00 - 15:00	9	123	0.285	9	123	0.284	9	123	0.569
15:00 - 16:00	9	123	0.620	9	123	0.337	9	123	0.957
16:00 - 17:00	9	123	0.486	9	123	0.297	9	123	0.783
17:00 - 18:00	9	123	0.577	9	123	0.329	9	123	0.906
18:00 - 19:00	9	123	0.356	9	123	0.339	9	123	0.695
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.992			4.230			8.222

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.

#### Parameter summary

Trip rate parameter range selected: 98 - 166 (units: )  
 Survey date range: 01/01/06 - 22/10/12  
 Number of weekdays (Monday-Friday): 9  
 Number of Saturdays: 0  
 Number of Sundays: 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 M

## QS701EW - Method of travel to work

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population	All usual residents aged 16 to 74
units	Persons
date	2011
rural urban	Total

Method of Travel to Work	E00121603	E00121606	E00121607
All categories: Method of travel to work	190	175	133
Work mainly at or from home	4	6	3
Underground, metro, light rail, tram	6	4	2
Train	24	18	19
Bus, minibus or coach	1	2	1
Taxi	0	0	1
Motorcycle, scooter or moped	1	1	0
Driving a car or van	83	67	50
Passenger in a car or van	4	1	2
Bicycle	1	0	0
On foot	3	8	3
Other method of travel to work	3	1	0
Not in employment	60	67	52

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

# Appendix N

Origin LA	Origin Ward	Destination LA	Destination Ward	People	AtHome	NotWorking	Underground	Train	Bus	Taxi	Car Driver	Passenger	Motorcycle	Bicycle	On Foot	Other	Car Pool
Welwyn Hatfield	Northaw	Aylesbury Vale	Gatehouse	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barking and Dagenham	Thames	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Brunswick Park	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Childs Hill	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Coppetts	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	East Barnet	16	0	0	0	3	0	0	13	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	East Finchley	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Edgware	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Finchley Church End	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Hendon	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	High Barnet	19	0	0	0	0	0	0	16	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Oakleigh	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Totteridge	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Underhill	12	0	0	0	0	0	0	12	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	West Finchley	14	0	0	3	0	0	0	11	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Barnet	Woodhouse	14	0	0	0	0	3	0	11	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Basildon	Pitsea North West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Bracknell Forest	Binfield with Warfield	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Bracknell Forest	Priestwood and Garth	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brent	Harlesden	3	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brent	Tokington	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brent	Welsh Harp	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Brentwood	Brentwood West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Broxbourne	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Bury Green	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Cheshunt Central	26	0	0	0	0	0	0	26	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Cheshunt North	18	0	0	0	0	0	0	15	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Goffs Oak	24	0	0	0	0	0	0	21	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Hoddesdon Town	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Rosedale	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Rye Park	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Theobalds	11	0	0	0	0	3	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Waltham Cross	31	0	0	0	3	0	0	28	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Broxbourne	Wormley & Turnford	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Bloomsbury	5	0	0	0	5	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Camden Town with Primrose Hill	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Frognal and Fitzjohns	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Hampstead Town	6	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Highgate	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Holborn and Covent Garden	22	0	0	3	16	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	King's Cross	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Camden	Regent's Park	10	0	0	3	4	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Bishopsgate	39	0	0	3	33	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Cripplegate	9	0	0	0	9	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Farringdon Within	13	0	0	0	7	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Farringdon Without	23	0	0	4	16	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Portoken	13	0	0	0	10	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Queenhithe	6	0	0	0	6	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Tower	22	0	0	3	19	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	City of London	Walbrook	12	0	0	0	12	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Dacorum	Adeyfield East	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Dacorum	Berkhamsted East	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Dacorum	Hemel Hempstead Central	4	0	0	0	0	0	0	4	0	0	0	0	0	-1



Welwyn Hatfield	Northaw	Ealing	East Acton	5	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Ealing	Greenford Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Bishop's Stortford All Saints	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Braughing	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Great Amwell	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Bengoe	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Castle	32	0	0	0	3	3	0	26	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Heath	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Kingsmead	11	0	0	3	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Hertford Rural South	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Ware Chadwell	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Ware Christchurch	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Ware St Mary's	5	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	East Hertfordshire	Watton-at-Stone	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Edinburgh, City of	Holyrood	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Elmbridge	Thames Ditton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Bush Hill Park	6	0	0	0	3	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Chase	24	0	0	0	3	0	0	21	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Cockfosters	15	0	0	0	0	0	0	15	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Edmonton Green	9	0	0	0	0	0	0	6	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Enfield Highway	19	0	0	0	0	0	0	19	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Enfield Lock	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Grange	37	0	0	3	3	0	0	31	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Highlands	37	0	0	0	3	0	0	34	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Jubilee	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Lower Edmonton	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Palmers Green	5	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Ponders End	28	0	0	0	3	0	0	25	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Southbury	33	0	0	0	0	0	0	33	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Southgate	11	0	0	0	3	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Town	40	0	0	0	3	3	0	28	3	0	0	3	0	-1
Welwyn Hatfield	Northaw	Enfield	Turkey Street	6	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Upper Edmonton	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Enfield	Winchmore Hill	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Epping Hemnall	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Epping Lindsey and Thornwood Common	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Loughton Alderton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Loughton St John's	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Lower Nazeing	7	0	0	0	0	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Waltham Abbey Honey Lane	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Epping Forest	Waltham Abbey North East	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	Dalston	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	De Beauvoir	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	Haggerston	12	0	0	0	3	6	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hackney	Hoxton	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hammersmith and Fulham	Avonmore and Brook Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hammersmith and Fulham	Hammersmith Broadway	6	0	0	0	6	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hammersmith and Fulham	Town	3	0	0	0	0	0	0	0	0	3	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Bounds Green	8	0	0	0	3	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Bruce Grove	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Crouch End	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Fortis Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Harringay	6	0	0	0	0	0	0	6	0	0	0	0	0	-1

Welwyn Hatfield	Northaw	Haringey	Hornsey	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Noel Park	6	0	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Northumberland Park	13	0	0	0	0	0	0	0	13	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	St Ann's	7	0	0	0	3	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Tottenham Green	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Tottenham Hale	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	White Hart Lane	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Haringey	Woodside	4	0	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harlow	Little Parndon and Hare Street	6	0	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harlow	Netteswell	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harlow	Old Harlow	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrogate	Hookstone	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrogate	Low Harrogate	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Canons	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Greenhill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Kenton East	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Marlborough	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Harrow	Wealdstone	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Brookmeadow	4	0	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Cowley Hill	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Hillside	5	0	0	0	0	0	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Borehamwood Kenilworth	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Bushey North	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Elstree	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Potters Bar Furzefield	16	0	0	0	0	3	0	0	10	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Potters Bar Oakmere	21	0	0	0	0	0	0	0	15	3	0	0	3	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Potters Bar Parkfield	81	0	0	0	0	0	3	0	61	14	0	0	3	0	-1
Welwyn Hatfield	Northaw	Hertsmere	Shenley	6	0	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hillingdon	Northwood	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Hillingdon	West Drayton	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Barnsbury	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Bunhill	17	0	0	0	14	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Caledonian	9	0	0	0	3	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Canonbury	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Clerkenwell	10	0	0	0	0	5	0	0	5	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Finsbury Park	7	0	0	0	0	0	0	0	4	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Islington	Highbury West	6	0	0	0	3	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	Junction	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	St George's	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	St Mary's	8	0	0	0	5	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Islington	St Peter's	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Lambeth	Bishop's	3	0	0	3	0	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Lambeth	Oval	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Luton	South	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Luton	Wigmore	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Merton	Abbey	3	0	0	0	3	0	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Merton	Cricket Green	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Mid Bedfordshire	Clifton and Meppershall	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Milton Keynes	Campbell Park	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Newark and Sherwood	Bridge	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	North Hertfordshire	Hitchin Priory	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Northampton	Nene Valley	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Reading	Abbey	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Redbridge	Barkingside	3	0	0	0	0	0	0	0	3	0	0	0	0	0	-1

Welwyn Hatfield	Northaw	Reigate and Banstead	Redhill West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Richmond upon Thames	Hampton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Slough	Chalvey	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Slough	Colnbrook with Poyle	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Slough	Upton	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Bucks	Beaconsfield South	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Bucks	Burnham Beeches	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Cambridgeshire	The Shelfords and Stapleford	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Cambridgeshire	The Wilbrahams	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Norfolk	Stoke Holy Cross	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Oxfordshire	Garsington	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	South Ribble	Farington West	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Cathedrals	15	0	0	3	9	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Chaucer	7	0	0	0	4	0	0	0	0	0	3	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Grange	6	0	0	3	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Livesey	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Southwark	Riverside	4	0	0	0	4	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Spelthorne	Ashford Common	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Spelthorne	Laleham and Shepperton Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Ashley	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Colney Heath	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	London Colney	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Marshalswick South	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Park Street	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Redbourn	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	Sandridge	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	St Albans	St Peters	17	0	0	0	0	3	0	14	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Stevenage	Bedwell	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Stevenage	Roebuck	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Stevenage	Symonds Green	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Blackwall and Cubitt Town	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Millwall	15	0	0	0	8	0	0	7	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Spitalfields and Banglatown	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	St Dunstan's and Stepney Green	6	0	0	0	0	0	0	3	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	St Katherine's and Wapping	12	0	0	3	3	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Tower Hamlets	Whitechapel	9	0	0	0	9	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Chingford Green	4	0	0	0	0	0	0	4	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Hale End and Highams Park	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Hatch Lane	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Lea Bridge	6	0	0	0	0	0	0	6	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Markhouse	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Waltham Forest	Wood Street	3	0	0	0	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Watford	Central	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Watford	Holywell	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Watford	Tudor	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Brookmans Park and Little Heath	27	0	0	0	0	0	0	18	6	0	3	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Haldens	11	0	0	0	0	0	0	8	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Handside	18	0	0	0	0	3	0	15	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield Central	10	0	0	0	0	0	0	7	3	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield East	18	0	0	0	0	0	0	18	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield North	9	0	0	0	0	0	0	9	0	0	0	0	0	-1

Welwyn Hatfield	Northaw	Welwyn Hatfield	Hatfield West	10	0	0	0	0	0	0	7	0	0	0	3	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Hollybush	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Howlands	8	0	0	0	0	0	0	8	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Northaw	602	321	0	3	13	6	15	181	11	3	0	46	3	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Peartree	25	0	0	0	0	0	0	19	3	0	0	3	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Welham Green	20	0	0	0	0	0	0	20	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Welwyn North	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Welwyn Hatfield	Welwyn South	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Bryanston and Dorset Square	6	0	0	0	6	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Hyde Park	6	0	0	3	3	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Knightsbridge and Belgravia	6	0	0	0	3	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Marylebone High Street	11	0	0	0	11	0	0	0	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	Regent's Park	6	0	0	0	3	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	St James's	41	0	0	8	30	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Westminster	West End	43	0	0	5	29	0	0	6	0	3	0	0	0	-1
Welwyn Hatfield	Northaw	Windsor and Maidenhead	Cox Green	3	0	0	0	0	0	0	3	0	0	0	0	0	-1
Welwyn Hatfield	Northaw	Wokingham	Bulmershe and Whitegates	3	0	0	0	0	0	0	3	0	0	0	0	0	-1



# Appendix O

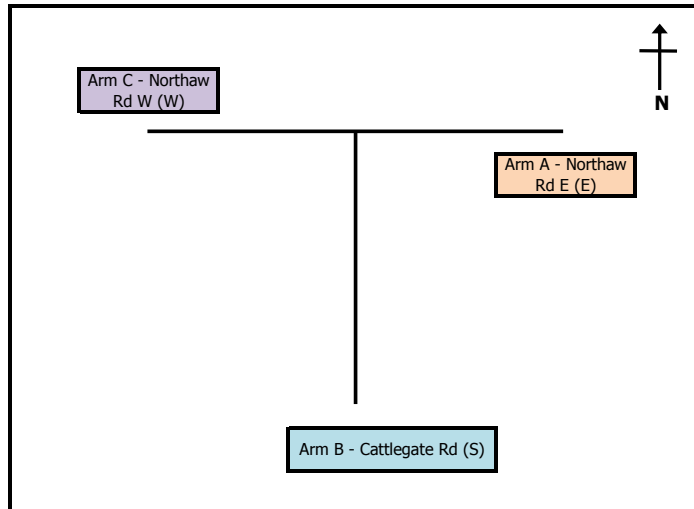
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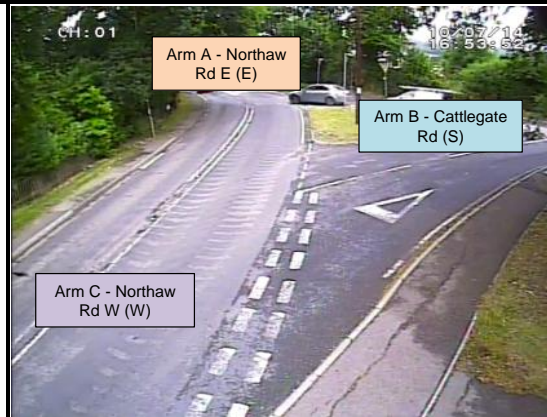
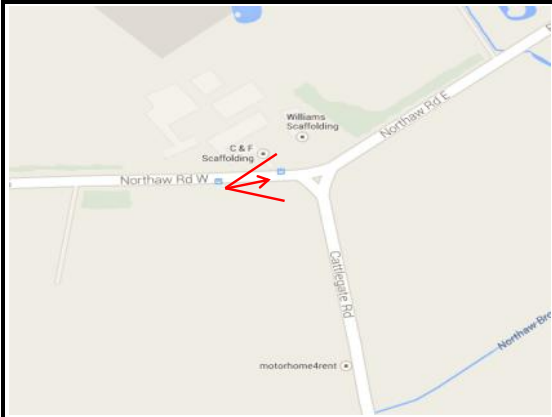
**Client:** Vectos  
**Project Number:** ID02010  
**Junction Number:** Site 1  
**Date of Survey:** 10.07.2014  
**Junction Name:** Northaw Rd/ Cattlegate Rd  
**Junction Type:** T-Junction

X Coordinate	Y Coordinate	Google Maps Link
51.699627	-0.12336	<a href="#">Click Here</a>
AM Peak Conditions	PM Peak Conditions	
Dry and Clear	Dry and Clear	

## Junction Layout

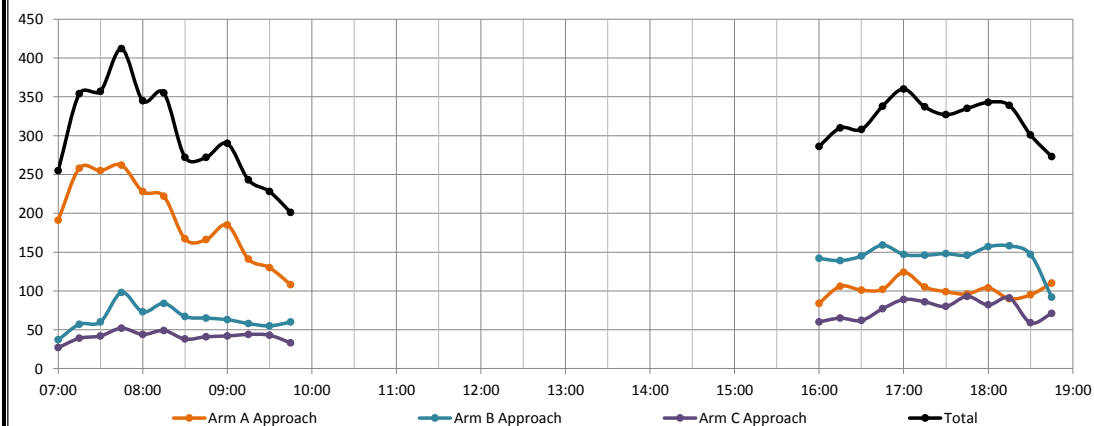


## Aerial Mapping and On-site Camera View



## Junction Flow Profile

### Arm Approach Flows (All Vehicles)



**Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):**

# Intelligent Data Collection Limited



Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 1  
 Date of Survey: 10.07.2014  
 Junction Name: Northaw Rd/ Cattlegate Rd  
 Junction Type: T-Junction

Arm A: Northaw Rd E (E)  
 Arm B: Cattlegate Rd (S)  
 Arm C: Northaw Rd W (W)

Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	34	22	2	0	0	0	0	58	91	40	0	0	0	0	2	133
07:15								0	38	12	0	0	1	0	2	53	158	45	1	0	0	1	0	205
07:30								0	41	10	0	0	2	0	0	53	156	42	3	0	0	1	0	202
07:45								0	20	18	0	0	1	1	0	40	173	47	1	0	0	1	0	222
08:00								0	17	5	1	0	0	1	0	24	185	18	1	0	0	0	0	204
08:15								0	25	4	2	0	0	1	0	32	170	15	3	0	0	0	2	190
08:30								0	21	8	3	0	0	0	0	32	119	12	3	1	0	0	0	135
08:45								0	33	6	1	0	1	0	0	41	109	16	0	0	0	0	0	125
09:00								0	31	5	0	1	0	0	0	37	127	20	0	0	0	1	0	148
09:15								0	31	2	0	0	1	0	0	34	96	10	1	0	0	0	0	107
09:30								0	20	4	0	1	0	0	0	25	94	9	1	0	0	1	0	105
09:45								0	17	8	1	0	0	0	0	26	68	12	1	0	0	1	0	82
16:00								0	23	2	0	0	0	0	0	25	47	10	1	1	0	0	0	59
16:15								0	22	7	1	0	0	0	0	30	63	13	0	0	0	0	0	76
16:30								0	18	3	0	0	1	1	0	23	65	13	0	0	0	0	0	78
16:45								0	21	3	0	0	0	0	0	24	67	9	2	0	0	0	0	78
17:00								0	34	3	2	0	0	0	0	39	75	10	0	0	0	0	0	85
17:15								0	24	0	1	0	0	0	0	25	72	8	0	0	0	0	0	80
17:30								0	16	4	0	0	0	0	0	20	69	8	1	0	0	1	0	79
17:45								0	28	3	0	0	1	0	0	32	54	7	1	1	0	1	0	64
18:00								0	27	3	0	0	0	0	0	30	69	5	0	0	0	0	0	74
18:15								0	22	1	0	0	0	0	0	23	53	13	0	0	0	0	1	67
18:30								0	27	1	0	0	0	0	0	28	63	4	0	0	0	0	0	67
18:45								0	38	2	0	0	1	0	0	41	60	9	0	0	0	0	0	69
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	133	62	2	0	4	1	2	204	578	174	5	0	0	3	2	762
07:15	0	0	0	0	0	0	0	0	116	45	1	0	4	2	2	170	672	152	6	0	0	3	0	833
07:30	0	0	0	0	0	0	0	0	103	37	3	0	3	3	0	149	684	122	8	0	0	2	2	818
07:45	0	0	0	0	0	0	0	0	83	35	6	0	1	3	0	128	647	92	8	1	0	1	2	751
08:00	0	0	0	0	0	0	0	0	96	23	7	0	1	2	0	129	583	61	7	1	0	0	2	654
08:15	0	0	0	0	0	0	0	0	110	23	6	1	1	1	0	142	525	63	6	1	0	1	2	598
08:30	0	0	0	0	0	0	0	0	116	21	4	1	2	0	0	144	451	58	4	1	0	1	0	515
08:45	0	0	0	0	0	0	0	0	115	17	1	2	2	0	0	137	426	55	2	0	0	2	0	485
09:00	0	0	0	0	0	0	0	0	99	19	1	2	1	0	0	122	385	51	3	0	0	3	0	442
16:00	0	0	0	0	0	0	0	0	84	15	1	0	1	1	0	102	242	45	3	1	0	0	0	291
16:15	0	0	0	0	0	0	0	0	95	16	3	0	1	1	0	116	270	45	2	0	0	0	0	317
16:30	0	0	0	0	0	0	0	0	97	9	3	0	1	1	0	111	279	40	2	0	0	0	0	321
16:45	0	0	0	0	0	0	0	0	95	10	3	0	0	0	0	108	283	35	3	0	0	1	0	322
17:00	0	0	0	0	0	0	0	0	102	10	3	0	1	0	0	116	270	33	2	1	0	2	0	308
17:15	0	0	0	0	0	0	0	0	95	10	1	0	1	0	0	107	264	28	2	1	0	2	0	297
17:30	0	0	0	0	0	0	0	0	93	11	0	0	1	0	0	105	245	33	2	1	0	2	1	284
17:45	0	0	0	0	0	0	0	0	104	8	0	0	1	0	0	113	239	29	1	1	0	1	1	272
18:00	0	0	0	0	0	0	0	0	114	7	0	0	1	0	0	122	245	31	0	0	0	0	1	277

# Intelligent Data Collection Limited

Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 1  
 Date of Survey: 10.07.2014  
 Junction Name: Northaw Rd/ Cattlegate Rd  
 Junction Type: T-Junction

Arm A: Northaw Rd E (E)  
 Arm B: Cattlegate Rd (S)  
 Arm C: Northaw Rd W (W)



Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	17	11	0	0	0	0	0	28	7	2	0	0	0	0	0	9
07:15								0	27	9	0	0	0	0	0	36	19	2	0	0	0	0	0	21
07:30								0	24	10	0	0	0	0	0	34	22	4	0	0	0	0	0	26
07:45								0	45	12	0	0	0	0	0	57	33	6	2	0	0	0	0	41
08:00								0	38	12	1	1	0	0	0	52	15	6	0	0	0	0	0	21
08:15								0	40	16	1	0	0	0	1	58	22	4	0	0	0	0	0	26
08:30								0	43	4	2	0	0	0	0	49	14	3	1	0	0	0	0	18
08:45								0	36	7	1	0	0	1	0	45	19	0	0	1	0	0	0	20
09:00								0	35	10	2	0	0	0	0	47	13	3	0	0	0	0	0	16
09:15								0	34	8	0	0	1	0	0	43	10	2	0	1	0	0	2	15
09:30								0	30	9	1	0	0	0	0	40	13	1	1	0	0	0	0	15
09:45								0	42	6	0	0	0	0	0	48	11	0	1	0	0	0	0	12
16:00								0	103	16	0	0	0	2	0	121	14	6	1	0	0	0	0	21
16:15								0	85	32	1	0	0	0	0	118	19	2	0	0	0	0	0	21
16:30								0	85	36	3	0	0	0	0	124	18	3	0	0	0	0	0	21
16:45								0	103	34	0	1	0	0	0	138	17	4	0	0	0	0	0	21
17:00								0	108	14	0	0	0	0	1	123	19	3	1	0	0	0	1	24
17:15								0	101	27	0	0	0	1	0	129	14	2	0	0	1	0	0	17
17:30								0	112	23	0	0	0	0	0	135	11	2	0	0	0	0	0	13
17:45								0	110	21	0	0	0	0	1	132	11	2	1	0	0	0	0	14
18:00								0	124	15	0	0	0	0	0	139	15	3	0	0	0	0	0	18
18:15								0	127	15	0	0	0	0	0	142	16	0	0	0	0	0	0	16
18:30								0	114	14	0	0	0	0	0	128	19	0	0	0	0	0	0	19
18:45								0	68	9	0	0	0	0	0	77	12	2	0	0	0	0	1	15
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	113	42	0	0	0	0	0	155	81	14	2	0	0	0	0	97
07:15	0	0	0	0	0	0	0	0	134	43	1	1	0	0	0	179	89	18	2	0	0	0	0	109
07:30	0	0	0	0	0	0	0	0	147	50	2	1	0	0	1	201	92	20	2	0	0	0	0	114
07:45	0	0	0	0	0	0	0	0	166	44	4	1	0	0	1	216	84	19	3	0	0	0	0	106
08:00	0	0	0	0	0	0	0	0	157	39	5	1	0	1	1	204	70	13	1	1	0	0	0	85
08:15	0	0	0	0	0	0	0	0	154	37	6	0	0	1	1	199	68	10	1	1	0	0	0	80
08:30	0	0	0	0	0	0	0	0	148	29	5	0	1	1	0	184	56	8	1	2	0	0	2	69
08:45	0	0	0	0	0	0	0	0	135	34	4	0	1	1	0	175	55	6	1	2	0	0	2	66
09:00	0	0	0	0	0	0	0	0	141	33	3	0	1	0	0	178	47	6	2	1	0	0	2	58
16:00	0	0	0	0	0	0	0	0	376	118	4	1	0	2	0	501	68	15	1	0	0	0	0	84
16:15	0	0	0	0	0	0	0	0	381	116	4	1	0	0	1	503	73	12	1	0	0	0	1	87
16:30	0	0	0	0	0	0	0	0	397	111	3	1	0	1	1	514	68	12	1	0	1	0	1	83
16:45	0	0	0	0	0	0	0	0	424	98	0	1	0	1	1	525	61	11	1	0	1	0	1	75
17:00	0	0	0	0	0	0	0	0	431	85	0	0	0	1	2	519	55	9	2	0	1	0	1	68
17:15	0	0	0	0	0	0	0	0	447	86	0	0	0	1	1	535	51	9	1	0	1	0	0	62
17:30	0	0	0	0	0	0	0	0	473	74	0	0	0	0	1	548	53	7	1	0	0	0	0	61
17:45	0	0	0	0	0	0	0	0	475	65	0	0	0	0	1	541	61	5	1	0	0	0	0	67
18:00	0	0	0	0	0	0	0	0	433	53	0	0	0	0	0	486	62	5	0	0	0	0	1	68



# Intelligent Data Collection Limited



Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 1  
 Date of Survey: 10.07.2014  
 Junction Name: Northaw Rd/ Cattlegate Rd  
 Junction Type: T-Junction

Arm A: Northaw Rd E (E)  
 Arm B: Cattlegate Rd (S)  
 Arm C: Northaw Rd W (W)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	11	3	0	0	0	0	0	14	8	3	2	0	0	0	0	13
07:15								0	12	4	0	0	1	0	0	17	15	4	1	0	2	0	0	22
07:30								0	22	4	0	0	0	0	0	26	12	1	1	1	1	0	0	16
07:45								0	27	3	2	0	0	0	0	32	16	3	0	0	1	0	0	20
08:00								0	17	3	0	0	0	0	0	20	17	7	0	0	0	0	0	24
08:15								0	17	5	1	1	0	0	0	24	21	2	2	0	0	0	0	25
08:30								0	16	2	1	0	0	0	0	19	19	0	0	0	0	0	0	19
08:45								0	21	1	0	0	0	0	0	22	15	4	0	0	0	0	0	19
09:00								0	18	2	0	0	0	0	0	20	18	2	0	0	1	1	0	22
09:15								0	20	3	0	0	0	0	0	23	16	5	0	0	0	0	0	21
09:30								0	15	0	1	0	0	0	0	16	16	9	1	0	1	0	0	27
09:45								0	9	4	0	0	0	0	0	13	13	3	4	0	0	0	0	20
16:00								0	10	3	1	0	0	0	0	14	37	6	2	0	1	0	0	46
16:15								0	17	9	0	0	0	0	0	26	28	10	0	0	1	0	0	39
16:30								0	13	5	0	0	0	0	0	18	30	13	0	0	0	1	0	44
16:45								0	30	3	0	0	0	0	0	33	34	7	2	0	0	0	1	44
17:00								0	27	5	0	1	0	0	0	33	47	8	0	0	0	0	1	56
17:15								0	20	3	0	0	0	0	0	23	50	12	0	0	0	1	0	63
17:30								0	25	3	0	0	0	0	0	28	42	6	2	0	1	1	0	52
17:45								0	23	3	0	0	0	0	0	26	54	13	0	0	0	0	0	67
18:00								0	29	2	0	0	0	0	0	31	41	9	1	0	0	0	0	51
18:15								0	33	2	0	0	0	0	0	35	49	5	2	0	0	0	0	56
18:30								0	17	3	1	0	0	0	0	21	33	3	1	0	1	0	0	38
18:45								0	26	4	0	0	0	0	0	30	34	7	0	0	0	0	0	41
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	72	14	2	0	1	0	0	89	51	11	4	1	4	0	0	71
07:15	0	0	0	0	0	0	0	0	78	14	2	0	1	0	0	95	60	15	2	1	4	0	0	82
07:30	0	0	0	0	0	0	0	0	83	15	3	1	0	0	0	102	66	13	3	1	2	0	0	85
07:45	0	0	0	0	0	0	0	0	77	13	4	1	0	0	0	95	73	12	2	0	1	0	0	88
08:00	0	0	0	0	0	0	0	0	71	11	2	1	0	0	0	85	72	13	2	0	0	0	0	87
08:15	0	0	0	0	0	0	0	0	72	10	2	1	0	0	0	85	73	8	2	0	1	1	0	85
08:30	0	0	0	0	0	0	0	0	75	8	1	0	0	0	0	84	68	11	0	0	1	1	0	81
08:45	0	0	0	0	0	0	0	0	74	6	1	0	0	0	0	81	65	20	1	0	2	1	0	89
09:00	0	0	0	0	0	0	0	0	62	9	1	0	0	0	0	72	63	19	5	0	2	1	0	90
16:00	0	0	0	0	0	0	0	0	70	20	1	0	0	0	0	91	129	36	4	0	2	1	1	173
16:15	0	0	0	0	0	0	0	0	87	22	0	1	0	0	0	110	139	38	2	0	1	1	2	183
16:30	0	0	0	0	0	0	0	0	90	16	0	1	0	0	0	107	161	40	2	0	0	2	2	207
16:45	0	0	0	0	0	0	0	0	102	14	0	1	0	0	0	117	173	33	4	0	1	2	2	215
17:00	0	0	0	0	0	0	0	0	95	14	0	1	0	0	0	110	193	39	2	0	1	2	1	238
17:15	0	0	0	0	0	0	0	0	97	11	0	0	0	0	0	108	187	40	3	0	1	2	0	233
17:30	0	0	0	0	0	0	0	0	110	10	0	0	0	0	0	120	186	33	5	0	1	1	0	226
17:45	0	0	0	0	0	0	0	0	102	10	1	0	0	0	0	113	177	30	4	0	1	0	0	212
18:00	0	0	0	0	0	0	0	0	105	11	1	0	0	0	0	117	157	24	4	0	1	0	0	186

# Intelligent Data Collection Limited

Client: Vectos  
Project Number: ID02010  
Junction Number: Site 1

Date of Survey: 10.07.2014  
Junction Name: Northaw Rd/ Cattlegate Rd  
Junction Type: T-Junction



	Arm A Approach								Arm A Exit									
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	125	62	2	0	0	0	2	191	25	14	2	0	0	0	0	41		
07:15	196	57	1	0	1	1	2	258	42	13	1	0	2	0	0	58		
07:30	197	52	3	0	2	1	0	255	36	11	1	1	1	0	0	50		
07:45	193	65	1	0	1	2	0	262	61	15	0	0	1	0	0	77		
08:00	202	23	2	0	0	1	0	228	55	19	1	1	0	0	0	76		
08:15	195	19	5	0	0	1	2	222	61	18	3	0	0	0	1	83		
08:30	140	20	6	1	0	0	0	167	62	4	2	0	0	0	0	68		
08:45	142	22	1	0	1	0	0	166	51	11	1	0	0	1	0	64		
09:00	158	25	0	1	0	1	0	185	53	12	2	0	1	1	0	69		
09:15	127	12	1	0	1	0	0	141	50	13	0	0	1	0	0	64		
09:30	114	13	1	1	0	1	0	130	46	18	2	0	1	0	0	67		
09:45	85	20	2	0	0	1	0	108	55	9	4	0	0	0	0	68		
16:00	70	12	1	1	0	0	0	84	140	22	2	0	1	2	0	167		
16:15	85	20	1	0	0	0	0	106	113	42	1	0	1	0	0	157		
16:30	83	16	0	0	1	1	0	101	115	49	3	0	0	1	0	168		
16:45	88	12	2	0	0	0	0	102	137	41	2	1	0	0	1	182		
17:00	109	13	2	0	0	0	0	124	155	22	0	0	0	0	2	179		
17:15	96	8	1	0	0	0	0	105	151	39	0	0	0	2	0	192		
17:30	85	12	1	0	0	1	0	99	154	29	2	0	1	1	0	187		
17:45	82	10	1	1	1	1	0	96	164	34	0	0	0	0	1	199		
18:00	96	8	0	0	0	0	0	104	165	24	1	0	0	0	0	190		
18:15	75	14	0	0	0	0	1	90	176	20	2	0	0	0	0	198		
18:30	90	5	0	0	0	0	0	95	147	17	1	0	1	0	0	166		
18:45	98	11	0	0	1	0	0	110	102	16	0	0	0	0	0	118		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	711	236	7	0	4	4	4	966	164	53	4	1	4	0	0	226		
07:15	788	197	7	0	4	5	2	1003	194	58	3	2	4	0	0	261		
07:30	787	159	11	0	3	5	2	967	213	63	5	2	2	0	1	286		
07:45	730	127	14	1	1	4	2	879	239	56	6	1	1	0	1	304		
08:00	679	84	14	1	1	2	2	783	229	52	7	1	0	1	1	291		
08:15	635	86	12	2	1	2	2	740	227	45	8	0	1	2	1	284		
08:30	567	79	8	2	2	1	0	659	216	40	5	0	2	2	0	265		
08:45	541	72	3	2	2	2	0	622	200	54	5	0	3	2	0	264		
09:00	484	70	4	2	1	3	0	564	204	52	8	0	3	1	0	268		
16:00	326	60	4	1	1	1	0	393	505	154	8	1	2	3	1	674		
16:15	365	61	5	0	1	1	0	433	520	154	6	1	1	1	3	686		
16:30	376	49	5	0	1	1	0	432	558	151	5	1	0	3	3	721		
16:45	378	45	6	0	0	1	0	430	597	131	4	1	1	3	3	740		
17:00	372	43	5	1	1	2	0	424	624	124	2	0	1	3	3	757		
17:15	359	38	3	1	1	2	0	404	634	126	3	0	1	3	1	768		
17:30	338	44	2	1	1	2	1	389	659	107	5	0	1	1	1	774		
17:45	343	37	1	1	1	1	1	385	652	95	4	0	1	0	1	753		
18:00	359	38	0	0	1	0	1	399	590	77	4	0	1	0	0	672		

# Intelligent Data Collection Limited



**Client:** Vectos  
**Project Number:** ID02010  
**Junction Number:** Site 1  
**Date of Survey:** 10.07.2014  
**Junction Name:** Northaw Rd/ Cattlegate Rd  
**Junction Type:** T-Junction

Time	Arm B Approach								Arm B Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	24	13	0	0	0	0	0	37	102	43	0	0	0	0	2	147
07:15	46	11	0	0	0	0	0	57	170	49	1	0	1	1	0	222
07:30	46	14	0	0	0	0	0	60	178	46	3	0	0	1	0	228
07:45	78	18	2	0	0	0	0	98	200	50	3	0	0	1	0	254
08:00	53	18	1	1	0	0	0	73	202	21	1	0	0	0	0	224
08:15	62	20	1	0	0	0	1	84	187	20	4	1	0	0	2	214
08:30	57	7	3	0	0	0	0	67	135	14	4	1	0	0	0	154
08:45	55	7	1	1	0	1	0	65	130	17	0	0	0	0	0	147
09:00	48	13	2	0	0	0	0	63	145	22	0	0	0	1	0	168
09:15	44	10	0	1	1	0	2	58	116	13	1	0	0	0	0	130
09:30	43	10	2	0	0	0	0	55	109	9	2	0	0	1	0	121
09:45	53	6	1	0	0	0	0	60	77	16	1	0	0	1	0	95
16:00	117	22	1	0	0	2	0	142	57	13	2	1	0	0	0	73
16:15	104	34	1	0	0	0	0	139	80	22	0	0	0	0	0	102
16:30	103	39	3	0	0	0	0	145	78	18	0	0	0	0	0	96
16:45	120	38	0	1	0	0	0	159	97	12	2	0	0	0	0	111
17:00	127	17	1	0	0	0	2	147	102	15	0	1	0	0	0	118
17:15	115	29	0	0	1	1	0	146	92	11	0	0	0	0	0	103
17:30	123	25	0	0	0	0	0	148	94	11	1	0	0	1	0	107
17:45	121	23	1	0	0	0	1	146	77	10	1	1	0	1	0	90
18:00	139	18	0	0	0	0	0	157	98	7	0	0	0	0	0	105
18:15	143	15	0	0	0	0	0	158	86	15	0	0	0	0	1	102
18:30	133	14	0	0	0	0	0	147	80	7	1	0	0	0	0	88
18:45	80	11	0	0	0	0	1	92	86	13	0	0	0	0	0	99
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	194	56	2	0	0	0	0	252	650	188	7	0	1	3	2	851
07:15	223	61	3	1	0	0	0	288	750	166	8	0	1	3	0	928
07:30	239	70	4	1	0	0	1	315	767	137	11	1	0	2	2	920
07:45	250	63	7	1	0	0	1	322	724	105	12	2	0	1	2	846
08:00	227	52	6	2	0	1	1	289	654	72	9	2	0	0	2	739
08:15	222	47	7	1	0	1	1	279	597	73	8	2	0	1	2	683
08:30	204	37	6	2	1	1	2	253	526	66	5	1	0	1	0	599
08:45	190	40	5	2	1	1	2	241	500	61	3	0	0	2	0	566
09:00	188	39	5	1	1	0	2	236	447	60	4	0	0	3	0	514
16:00	444	133	5	1	0	2	0	585	312	65	4	1	0	0	0	382
16:15	454	128	5	1	0	0	2	590	357	67	2	1	0	0	0	427
16:30	465	123	4	1	1	1	2	597	369	56	2	1	0	0	0	428
16:45	485	109	1	1	1	1	2	600	385	49	3	1	0	1	0	439
17:00	486	94	2	0	1	1	3	587	365	47	2	2	0	2	0	418
17:15	498	95	1	0	1	1	1	597	361	39	2	1	0	2	0	405
17:30	526	81	1	0	0	0	1	609	355	43	2	1	0	2	1	404
17:45	536	70	1	0	0	0	1	608	341	39	2	1	0	1	1	385
18:00	495	58	0	0	0	0	1	554	350	42	1	0	0	0	1	394

# Intelligent Data Collection Limited



Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 1  
 Date of Survey: 10.07.2014  
 Junction Name: Northaw Rd/ Cattlegate Rd  
 Junction Type: T-Junction

	Arm C Approach								Arm C Exit									
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	19	6	2	0	0	0	0	27	41	24	2	0	0	0	0	67		
07:15	27	8	1	0	3	0	0	39	57	14	0	0	1	0	2	74		
07:30	34	5	1	1	1	0	0	42	63	14	0	0	2	0	0	79		
07:45	43	6	2	0	1	0	0	52	53	24	2	0	1	1	0	81		
08:00	34	10	0	0	0	0	0	44	32	11	1	0	0	1	0	45		
08:15	38	7	3	1	0	0	0	49	47	8	2	0	0	1	0	58		
08:30	35	2	1	0	0	0	0	38	35	11	4	0	0	0	0	50		
08:45	36	5	0	0	0	0	0	41	52	6	1	1	1	0	0	61		
09:00	36	4	0	0	1	1	0	42	44	8	0	1	0	0	0	53		
09:15	36	8	0	0	0	0	0	44	41	4	0	1	1	0	2	49		
09:30	31	9	2	0	1	0	0	43	33	5	1	1	0	0	0	40		
09:45	22	7	4	0	0	0	0	33	28	8	2	0	0	0	0	38		
16:00	47	9	3	0	1	0	0	60	37	8	1	0	0	0	0	46		
16:15	45	19	0	0	1	0	0	65	41	9	1	0	0	0	0	51		
16:30	43	18	0	0	0	1	0	62	36	6	0	0	1	1	0	44		
16:45	64	10	2	0	0	0	1	77	38	7	0	0	0	0	0	45		
17:00	74	13	0	1	0	0	1	89	53	6	3	0	0	0	1	63		
17:15	70	15	0	0	0	1	0	86	38	2	1	0	1	0	0	42		
17:30	67	9	2	0	1	1	0	80	27	6	0	0	0	0	0	33		
17:45	77	16	0	0	0	0	0	93	39	5	1	0	1	0	0	46		
18:00	70	11	1	0	0	0	0	82	42	6	0	0	0	0	0	48		
18:15	82	7	2	0	0	0	0	91	38	1	0	0	0	0	0	39		
18:30	50	6	2	0	1	0	0	59	46	1	0	0	0	0	0	47		
18:45	60	11	0	0	0	0	0	71	50	4	0	0	1	0	1	56		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	123	25	6	1	5	0	0	160	214	76	4	0	4	1	2	301		
07:15	138	29	4	1	5	0	0	177	205	63	3	0	4	2	2	279		
07:30	149	28	6	2	2	0	0	187	195	57	5	0	3	3	0	263		
07:45	150	25	6	1	1	0	0	183	167	54	9	0	1	3	0	234		
08:00	143	24	4	1	0	0	0	172	166	36	8	1	1	2	0	214		
08:15	145	18	4	1	1	1	0	170	178	33	7	2	1	1	0	222		
08:30	143	19	1	0	1	1	0	165	172	29	5	3	2	0	2	213		
08:45	139	26	2	0	2	1	0	170	170	23	2	4	2	0	2	203		
09:00	125	28	6	0	2	1	0	162	146	25	3	3	1	0	2	180		
16:00	199	56	5	0	2	1	1	264	152	30	2	0	1	1	0	186		
16:15	226	60	2	1	1	1	2	293	168	28	4	0	1	1	1	203		
16:30	251	56	2	1	0	2	2	314	165	21	4	0	2	1	1	194		
16:45	275	47	4	1	1	2	2	332	156	21	4	0	1	0	1	183		
17:00	288	53	2	1	1	2	1	348	157	19	5	0	2	0	1	184		
17:15	284	51	3	0	1	2	0	341	146	19	2	0	2	0	0	169		
17:30	296	43	5	0	1	1	0	346	146	18	1	0	1	0	0	166		
17:45	279	40	5	0	1	0	0	325	165	13	1	0	1	0	0	180		
18:00	262	35	5	0	1	0	0	303	176	12	0	0	1	0	1	190		



# Intelligent Data Collection Limited

**Client:** Vectos  
**Project Number:** ID02010  
**Junction Number:** Site 1  
**Date of Survey:** 10.07.2014  
**Junction Name:** Northaw Rd/ Cattlegate Rd  
**Junction Type:** T-Junction



Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	168	81	4	0	0	0	2	255
07:15	269	76	2	0	4	1	2	354
07:30	277	71	4	1	3	1	0	357
07:45	314	89	5	0	2	2	0	412
08:00	289	51	3	1	0	1	0	345
08:15	295	46	9	1	0	1	3	355
08:30	232	29	10	1	0	0	0	272
08:45	233	34	2	1	1	1	0	272
09:00	242	42	2	1	1	2	0	290
09:15	207	30	1	1	2	0	2	243
09:30	188	32	5	1	1	1	0	228
09:45	160	33	7	0	0	1	0	201
16:00	234	43	5	1	1	2	0	286
16:15	234	73	2	0	1	0	0	310
16:30	229	73	3	0	1	2	0	308
16:45	272	60	4	1	0	0	1	338
17:00	310	43	3	1	0	0	3	360
17:15	281	52	1	0	1	2	0	337
17:30	275	46	3	0	1	2	0	327
17:45	280	49	2	1	1	1	1	335
18:00	305	37	1	0	0	0	0	343
18:15	300	36	2	0	0	0	1	339
18:30	273	25	2	0	1	0	0	301
18:45	238	33	0	0	1	0	1	273
Start Time	Rolling Hour							Total
07:00	1028	317	15	1	9	4	4	1378
07:15	1149	287	14	2	9	5	2	1468
07:30	1175	257	21	3	5	5	3	1469
07:45	1130	215	27	3	2	4	3	1384
08:00	1049	160	24	4	1	3	3	1244
08:15	1002	151	23	4	2	4	3	1189
08:30	914	135	15	4	4	3	2	1077
08:45	870	138	10	4	5	4	2	1033
09:00	797	137	15	3	4	4	2	962
16:00	969	249	14	2	3	4	1	1242
16:15	1045	249	12	2	2	2	4	1316
16:30	1092	228	11	2	2	4	4	1343
16:45	1138	201	11	2	2	4	4	1362
17:00	1146	190	9	2	3	5	4	1359
17:15	1141	184	7	1	3	5	1	1342
17:30	1160	168	8	1	2	3	2	1344
17:45	1158	147	7	1	2	1	2	1318
18:00	1116	131	5	0	2	0	2	1256

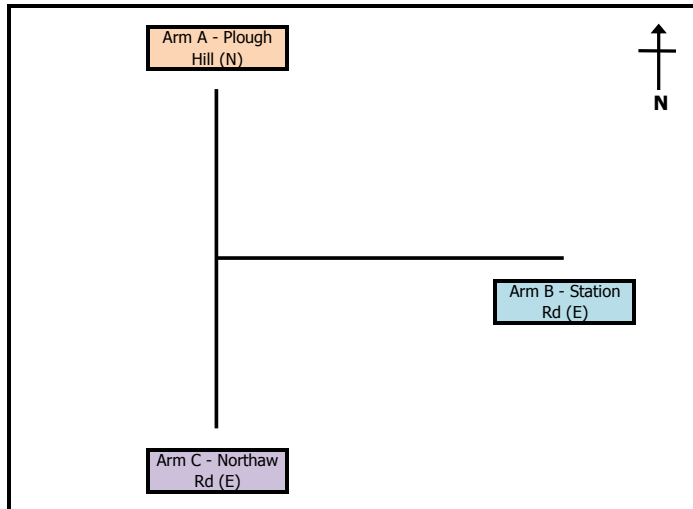
# Intelligent Data Collection Limited



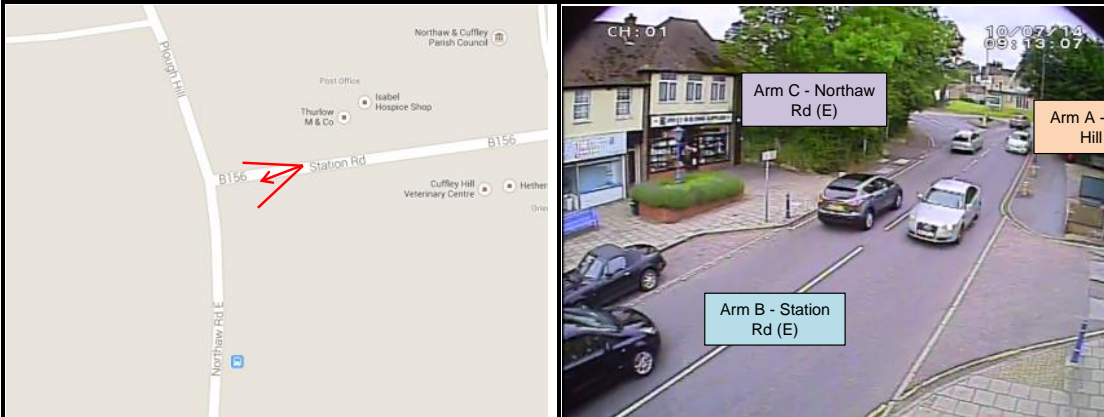
**Client:** Vectos  
**Project Number:** ID02010  
**Junction Number:** Site 2  
**Date of Survey:** 10.07.2014  
**Junction Name:** Plough Hill/ Station Rd  
**Junction Type:** T-Junction

X Coordinate	Y Coordinate	Google Maps Link
51.707795	-0.113726	<a href="#">Click Here</a>
AM Peak Conditions	PM Peak Conditions	
Dry and Clear	Dry and Clear	

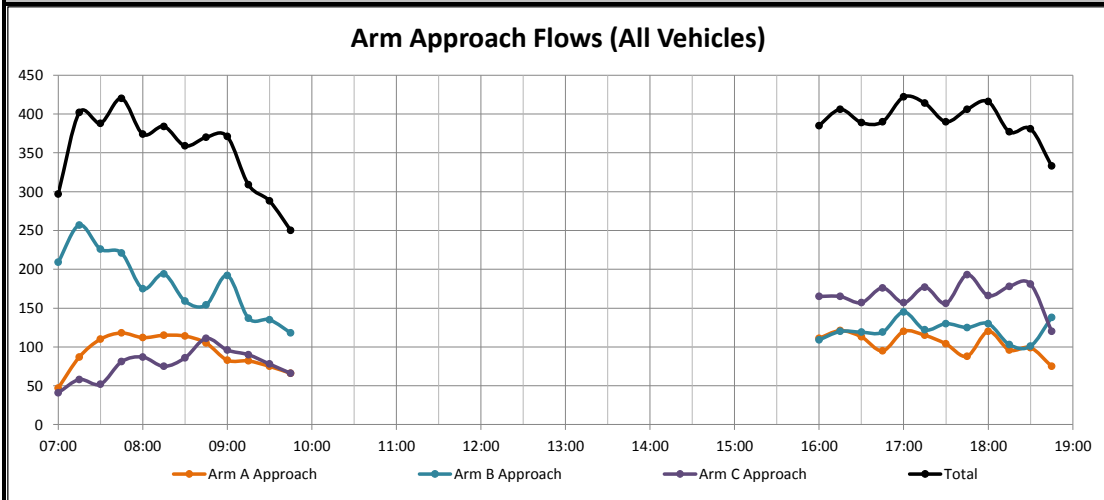
## Junction Layout



## Aerial Mapping and On-site Camera View



## Junction Flow Profile



**Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):**

# Intelligent Data Collection Limited



Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 2  
 Date of Survey: 10.07.2014  
 Junction Name: Plough Hill/ Station Rd  
 Junction Type: T-Junction

Arm A: Plough Hill (N)  
 Arm B: Station Rd (E)

Arm C: Northaw Rd (E)

Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	18	5	0	0	0	0	1	24	18	4	0	0	0	1	0	23
07:15								0	34	3	0	0	0	1	1	39	38	8	0	0	0	0	2	48
07:30								0	50	10	2	1	2	1	0	66	36	5	0	0	0	1	2	44
07:45								0	68	9	0	0	0	0	0	77	36	4	1	0	0	0	0	41
08:00								0	67	11	2	0	0	0	0	80	25	6	0	0	1	0	0	32
08:15								0	43	5	4	0	0	0	1	53	52	10	0	0	0	0	0	62
08:30								0	44	4	0	2	0	0	0	50	55	9	0	0	0	0	0	64
08:45								0	38	5	0	0	0	0	0	43	57	4	1	0	0	0	0	62
09:00								0	30	4	0	2	1	1	0	38	37	6	1	0	0	1	0	45
09:15								0	31	3	2	0	0	0	0	36	45	1	0	0	0	0	0	46
09:30								0	25	2	1	2	0	0	0	30	36	7	1	0	1	0	0	45
09:45								0	21	4	0	0	0	0	0	25	27	11	2	0	0	1	0	41
16:00								0	24	4	0	1	0	0	0	29	53	21	7	1	0	0	0	82
16:15								0	23	8	0	0	0	0	0	31	73	17	0	0	0	0	0	90
16:30								0	24	5	0	0	0	0	0	29	65	18	1	0	0	0	0	84
16:45								0	25	4	0	0	0	0	0	29	51	14	1	0	0	0	0	66
17:00								0	34	4	2	0	0	0	0	40	63	14	1	0	0	2	0	80
17:15								0	37	4	0	0	0	1	0	42	55	17	1	0	0	0	0	73
17:30								0	24	6	1	0	0	1	0	32	64	7	0	0	0	1	0	72
17:45								0	24	5	0	1	0	0	0	30	51	7	0	0	0	0	0	58
18:00								0	35	5	0	0	0	0	0	40	70	9	1	0	0	0	0	80
18:15								0	32	3	0	0	0	0	0	35	55	6	0	0	0	0	0	61
18:30								0	24	2	0	0	0	0	0	26	64	8	0	0	0	0	1	73
18:45								0	14	2	0	0	0	0	0	16	52	6	0	0	1	0	0	59
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	170	27	2	1	2	2	2	206	128	21	1	0	0	2	4	156
07:15	0	0	0	0	0	0	0	0	219	33	4	1	2	2	1	262	135	23	1	0	1	1	4	165
07:30	0	0	0	0	0	0	0	0	228	35	8	1	2	1	1	276	149	25	1	0	1	1	2	179
07:45	0	0	0	0	0	0	0	0	222	29	6	2	0	0	1	260	168	29	1	0	1	0	0	199
08:00	0	0	0	0	0	0	0	0	192	25	6	2	0	0	1	226	189	29	1	0	1	0	0	220
08:15	0	0	0	0	0	0	0	0	155	18	4	4	1	1	1	184	201	29	2	0	0	1	0	233
08:30	0	0	0	0	0	0	0	0	143	16	2	4	1	1	0	167	194	20	2	0	0	1	0	217
08:45	0	0	0	0	0	0	0	0	124	14	3	4	1	1	0	147	175	18	3	0	1	1	0	198
09:00	0	0	0	0	0	0	0	0	107	13	3	4	1	1	0	129	145	25	4	0	1	2	0	177
16:00	0	0	0	0	0	0	0	0	96	21	0	1	0	0	0	118	242	70	9	1	0	0	0	322
16:15	0	0	0	0	0	0	0	0	106	21	2	0	0	0	0	129	252	63	3	0	0	2	0	320
16:30	0	0	0	0	0	0	0	0	120	17	2	0	0	1	0	140	234	63	4	0	0	2	0	303
16:45	0	0	0	0	0	0	0	0	120	18	3	0	0	2	0	143	233	52	3	0	0	3	0	291
17:00	0	0	0	0	0	0	0	0	119	19	3	1	0	2	0	144	233	45	2	0	0	3	0	283
17:15	0	0	0	0	0	0	0	0	120	20	1	1	0	2	0	144	240	40	2	0	0	1	0	283
17:30	0	0	0	0	0	0	0	0	115	19	1	1	0	1	0	137	240	29	1	0	0	1	0	271
17:45	0	0	0	0	0	0	0	0	115	15	0	1	0	0	0	131	240	30	1	0	0	0	1	272
18:00	0	0	0	0	0	0	0	0	105	12	0	0	0	0	0	117	241	29	1	0	1	0	1	273

# Intelligent Data Collection Limited

Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 2  
 Date of Survey: 10.07.2014  
 Junction Name: Plough Hill/ Station Rd  
 Junction Type: T-Junction

Arm A: Plough Hill (N)  
 Arm B: Station Rd (E)

Arm C: Northaw Rd (E)



Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	32	11	0	0	0	0	0	43	110	54	2	0	0	0	0	166
07:15								0	34	7	1	0	0	0	1	43	161	49	2	0	1	0	1	214
07:30								0	33	5	0	0	0	0	1	39	142	43	1	0	0	1	0	187
07:45								0	34	8	0	0	0	0	0	42	134	41	1	0	1	1	1	179
08:00								0	28	5	1	0	0	0	0	34	125	14	1	0	0	1	0	141
08:15								0	23	4	3	0	0	0	0	30	145	17	1	0	0	1	0	164
08:30								0	24	4	2	1	1	0	0	32	107	14	5	0	1	0	0	127
08:45								0	42	3	0	1	0	0	0	46	91	16	1	0	0	0	0	108
09:00								0	37	6	1	1	0	0	0	45	125	21	1	0	0	0	0	147
09:15								0	33	3	0	1	0	0	0	37	85	14	0	0	1	0	0	100
09:30								0	28	12	0	0	2	0	0	42	78	14	0	0	0	1	0	93
09:45								0	30	3	0	0	0	0	0	33	68	14	2	0	0	1	0	85
16:00								0	29	8	0	1	0	1	0	39	59	9	2	0	0	0	0	70
16:15								0	31	5	2	0	0	2	0	40	69	11	0	0	0	0	0	80
16:30								0	41	7	0	0	0	0	0	48	59	10	0	0	1	1	0	71
16:45								0	37	10	0	0	0	0	0	47	60	9	3	0	0	0	0	72
17:00								0	42	3	0	0	0	1	0	46	89	9	1	0	0	0	0	99
17:15								0	49	6	0	0	0	0	0	55	62	4	1	0	0	0	0	67
17:30								0	39	5	0	0	0	0	2	46	75	9	0	0	0	0	0	84
17:45								0	35	5	0	0	0	0	0	40	71	12	1	0	1	0	0	85
18:00								0	50	2	0	0	0	0	0	52	72	6	0	0	0	0	0	78
18:15								0	35	1	0	0	0	0	0	36	58	9	0	0	0	0	0	67
18:30								0	34	1	0	0	0	0	0	35	59	7	0	0	0	0	0	66
18:45								0	27	2	0	1	0	0	0	30	98	8	0	1	1	0	0	108
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	133	31	1	0	0	1	1	167	547	187	6	0	2	2	2	746
07:15	0	0	0	0	0	0	0	0	129	25	2	0	0	1	1	158	562	147	5	0	2	3	2	721
07:30	0	0	0	0	0	0	0	0	118	22	4	0	0	0	1	145	546	115	4	0	1	4	1	671
07:45	0	0	0	0	0	0	0	0	109	21	6	1	1	0	0	138	511	86	8	0	2	3	1	611
08:00	0	0	0	0	0	0	0	0	117	16	6	2	1	0	0	142	468	61	8	0	1	2	0	540
08:15	0	0	0	0	0	0	0	0	126	17	6	3	1	0	0	153	468	68	8	0	1	1	0	546
08:30	0	0	0	0	0	0	0	0	136	16	3	4	1	0	0	160	408	65	7	0	2	0	0	482
08:45	0	0	0	0	0	0	0	0	140	24	1	3	2	0	0	170	379	65	2	0	1	1	0	448
09:00	0	0	0	0	0	0	0	0	128	24	1	2	2	0	0	157	356	63	3	0	1	2	0	425
16:00	0	0	0	0	0	0	0	0	138	30	2	1	0	3	0	174	247	39	5	0	1	1	0	293
16:15	0	0	0	0	0	0	0	0	151	25	2	0	0	3	0	181	277	39	4	0	1	1	0	322
16:30	0	0	0	0	0	0	0	0	169	26	0	0	0	1	0	196	270	32	5	0	1	1	0	309
16:45	0	0	0	0	0	0	0	0	167	24	0	0	0	1	2	194	286	31	5	0	0	0	0	322
17:00	0	0	0	0	0	0	0	0	165	19	0	0	0	1	2	187	297	34	3	0	1	0	0	335
17:15	0	0	0	0	0	0	0	0	173	18	0	0	0	0	2	193	280	31	2	0	1	0	0	314
17:30	0	0	0	0	0	0	0	0	159	13	0	0	0	0	2	174	276	36	1	0	1	0	0	314
17:45	0	0	0	0	0	0	0	0	154	9	0	0	0	0	0	163	260	34	1	0	1	0	0	296
18:00	0	0	0	0	0	0	0	0	146	6	0	1	0	0	0	153	287	30	0	1	1	0	0	319



# Intelligent Data Collection Limited

Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 2  
 Date of Survey: 10.07.2014  
 Junction Name: Plough Hill/ Station Rd  
 Junction Type: T-Junction

Arm A: Plough Hill (N)  
 Arm B: Station Rd (E)

Arm C: Northaw Rd (E)



Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	20	8	2	0	0	0	0	30	7	4	0	0	0	0	0	11
07:15								0	22	8	1	0	2	0	0	33	17	8	0	0	0	0	0	25
07:30								0	32	8	1	0	0	0	0	41	9	2	0	0	0	0	0	11
07:45								0	43	12	0	0	1	0	0	56	19	4	0	1	1	0	0	25
08:00								0	44	9	0	0	0	0	0	53	25	8	0	1	0	0	0	34
08:15								0	41	10	3	0	0	0	0	54	15	6	0	0	0	0	0	21
08:30								0	53	3	1	0	0	0	0	57	22	5	2	0	0	0	0	29
08:45								0	73	13	1	0	0	1	0	88	22	1	0	0	0	0	0	23
09:00								0	49	12	0	0	1	1	0	63	27	4	2	0	0	0	0	33
09:15								0	56	10	0	0	1	0	0	67	19	3	0	1	0	0	0	23
09:30								0	47	8	2	0	3	0	0	60	15	2	0	1	0	0	0	18
09:45								0	41	8	2	0	0	0	0	51	11	3	1	0	0	0	0	15
16:00								0	108	23	3	0	0	2	0	136	24	5	0	0	0	0	0	29
16:15								0	94	31	1	0	1	0	0	127	29	9	0	0	0	0	0	38
16:30								0	88	33	4	0	0	1	0	126	22	9	0	0	0	0	0	31
16:45								0	93	35	1	1	0	0	0	130	43	2	1	0	0	0	0	46
17:00								0	114	14	0	0	0	0	2	130	19	8	0	0	0	0	0	27
17:15								0	112	21	1	0	0	1	0	135	38	4	0	0	0	0	0	42
17:30								0	103	27	2	0	1	1	0	134	20	2	0	0	0	0	0	22
17:45								0	142	25	0	0	0	0	0	167	23	3	0	0	0	0	0	26
18:00								0	122	19	1	0	0	0	0	142	21	3	0	0	0	0	0	24
18:15								0	142	18	2	0	0	0	0	162	16	0	0	0	0	0	0	16
18:30								0	134	18	1	0	1	0	0	154	27	0	0	0	0	0	0	27
18:45								0	86	11	0	0	0	0	1	98	18	4	0	0	0	0	0	22
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	117	36	4	0	3	0	0	160	52	18	0	1	1	0	0	72
07:15	0	0	0	0	0	0	0	0	141	37	2	0	3	0	0	183	70	22	0	2	1	0	0	95
07:30	0	0	0	0	0	0	0	0	160	39	4	0	1	0	0	204	68	20	0	2	1	0	0	91
07:45	0	0	0	0	0	0	0	0	181	34	4	0	1	0	0	220	81	23	2	2	1	0	0	109
08:00	0	0	0	0	0	0	0	0	211	35	5	0	0	1	0	252	84	20	2	1	0	0	0	107
08:15	0	0	0	0	0	0	0	0	216	38	5	0	1	2	0	262	86	16	4	0	0	0	0	106
08:30	0	0	0	0	0	0	0	0	231	38	2	0	2	2	0	275	90	13	4	1	0	0	0	108
08:45	0	0	0	0	0	0	0	0	225	43	3	0	5	2	0	278	83	10	2	2	0	0	0	97
09:00	0	0	0	0	0	0	0	0	193	38	4	0	5	1	0	241	72	12	3	2	0	0	0	89
16:00	0	0	0	0	0	0	0	0	383	122	9	1	1	3	0	519	118	25	1	0	0	0	0	144
16:15	0	0	0	0	0	0	0	0	389	113	6	1	1	1	2	513	113	28	1	0	0	0	0	142
16:30	0	0	0	0	0	0	0	0	407	103	6	1	0	2	2	521	122	23	1	0	0	0	0	146
16:45	0	0	0	0	0	0	0	0	422	97	4	1	1	2	2	529	120	16	1	0	0	0	0	137
17:00	0	0	0	0	0	0	0	0	471	87	3	0	1	2	2	566	100	17	0	0	0	0	0	117
17:15	0	0	0	0	0	0	0	0	479	92	4	0	1	2	0	578	102	12	0	0	0	0	0	114
17:30	0	0	0	0	0	0	0	0	509	89	5	0	1	1	0	605	80	8	0	0	0	0	0	88
17:45	0	0	0	0	0	0	0	0	540	80	4	0	1	0	0	625	87	6	0	0	0	0	0	93
18:00	0	0	0	0	0	0	0	0	484	66	4	0	1	0	1	556	82	7	0	0	0	0	0	89

# Intelligent Data Collection Limited



Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 2  
 Date of Survey: 10.07.2014  
 Junction Name: Plough Hill/ Station Rd  
 Junction Type: T-Junction

Time	Arm A Approach								Arm A Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	36	9	0	0	0	1	1	47	39	15	0	0	0	0	0	54
07:15	72	11	0	0	0	1	3	87	51	15	1	0	0	1	0	68
07:30	86	15	2	1	2	2	2	110	42	7	0	0	0	0	1	50
07:45	104	13	1	0	0	0	0	118	53	12	0	1	1	0	0	67
08:00	92	17	2	0	1	0	0	112	53	13	1	1	0	0	0	68
08:15	95	15	4	0	0	0	1	115	38	10	3	0	0	0	0	51
08:30	99	13	0	2	0	0	0	114	46	9	4	1	1	0	0	61
08:45	95	9	1	0	0	0	0	105	64	4	0	1	0	0	0	69
09:00	67	10	1	2	1	2	0	83	64	10	3	1	0	0	0	78
09:15	76	4	2	0	0	0	0	82	52	6	0	2	0	0	0	60
09:30	61	9	2	2	1	0	0	75	43	14	0	1	2	0	0	60
09:45	48	15	2	0	0	1	0	66	41	6	1	0	0	0	0	48
16:00	77	25	7	2	0	0	0	111	53	13	0	1	0	1	0	68
16:15	96	25	0	0	0	0	0	121	60	14	2	0	0	2	0	78
16:30	89	23	1	0	0	0	0	113	63	16	0	0	0	0	0	79
16:45	76	18	1	0	0	0	0	95	80	12	1	0	0	0	0	93
17:00	97	18	3	0	0	2	0	120	61	11	0	0	0	1	0	73
17:15	92	21	1	0	0	1	0	115	87	10	0	0	0	0	0	97
17:30	88	13	1	0	0	2	0	104	59	7	0	0	0	0	2	68
17:45	75	12	0	1	0	0	0	88	58	8	0	0	0	0	0	66
18:00	105	14	1	0	0	0	0	120	71	5	0	0	0	0	0	76
18:15	87	9	0	0	0	0	0	96	51	1	0	0	0	0	0	52
18:30	88	10	0	0	0	0	1	99	61	1	0	0	0	0	0	62
18:45	66	8	0	0	1	0	0	75	45	6	0	1	0	0	0	52
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	298	48	3	1	2	4	6	362	185	49	1	1	1	1	1	239
07:15	354	56	5	1	3	3	5	427	199	47	2	2	1	1	1	253
07:30	377	60	9	1	3	2	3	455	186	42	4	2	1	0	1	236
07:45	390	58	7	2	1	0	1	459	190	44	8	3	2	0	0	247
08:00	381	54	7	2	1	0	1	446	201	36	8	3	1	0	0	249
08:15	356	47	6	4	1	2	1	417	212	33	10	3	1	0	0	259
08:30	337	36	4	4	1	2	0	384	226	29	7	5	1	0	0	268
08:45	299	32	6	4	2	2	0	345	223	34	3	5	2	0	0	267
09:00	252	38	7	4	2	3	0	306	200	36	4	4	2	0	0	246
16:00	338	91	9	2	0	0	0	440	256	55	3	1	0	3	0	318
16:15	358	84	5	0	0	2	0	449	264	53	3	0	0	3	0	323
16:30	354	80	6	0	0	3	0	443	291	49	1	0	0	1	0	342
16:45	353	70	6	0	0	5	0	434	287	40	1	0	0	1	2	331
17:00	352	64	5	1	0	5	0	427	265	36	0	0	0	1	2	304
17:15	360	60	3	1	0	3	0	427	275	30	0	0	0	0	2	307
17:30	355	48	2	1	0	2	0	408	239	21	0	0	0	0	2	262
17:45	355	45	1	1	0	0	1	403	241	15	0	0	0	0	0	256
18:00	346	41	1	0	1	0	1	390	228	13	0	1	0	0	0	242

# Intelligent Data Collection Limited



Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 2  
 Date of Survey: 10.07.2014  
 Junction Name: Plough Hill/ Station Rd  
 Junction Type: T-Junction

Time	Arm B Approach								Arm B Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	142	65	2	0	0	0	0	209	38	12	2	0	0	1	0	53
07:15	195	56	3	0	1	1	1	257	60	16	1	0	2	0	2	81
07:30	175	48	1	0	0	1	1	226	68	13	1	0	0	1	2	85
07:45	168	49	1	0	1	1	1	221	79	16	1	0	1	0	0	97
08:00	153	19	2	0	0	1	0	175	69	15	0	0	1	0	0	85
08:15	168	21	4	0	0	1	0	194	93	20	3	0	0	0	0	116
08:30	131	18	7	1	2	0	0	159	108	12	1	0	0	0	0	121
08:45	133	19	1	1	0	0	0	154	130	17	2	0	0	1	0	150
09:00	162	27	2	1	0	0	0	192	86	18	1	0	1	2	0	108
09:15	118	17	0	1	1	0	0	137	101	11	0	0	1	0	0	113
09:30	106	26	0	0	2	1	0	135	83	15	3	0	4	0	0	105
09:45	98	17	2	0	0	1	0	118	68	19	4	0	0	1	0	92
16:00	88	17	2	1	0	1	0	109	161	44	10	1	0	2	0	218
16:15	100	16	2	0	0	2	0	120	167	48	1	0	1	0	0	217
16:30	100	17	0	0	1	1	0	119	153	51	5	0	0	1	0	210
16:45	97	19	3	0	0	0	0	119	144	49	2	1	0	0	0	196
17:00	131	12	1	0	0	1	0	145	177	28	1	0	0	2	2	210
17:15	111	10	1	0	0	0	0	122	167	38	2	0	0	1	0	208
17:30	114	14	0	0	0	0	2	130	167	34	2	0	1	2	0	206
17:45	106	17	1	0	1	0	0	125	193	32	0	0	0	0	0	225
18:00	122	8	0	0	0	0	0	130	192	28	2	0	0	0	0	222
18:15	93	10	0	0	0	0	0	103	197	24	2	0	0	0	0	223
18:30	93	8	0	0	0	0	0	101	198	26	1	0	1	0	1	227
18:45	125	10	0	2	1	0	0	138	138	17	0	0	1	0	1	157
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	680	218	7	0	2	3	3	913	245	57	5	0	3	2	4	316
07:15	691	172	7	0	2	4	3	879	276	60	3	0	4	1	4	348
07:30	664	137	8	0	1	4	2	816	309	64	5	0	2	1	2	383
07:45	620	107	14	1	3	3	1	749	349	63	5	0	2	0	0	419
08:00	585	77	14	2	2	2	0	682	400	64	6	0	1	1	0	472
08:15	594	85	14	3	2	1	0	699	417	67	7	0	1	3	0	495
08:30	544	81	10	4	3	0	0	642	425	58	4	0	2	3	0	492
08:45	519	89	3	3	3	1	0	618	400	61	6	0	6	3	0	476
09:00	484	87	4	2	3	2	0	582	338	63	8	0	6	3	0	418
16:00	385	69	7	1	1	4	0	467	625	192	18	2	1	3	0	841
16:15	428	64	6	0	1	4	0	503	641	176	9	1	1	3	2	833
16:30	439	58	5	0	1	2	0	505	641	166	10	1	0	4	2	824
16:45	453	55	5	0	0	1	2	516	655	149	7	1	1	5	2	820
17:00	462	53	3	0	1	1	2	522	704	132	5	0	1	5	2	849
17:15	453	49	2	0	1	0	2	507	719	132	6	0	1	3	0	861
17:30	435	49	1	0	1	0	2	488	749	118	6	0	1	2	0	876
17:45	414	43	1	0	1	0	0	459	780	110	5	0	1	0	1	897
18:00	433	36	0	2	1	0	0	472	725	95	5	0	2	0	2	829

# Intelligent Data Collection Limited



Client: Vectos  
 Project Number: ID02010  
 Junction Number: Site 2  
 Date of Survey: 10.07.2014  
 Junction Name: Plough Hill/ Station Rd  
 Junction Type: T-Junction

Time	Arm C Approach								Arm C Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	27	12	2	0	0	0	0	41	128	59	2	0	0	0	1	190
07:15	39	16	1	0	2	0	0	58	195	52	2	0	1	1	2	253
07:30	41	10	1	0	0	0	0	52	192	53	3	1	2	2	0	253
07:45	62	16	0	1	2	0	0	81	202	50	1	0	1	1	1	256
08:00	69	17	0	1	0	0	0	87	192	25	3	0	0	1	0	221
08:15	56	16	3	0	0	0	0	75	188	22	5	0	0	1	1	217
08:30	75	8	3	0	0	0	0	86	151	18	5	2	1	0	0	177
08:45	95	14	1	0	0	1	0	111	129	21	1	0	0	0	0	151
09:00	76	16	2	0	1	1	0	96	155	25	1	2	1	1	0	185
09:15	75	13	0	1	1	0	0	90	116	17	2	0	1	0	0	136
09:30	62	10	2	1	3	0	0	78	103	16	1	2	0	1	0	123
09:45	52	11	3	0	0	0	0	66	89	18	2	0	0	1	0	110
16:00	132	28	3	0	0	2	0	165	83	13	2	1	0	0	0	99
16:15	123	40	1	0	1	0	0	165	92	19	0	0	0	0	0	111
16:30	110	42	4	0	0	1	0	157	83	15	0	0	1	1	0	100
16:45	136	37	2	1	0	0	0	176	85	13	3	0	0	0	0	101
17:00	133	22	0	0	0	0	2	157	123	13	3	0	0	0	0	139
17:15	150	25	1	0	0	1	0	177	99	8	1	0	0	0	1	109
17:30	123	29	2	0	1	1	0	156	99	15	1	0	0	1	0	116
17:45	165	28	0	0	0	0	0	193	95	17	1	1	1	0	0	115
18:00	143	22	1	0	0	0	0	166	107	11	0	0	0	0	0	118
18:15	158	18	2	0	0	0	0	178	90	12	0	0	0	0	0	102
18:30	161	18	1	0	1	0	0	181	83	9	0	0	0	0	0	92
18:45	104	15	0	0	0	0	1	120	112	10	0	1	1	0	0	124
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	169	54	4	1	4	0	0	232	717	214	8	1	4	4	4	952
07:15	211	59	2	2	4	0	0	278	781	180	9	1	4	5	3	983
07:30	228	59	4	2	2	0	0	295	774	150	12	1	3	5	2	947
07:45	262	57	6	2	2	0	0	329	733	115	14	2	2	3	2	871
08:00	295	55	7	1	0	1	0	359	660	86	14	2	1	2	1	766
08:15	302	54	9	0	1	2	0	368	623	86	12	4	2	2	1	730
08:30	321	51	6	1	2	2	0	383	551	81	9	4	3	1	0	649
08:45	308	53	5	2	5	2	0	375	503	79	5	4	2	2	0	595
09:00	265	50	7	2	5	1	0	330	463	76	6	4	2	3	0	554
16:00	501	147	10	1	1	3	0	663	343	60	5	1	1	1	0	411
16:15	502	141	7	1	1	1	2	655	383	60	6	0	1	1	0	451
16:30	529	126	7	1	0	2	2	667	390	49	7	0	1	2	0	449
16:45	542	113	5	1	1	2	2	666	406	49	8	0	0	2	0	465
17:00	571	104	3	0	1	2	2	683	416	53	6	1	1	2	0	479
17:15	581	104	4	0	1	2	0	692	400	51	3	1	1	2	0	458
17:30	589	97	5	0	1	1	0	693	391	55	2	1	1	1	0	451
17:45	627	86	4	0	1	0	0	718	375	49	1	1	1	0	0	427
18:00	566	73	4	0	1	0	1	645	392	42	0	1	1	0	0	436

# Intelligent Data Collection Limited



**Client:** Vectos  
**Project Number:** ID02010  
**Junction Number:** Site 2  
**Date of Survey:** 10.07.2014  
**Junction Name:** Plough Hill/ Station Rd  
**Junction Type:** T-Junction

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	205	86	4	0	0	1	1	297
07:15	306	83	4	0	3	2	4	402
07:30	302	73	4	1	2	3	3	388
07:45	334	78	2	1	3	1	1	420
08:00	314	53	4	1	1	1	0	374
08:15	319	52	11	0	0	1	1	384
08:30	305	39	10	3	2	0	0	359
08:45	323	42	3	1	0	1	0	370
09:00	305	53	5	3	2	3	0	371
09:15	269	34	2	2	2	0	0	309
09:30	229	45	4	3	6	1	0	288
09:45	198	43	7	0	0	2	0	250
16:00	297	70	12	3	0	3	0	385
16:15	319	81	3	0	1	2	0	406
16:30	299	82	5	0	1	2	0	389
16:45	309	74	6	1	0	0	0	390
17:00	361	52	4	0	0	3	2	422
17:15	353	56	3	0	0	2	0	414
17:30	325	56	3	0	1	3	2	390
17:45	346	57	1	1	1	0	0	406
18:00	370	44	2	0	0	0	0	416
18:15	338	37	2	0	0	0	0	377
18:30	342	36	1	0	1	0	1	381
18:45	295	33	0	2	2	0	1	333
Start Time	Rolling Hour							Total
07:00	1147	320	14	2	8	7	9	1507
07:15	1256	287	14	3	9	7	8	1584
07:30	1269	256	21	3	6	6	5	1566
07:45	1272	222	27	5	6	3	2	1537
08:00	1261	186	28	5	3	3	1	1487
08:15	1252	186	29	7	4	5	1	1484
08:30	1202	168	20	9	6	4	0	1409
08:45	1126	174	14	9	10	5	0	1338
09:00	1001	175	18	8	10	6	0	1218
16:00	1224	307	26	4	2	7	0	1570
16:15	1288	289	18	1	2	7	2	1607
16:30	1322	264	18	1	1	7	2	1615
16:45	1348	238	16	1	1	8	4	1616
17:00	1385	221	11	1	2	8	4	1632
17:15	1394	213	9	1	2	5	2	1626
17:30	1379	194	8	1	2	3	2	1589
17:45	1396	174	6	1	2	0	1	1580
18:00	1345	150	5	2	3	0	2	1507



# Appendix P

Junctions 9							
PICADY 9 - Priority Intersection Module							
Version: 9.5.1.7462 © Copyright TRL Limited, 2019							
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk							
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution							

Filename: Proposed Site Access.j9

Path: X:\Projects\140000\141386B - Transport Assessment and Travel Plan Update\MODELLING

Report generation date: 14/01/2021 11:24:42

- »(Default Analysis Set) - 2025 Base plus Development, AM
- »(Default Analysis Set) - 2025 Base plus Development, PM
- »(Default Analysis Set) - 2025 Base plus Development + Metropolis, AM
- »(Default Analysis Set) - 2025 Base plus Development + Metropolis, PM

### Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
A1 - 2025 Base plus Development								
Stream B-AC	0.4	21.53	0.29	C	0.1	17.52	0.13	C
Stream C-AB	0.0	11.12	0.04	B	0.1	8.08	0.08	A
A1 - 2025 Base plus Development + Metropolis								
Stream B-AC	0.4	20.63	0.28	C	0.2	21.25	0.15	C
Stream C-AB	0.0	10.49	0.04	B	0.1	8.14	0.08	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

### File summary

#### File Description

Title	(untitled)
Location	
Site number	
Date	10/11/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	
Description	

### Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

## Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

## Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025 Base plus Development	AM	ONE HOUR	07:45	09:15	15	✓
D2	2025 Base plus Development	PM	ONE HOUR	16:45	18:15	15	✓
D3	2025 Base plus Development + Metropolis	AM	ONE HOUR	07:45	09:15	15	✓
D4	2025 Base plus Development + Metropolis	PM	ONE HOUR	16:45	18:15	15	✓

## Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	(Default Analysis Set)	✓	100.000	100.000

# (Default Analysis Set) - 2025 Base plus Development, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way		0.92	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Name	Description	Arm type
A	Northaw Road E		Major
B	Site Access		Minor
C	Northaw Road West		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			100.0	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

### Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.50	50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	544	0.099	0.251	0.158	0.358
B-C	688	0.105	0.267	-	-
C-B	632	0.245	0.245	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025 Base plus Development	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	953	100.000
B		ONE HOUR	✓	63	100.000
C		ONE HOUR	✓	371	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	7	946
	B	24	0	39
	C	359	12	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	21
	B	0	0	0
	C	10	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.29	21.53	0.4	C	58	87
C-AB	0.04	11.12	0.0	B	11	17
C-A					329	494
A-B					6	10
A-C					868	1302



## Main Results for each time segment

### 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	47	12	367	0.129	47	0.0	0.1	11.217	B
C-AB	9	2	425	0.022	9	0.0	0.0	8.644	A
C-A	270	68			270				
A-B	5	1			5				
A-C	712	178			712				

### 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	57	14	314	0.180	56	0.1	0.2	13.951	B
C-AB	11	3	387	0.029	11	0.0	0.0	9.559	A
C-A	322	81			322				
A-B	6	2			6				
A-C	850	213			850				

### 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	17	237	0.293	69	0.2	0.4	21.348	C
C-AB	14	3	337	0.041	14	0.0	0.0	11.114	B
C-A	395	99			395				
A-B	8	2			8				
A-C	1042	260			1042				

### 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	17	236	0.293	69	0.4	0.4	21.526	C
C-AB	14	3	338	0.041	14	0.0	0.0	11.119	B
C-A	395	99			395				
A-B	8	2			8				
A-C	1042	260			1042				

### 08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	57	14	314	0.180	57	0.4	0.2	14.064	B
C-AB	11	3	388	0.028	11	0.0	0.0	9.562	A
C-A	322	81			322				
A-B	6	2			6				
A-C	850	213			850				

### 09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	47	12	367	0.129	48	0.2	0.2	11.281	B
C-AB	9	2	426	0.022	9	0.0	0.0	8.651	A
C-A	270	68			270				
A-B	5	1			5				
A-C	712	178			712				

# (Default Analysis Set) - 2025 Base plus Development, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way		0.40	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2025 Base plus Development	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	779	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	962	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To			
		A	B	C
	A	0	18	761
	B	10	0	17
	C	932	30	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	10
	B	0	0	0
	C	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.13	17.52	0.1	C	25	37
C-AB	0.08	8.08	0.1	A	31	47
C-A					851	1277
A-B					17	25
A-C					698	1047

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	20	5	381	0.053	20	0.0	0.1	9.980	A
C-AB	24	6	508	0.048	24	0.0	0.1	7.438	A
C-A	700	175			700				
A-B	14	3			14				
A-C	573	143			573				

#### 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	24	6	324	0.075	24	0.1	0.1	11.994	B
C-AB	30	8	494	0.061	30	0.1	0.1	7.747	A
C-A	835	209			835				
A-B	16	4			16				
A-C	684	171			684				

#### 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	30	7	235	0.126	29	0.1	0.1	17.477	C
C-AB	40	10	485	0.082	40	0.1	0.1	8.072	A
C-A	1019	255			1019				
A-B	20	5			20				
A-C	838	209			838				

#### 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	30	7	235	0.126	30	0.1	0.1	17.520	C
C-AB	40	10	486	0.082	40	0.1	0.1	8.078	A
C-A	1019	255			1019				
A-B	20	5			20				
A-C	838	209			838				

**17:45 - 18:00**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	24	6	324	0.075	25	0.1	0.1	12.025	B
C-AB	30	8	495	0.061	30	0.1	0.1	7.756	A
C-A	835	209			835				
A-B	16	4			16				
A-C	684	171			684				

**18:00 - 18:15**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	20	5	381	0.053	20	0.1	0.1	9.999	A
C-AB	24	6	508	0.048	24	0.1	0.1	7.447	A
C-A	700	175			700				
A-B	14	3			14				
A-C	573	143			573				

# (Default Analysis Set) - 2025 Base plus Development + Metropolis, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way		0.87	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 Base plus Development + Metropolis	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	982	100.000
B		ONE HOUR	✓	63	100.000
C		ONE HOUR	✓	448	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	7	975
	B	24	0	39
	C	436	12	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	11
	B	0	0	0
	C	10	0	0



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.28	20.63	0.4	C	58	87
C-AB	0.04	10.49	0.0	B	11	17
C-A					400	600
A-B					6	10
A-C					895	1342

### Main Results for each time segment

#### 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	47	12	373	0.127	47	0.0	0.1	11.009	B
C-AB	9	2	438	0.021	9	0.0	0.0	8.390	A
C-A	328	82			328				
A-B	5	1			5				
A-C	734	184			734				

#### 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	57	14	321	0.176	56	0.1	0.2	13.594	B
C-AB	11	3	403	0.028	11	0.0	0.0	9.187	A
C-A	392	98			392				
A-B	6	2			6				
A-C	877	219			877				

#### 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	17	244	0.284	69	0.2	0.4	20.472	C
C-AB	14	3	357	0.039	14	0.0	0.0	10.490	B
C-A	479	120			479				
A-B	8	2			8				
A-C	1073	268			1073				

#### 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	17	244	0.285	69	0.4	0.4	20.626	C
C-AB	14	3	357	0.039	14	0.0	0.0	10.493	B
C-A	479	120			479				
A-B	8	2			8				
A-C	1073	268			1073				

**08:45 - 09:00**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	57	14	321	0.177	57	0.4	0.2	13.695	B
C-AB	11	3	403	0.027	11	0.0	0.0	9.191	A
C-A	392	98			392				
A-B	6	2			6				
A-C	877	219			877				

**09:00 - 09:15**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	47	12	373	0.127	48	0.2	0.1	11.066	B
C-AB	9	2	438	0.021	9	0.0	0.0	8.397	A
C-A	328	82			328				
A-B	5	1			5				
A-C	734	184			734				

# (Default Analysis Set) - 2025 Base plus Development + Metropolis, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way		0.43	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 Base plus Development + Metropolis	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	846	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	1007	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	18	828
	B	10	0	17
	C	977	30	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	5
	B	0	0	0
	C	10	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.15	21.25	0.2	C	25	37
C-AB	0.08	8.14	0.1	A	32	48
C-A					892	1338
A-B					17	25
A-C					760	1140

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	20	5	364	0.056	20	0.0	0.1	10.476	B
C-AB	24	6	504	0.048	24	0.0	0.1	7.501	A
C-A	734	183			734				
A-B	14	3			14				
A-C	623	156			623				

#### 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	24	6	301	0.081	24	0.1	0.1	12.990	B
C-AB	30	8	490	0.062	30	0.1	0.1	7.815	A
C-A	875	219			875				
A-B	16	4			16				
A-C	744	186			744				

#### 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	30	7	199	0.149	29	0.1	0.2	21.162	C
C-AB	41	10	482	0.084	40	0.1	0.1	8.133	A
C-A	1068	267			1068				
A-B	20	5			20				
A-C	912	228			912				

#### 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	30	7	199	0.149	30	0.2	0.2	21.248	C
C-AB	41	10	483	0.084	41	0.1	0.1	8.137	A
C-A	1068	267			1068				
A-B	20	5			20				
A-C	912	228			912				

**17:45 - 18:00**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	24	6	301	0.081	25	0.2	0.1	13.037	B
C-AB	30	8	493	0.062	30	0.1	0.1	7.824	A
C-A	875	219			875				
A-B	16	4			16				
A-C	744	186			744				

**18:00 - 18:15**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	20	5	363	0.056	20	0.1	0.1	10.498	B
C-AB	24	6	505	0.048	24	0.1	0.1	7.512	A
C-A	734	183			734				
A-B	14	3			14				
A-C	623	156			623				



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