Whole Plan:

ID	Organisation
9	The Canal & River Trust
59	Ashfield District Council
62	Gedling Borough Council
63	Nottingham City Council
187	The Forestry Commission
253	National Grid
4200	Taylor & Burrows Property (Represented by Phoenix Planning (UK) Ltd)
6809	Sellers
3858	Page
4193	Mr Turton (Represented by Planning and Design Group)
3305	Bartons Plc
6859	Ministry of Defence

[redacted]

From: [redacted]
Sent:
To:
Subject:

Dear Sirs,

Thank you for consulting the Canal & River Trust on the Publication Version of the Local Plan Part 2.

I can advise that we do not have any comments to make on the Plan at this stage.

Regards,

Ian Dickinson MRTPI
Area Planner (East and West Midlands)

[redacted]

Details

Agent	
Please provide your client's name	
Your Details	
Title	[redacted]
Name	[redacted]
Organisation (If responding on behalf of an organisation)	Ashfield District Council
Address	[redacted]
Telephone Number	[redacted]
Email Address	[redacted]
Would you like to be contacted regarding future planning policy consultations?	Yes
If you wish to comment on more than one issue you will need to submit a form for each representation.	

Policy relates to

Please specify what your comment relates to					
Policy number	**Page number**	**Policy text/ Paragraph number**	**Policies Map**	**Sustainability Appraisal**	**Other (e.g. omission, evidence document etc.)**
					Plan

Question 1: What does your comment relate to? Please specify exactly

Question 2

Question 2: What is the issue with the Local Plan?	
Do you consider this paragraph or policy of the Local Plan to be:	
2.1 Legally compliant	Yes
2.2 Compliant with the duty to co-operate	Yes
2.3 Sound	Yes

Additional details

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details.	Thank you for informing us of the consultation on the Broxtowe Local Plan Part 2. Ashfield District Council has worked with Broxtowe Borough Council to ensure that strategic priorities for the wider area are reflected in the council's respective local plans. No issues have been identified by officers in the Local Plan Part 2 proposals in relation to Ashfield.

Question 4

Question 4: Modifications sought	
Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound.	-

Question 5

Question 5: Public Examination Attendance	
If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	No
If you wish to participate at the public examination, please outline why you consider this to be necessary	

Details

Agent	
Please provide your client's name	N/A
Your Details	
Title	[redacted]
Name	[redacted]
Organisation (If responding on behalf of an organisation)	Gedling Borough Council
Address	[redacted]
Telephone Number	[redacted]
Email Address	[redacted]
Would you like to be contacted regarding future planning policy consultations?	Yes
If you wish to comment on more than one issue you will need to submit a form for each representation.	

Policy relates to

Please specify what your comment relates to					
Policy number	**Page number**	**Policy text/ Paragraph number**	**Policies Map**	**Sustainability Appraisal**	**Other (e.g. omission, evidence document etc.)**
2: Site Allocations	22	2.1 onwards			

Question 1: What does your comment relate to? Please specify exactly

Question 2

Question 2: What is the issue with the Local Plan?	
Do you consider this paragraph or policy of the Local Plan to be:	
2.1 Legally compliant	Yes
2.2 Compliant with the duty to co-operate	Yes
2.3 Sound	Yes

Additional details

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details.	Thank you for inviting Gedling Borough to comment on the Broxtowe Local Plan – Publication Version Consultation. We would confirm that we consider Broxtowe Borough has fulfilled its obligations under the Duty to Cooperate requirements with regard to Gedling Borough. The evidence contained in the SHLAA 2015/16 indicates that the housing supply and LP2 allocations is more than sufficient to meet the ACS requirement of 6,150 both in quantity and by location. However, we understand that a site selection document may

	be prepared which will show how the sites meet the specific target although this is unlikely to be available until submission. Whilst we are not raising any strategic planning concerns at this stage we would appreciate the opportunity to consider and if necessary make further comments on this evidence on site selection when available.

Question 4

Question 4: Modifications sought	
Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound.	none.

Question 5

Question 5: Public Examination Attendance	
If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	No
If you wish to participate at the public examination, please outline why you consider this to be necessary	Gedling Borough would be available to attend if required.

63

[redacted]

From: Peter McAnespie[redacted]
Sent: 31 October 2017 09:59
To: Policy
Cc: Steve Tough; Matt Gregory; Karen Shaw
Subject: FW: Broxtowe Local Plan consultation

Dear Sir/Madam
In addition to Matt Gregory's comments already sent through, please see below further Nottingham City Council officer comments in response to the Publication Local Plan consultation.
Regards
Peter McAnespie

From: Steve Tough –NET Project Officer
Sent: 27 October 2017 16:28
To: Mark Fiande[redacted]
Cc: Chris Carter <[redacted]
Subject: Broxtowe Local Plan consultation

12659

Section 3b.15 states that 'Area 3 would be the eastern part of the high plateau to the east of Toton/ Stapleford Lane and could comprise a Leisure / education hub, with the potential of relocating Park and Ride. Whether the Park and Ride remains in the current location or not, there remains space to incorporate a Leisure and education hub to the south of this whilst maintaining sufficient space to link the Chetwynd development with this development area. It will be a decision for Broxtowe to take.'

The City Council is the promoter of Nottingham Express Transit, and the Chilwell via Beeston route terminates at the Toton Lane Park and Ride site. The 1400 space park and ride site has been very successful since it opened in August 2015, with high levels of occupancy from the outset, and significant subsequent growth subsequently making it one of the busiest sites in Nottingham. A key factor for its success has been its optimal strategic location, a short distance and easy access from the M1 and A52, and the local settlements of Long Eaton, Toton, Stapleford and Sandiacre. The Park and Ride is one of the most important sites on the system and is a fundamental part of the success of the system, and, whilst further park and ride capacity should be considered as part of any future NET extensions associated with Phase Two, the Council would not support the relocation or reduction in capacity of this site, or changes to its access from the strategic and local road network.

12660

The Kimberley depot site (Policy 7.1) allocation is identified for residential development, and affects two route options for potential tram extensions from Phoenix Park to Kimberley. Opun are working with Broxtowe in providing design support for this site, and they noted in their workshop of 10th October 2016 that the site 'should also be designed to allow for the potential new route of the Nottingham tram (NET) to serve this area.' The City Council supports this view and believes that this should be incorporated into the key development requirements on this site.

[redacted]

From: [redacted]
Area Enquiries [redacted]

Sent:
To:
Subject:

Local Plans and ancient woodland – Forestry Commission approach

The Forestry Commission is the Government Department with responsibility for forestry, we are statutory consultees for restoration of minerals and waste workings to forestry and on National Strategic Infrastructure Projects , we are non-statutory consultees on developments within 500metres of an Ancient Woodland. The Forestry Commission is not in a position to input in detail into the consultation process for Local Plans. However, the information below is provided to assist you in assessing the appropriateness of sites for future development and the consideration of protection of natural capital assets such as woodland.

A summary of Government policy on ancient woodland

Natural Environment and Rural Communities Act 2006 (published October 2006).
Section 40 – "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity".

National Planning Policy Framework (published March 2012).
Paragraph 118 – "planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss".

National Planning Practice Guidance – Natural Environment Guidance. (Published March 2014)
This Guidance supports the implementation and interpretation of the National Planning Policy Framework. This section outlines the Forestry Commission's role as a **non-statutory consultee** on *"development proposals that contain or are likely to affect Ancient Semi-Natural woodlands or Plantations on Ancient Woodlands Sites (PAWS) (as defined and recorded in Natural England's Ancient Woodland inventory), including proposals where any part of the development site is within 500 metres of an ancient semi-natural woodland or ancient replanted woodland, and where the development would involve erecting new buildings, or extending the footprint of existing buildings"*

It notes that **ancient woodland is an irreplaceable habitat**, and that, in planning decisions, **Plantations on Ancient Woodland Sites (PAWS) should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework**. It highlights the Ancient Woodland Inventory as a way to find out if a woodland is ancient.

Standing Advice for Ancient Woodland and Veteran Trees. (Published April 2014)
The Forestry Commission has prepared joint standing advice with Natural England on ancient woodland and veteran trees which we refer you to in the first instance. This advice is a material consideration for planning decisions across England. It explains the definition of ancient woodland, its importance, ways to identify it and the policies that relevant to it. It also provides advice on how to protect ancient woodland when dealing with planning applications that may affect ancient woodland. It also considers ancient wood-pasture and veteran trees.

The Standing Advice website will provide you with links to Natural England's **Ancient Woodland Inventory**, **assessment guides** and other tools to assist you in assessing potential impacts. The assessment guides sets out a series of questions to help planners assess the impact of the proposed development on the ancient woodland. **Case Decisions** demonstrates how certain previous planning decisions have taken planning policy into account when considering the impact of proposed developments on ancient woodland. These documents can be found on our website.

UK Forest Standard 2017
Page 24 "Areas of woodland are material considerations in the planning process and may be protected in local authority Area Plans. These plans pay particular attention to woods listed on the Ancient Woodland Inventory and areas identified as Sites of Local Nature Conservation Importance SLNCIs).

Keepers of Time – A Statement of Policy for England's Ancient and Native Woodland (published June 2005).
Page 10 "The existing area of ancient woodland should be maintained and there should be a net increase in the area of native woodland".

Natural Environment White Paper "The Natural Choice" (published June 2011)
Paragraph 2.53 - This has a "renewed commitment to conserving and restoring ancient woodlands".
Paragraph 2.56 – "The Government is committed to providing appropriate protection to ancient woodlands and to more restoration of plantations on ancient woodland sites".

Biodiversity 2020: a strategy for England's wildlife and ecosystem services (published August 2011).
Paragraph 2.16 - Further commitments to protect ancient woodland and to continue restoration of Plantations on Ancient Woodland Sites (PAWS).

Renewable & low carbon energy
The resilience of existing and new woodland is a key theme of the Forestry Commission's work to Protect, Improve and Expand woodland in England we will continue to work with Forestry / Woodland owners, agents, contractors and other Stakeholders to highlight and identify, pests and diseases and to work in partnership to enable Woodlands and Forests are resilient to the impacts of Climate Change. Woodfuel and timber supplies continues to be an opportunity for local market growth whilst also enabling woodlands to be brought back into active management.

Flood risk
The planting of new riparian and floodplain woodland, can help to reduce diffuse pollution, protect river morphology, moderate stream temperature and aid flood risk management, as well as meet Biodiversity Action Plan targets for the restoration and expansion of wet woodland.
The Forestry Commission is keen to work in partnership with Woodland / Forest Stakeholders to develop opportunities for woodland creation to deliver these objectives highlighted above.

In the wider planning context the Forestry Commission encourages local authorities to consider the role of trees in delivering planning objectives as part of a wider integrated landscape approach. For instance through:

- the inclusion of green infrastructure (including trees and woodland) in and around new development; and
- the use of locally sourced wood in construction and as a sustainable, carbon lean fuel.

Yours sincerely

[redacted]

Have you signed up for the Tree Health Newsletter yet? Link here: Tree Health Newsletter also check out Twitter **@treehealthnews**

Please report signs of tree pests and diseases using our online Tree Alert form:
http://www.forestry.gov.uk/treealert

For up-to-date information follow Steve Scott on Twitter: @SteveScottFC, check out www.facebook.com/MakingWoodlandsWork and Subscribe to our e-alert to stay up to date on forestry Grants & Regulations

Broxtowe Borough Council
Foster Avenue,
Beeston
Nottingham
NG9 1AB

[redacted]

[redacted]

Sent by email to:
policy@broxtowe.gov.uk

27 September 2017

Dear Sir / Madam

Broxtowe District Council: Broxtowe Part 2 Local Plan Consultation
SUBMISSION ON BEHALF OF NATIONAL GRID

National Grid has appointed Amec Foster Wheeler to review and respond to development plan consultations on its behalf.

We have reviewed the above consultation document and can confirm that National Grid has no comments to make in response to this consultation.

Further Advice

National Grid is happy to provide advice and guidance to the Council concerning our networks. If we can be of any assistance to you in providing informal comments in confidence during your policy development, please do not hesitate to contact us.

To help ensure the continued safe operation of existing sites and equipment and to facilitate future infrastructure investment, National Grid wishes to be involved in the preparation, alteration and review of plans and strategies which may affect our assets. Please remember to consult National Grid on any Development Plan Document (DPD) or site-specific proposals that could affect our infrastructure. We would be grateful if you could add our details shown below to your consultation database:

Robert Deanwood
Consultant Town Planner

[redacted]

Spencer Jefferies
Development Liaison Officer, National Grid

[redacted]

Yours faithfully

[via email]

[redacted]

[redacted]

[redacted]

Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	TAYLOR & BURROWS PROPERTY

Your Details

Title	[redacted]
Name	[redacted]
Organisation (if responding on behalf of the organisation)	Phoenix Planning (UK) Limited
Address	[redacted]
Postcode	[redacted]
Tel. Number	[redacted]
E-mail address	[redacted]

Comments should be received by 5.00pm on Friday 3rd November 2017

If you wish to comment on several policies, paragraphs, or sites, please use a separate form for each representation.

If you would like to be contacted by the Planning Policy Team regarding future consultations.

Please tick here √

Please help us save money and the environment by providing an e-mail address that correspondence can be sent to: As above

For more information including an **online response** form please visit:

www.broxtowe.gov.uk/part2localplan

Data Protection - The comment(s) you submit on the Local Development Framework (LDF) will be used in the plan process and may be in use for the lifetime of the LDF in accordance with the Data Protection Act 1998. The information will be analysed and the Council will consider issues raised. Please note that comments cannot be treated as confidential and will be made available for public inspection. All representations can be viewed at the Council Offices.

Please return completed forms to:

Planning Policy, Legal and Planning Services, Foster Avenue, Beeston, Nottingham NG9 1AB

For more information: Tel: 0115 917 3452, 3448, 3468 or 3015 E-mail: policy@broxtowe.gov.uk

Question 1: What does your comment relate to? Please specify exactly

Document	Policy number	Page number	Policy text/ Paragraph number
Part 2 Local Plan	**Policy 1**: Flood Risk		
	Policy 2: Site Allocations		
	Policy 3: Main Built up Area Site Allocations		
	Policy 4: Awsworth Site Allocation		
	Policy 5: Brinsley Site Allocation		
	Policy 6: Eastwood Site Allocation		
	Policy 7: Kimberley Site Allocations		
	Policy 8: Development in the Green Belt		
	Policy 9: Retention of good quality existing employment sites		
	Policy 10: Town Centre and District Centre Uses		
	Policy 11: The Square, Beeston		
	Policy 12: Edge-of-Centre A1 Retail in Eastwood		
	Policy 13: Proposals for main town centre uses in edge-of-centre and out-of-centre locations		
	Policy 14: Centre of Neighbourhood Importance (Chilwell Road / High Road)		
	Policy 15: Housing size, mix and choice		
	Policy 16: Gypsies and Travellers		
	Policy 17: Place-making, design and amenity		
	Policy 18: Shopfronts, signage and security measures		
	Policy 19: Pollution, Hazardous Substances and Ground Conditions		
	Policy 20: Air Quality		
	Policy 21: Unstable land		
	Policy 22: Minerals		
	Policy 23: Proposals affecting designated and non-designated heritage assets		
	Policy 24: The health impacts of development		
	Policy 25: Culture, Tourism and Sport		
	Policy 26: Travel Plans		
	Policy 27: Local Green Space		
	Policy 28: Green Infrastructure Assets		
	Policy 29: Cemetery Extensions		
	Policy 30: Landscape		
	Policy 31: Biodiversity Assets		
	Policy 32: Developer Contributions		
Policies Map			
Sustainability Appraisal			
Other (e.g. omission, evidence document etc.)	The Evidence base, in particular the deliverability of the Plan essentially based upon the proposed Housing trajectory as set out in Table 4.		

Question 2: What is the issue with the Local Plan?

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		**Yes**	**No**
2.1	Legally compliant		
2.2	Compliant with the duty to co-operate		
2.3	Sound		X

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered '**No' to 2.3** above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	X
It is not effective	X
It is not positively prepared	X
It is not consistent with national policy	X

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

Table 4 provides a housing trajectory which is supposed to illustrate the intended delivery of housing sites across the Plan period.
Para 47 of the NPPF, which seeks to boost significantly the supply of housing, requires local planning authorities to:..
"*for market and affordable housing, illustrate the expected rate of housing delivery through a housing trajectory for the plan period and set out a housing implementation strategy for the full range of housing describing how they will maintain delivery of a five-year supply of housing land to meet their housing target*".

Unfortunately, the table clearly indicates that it is little more than a mathematical exercise aimed at suggesting the above requirements will be met to some degree. However:

1. In their own submission, the Council accept that it won't be until 2020/21 that they will actually 'pay back' the undersupply to that date.
2. Having averaged only 138 pa over the last 5 years, they suggest that the next 5 will average 708pa, an improvement of around 520%.
3. They suggest that within 4 years the level of building will have reached 1,009pa, which would appear wildly optimistic to say the least.
4. The stepped rises of the housing, from a proposed 398 next year, through 447,711,1009, and 975, allows the Council to claim that they will have a 5 year housing supply, but such a change in build rates lacks any credibility.

Concern over the individual deliverability of sites will be addressed elsewhere. However, regardless of that, there is no basis to believe that such a steep rise in development rates, could be achieved. The Council is not focussed on a significant amount of high rise development (which is itself would raise questions of deliverability), but generally is looking at housing developments of up to 40dwph. In such circumstances to suggest such a phenomenal change in circumstances is beyond belief.

Therefore, it is considered that the Plan is not sound as it fails to meet the following tests in an acceptable manner.

1. Positively Prepared: To meet the test the plan must be able to show it is based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, in a manner consistent with achieving sustainable development. The sites selected, and the many previously permitted, do not show a positive approach to achieve the immense step change that the Trajectory in Table 4 is suggesting will occur.

2. Justified: There is no justification given for how such a step change as suggested will actually be achieved. The Council is not indicating a significant change in policy or approach which would turn around the current under delivery to the significant levels forecast.

3. Effective: The fact that the Trajectory that they have manufactured to suggest that the Plan will be effective is so clearly unbelievable undermines the potential for the Plan to be effective.

4. Consistent with national policy: As outlined above, it is not considered that the Plan does meet the NPPF guidance in relation to this issue.

Question 4: Modifications sought

Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible. Continue on an extra sheet if necessary.
The Plan should be withdrawn and a realistic trajectory produced based on providing the sort of Greenfield sites in attractive areas that the market is seeking. The trajectory is unfortunately simply a very clear indication that the Council cannot radically change its housing deliver without radically considering the marketability and developability of its sites.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

Question 5: Public Examination Attendance

If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	
Yes, I wish to participate at the public examination	√
No, I do not wish to participate at the public examination	

If you wish to participate at the public examination, please outline why you consider this to be necessary
This is a crucial issue that goes to the very heart of the Plan and its soundness. It is a matter that needs to be fully discussed and understood by all interested parties. I would further suggest that it needs to be evaluated as part of a pre-hearing session, before proceeding with a full examination.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

Guidance Note:

Please complete a **separate form** for **each representation** you wish to make.

'Legally Compliant':

If your response relates to **the way in which the plan has been prepared,** then this is likely to relate to whether it or not it is '**Legally Compliant'**. To be 'Legally Compliant', the Local Plan has to be prepared in accordance within the 'Duty to Cooperate' and legal and procedural requirements. These are set out by legislation in the Town and Country Planning (Local Planning) (England) Regulations 2012 (as amended). If you think that we have not met the legal requirement in the preparation of the Local Plan, please use the response form to tell us what we have not done or what we have done incorrectly.

'Compliant with the Duty to Co-operate':

If your response relates to **the way in which we have worked with other authorities** then this is likely to relate to the '**Duty to Co-operate'.**

The 'Duty to Co-operate' places a legal duty on Local Planning Authorities, County Councils and certain public bodies to engage constructively, actively, and on an on-going basis, to maximise the effectiveness of Local Plan preparation in the context of strategic cross-boundary matters. The 'Duty to Co-operate' is not a duty to agree. However, Local Planning Authorities should make every effort to secure the necessary co-operation on strategic cross-boundary matters before they submit their Local Plan for examination.

'Sound'

If your response is about the **content** of the Local Plan and the strategy it adopts, then it is likely to relate to whether or not the Local Plan is '**Sound**'.

To meet the 'Test of Soundness', the independent Planning Inspector is required to consider whether or not our Local Plan is '**justified', 'effective',** has been '**positively prepared',** and is '**consistent with national policy'**. You may wish to consider the following before making a representation on the 'Soundness' of our Local Plan:

- **'Justified':** This means that the Local Plan is based upon a robust and credible evidence base. If you think that the evidence doesn't support the choice made in our Local Plan, or there are realistic alternatives, then your comments may relate to whether or not it is 'justified'.
- **'Effective':** This means that the Local Plan will deliver what it sets out to. If you think that what we are proposing in the Local Plan is not deliverable, then your comments may relate to whether or not our Local Plan is 'effective'.
- **'Positively Prepared':** This means the Local Plan should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development.
- **'Consistent with National Policy':** Do you consider that our Local Plan accords with the National Planning Policy Framework (NPPF) and other policies, or includes clear and convincing reasons for doing something different?

For further guidance or assistance, please contact the **Planning Policy Team** on **0115 917 3452** or by emailing **policy@broxtowe.gov.uk**.

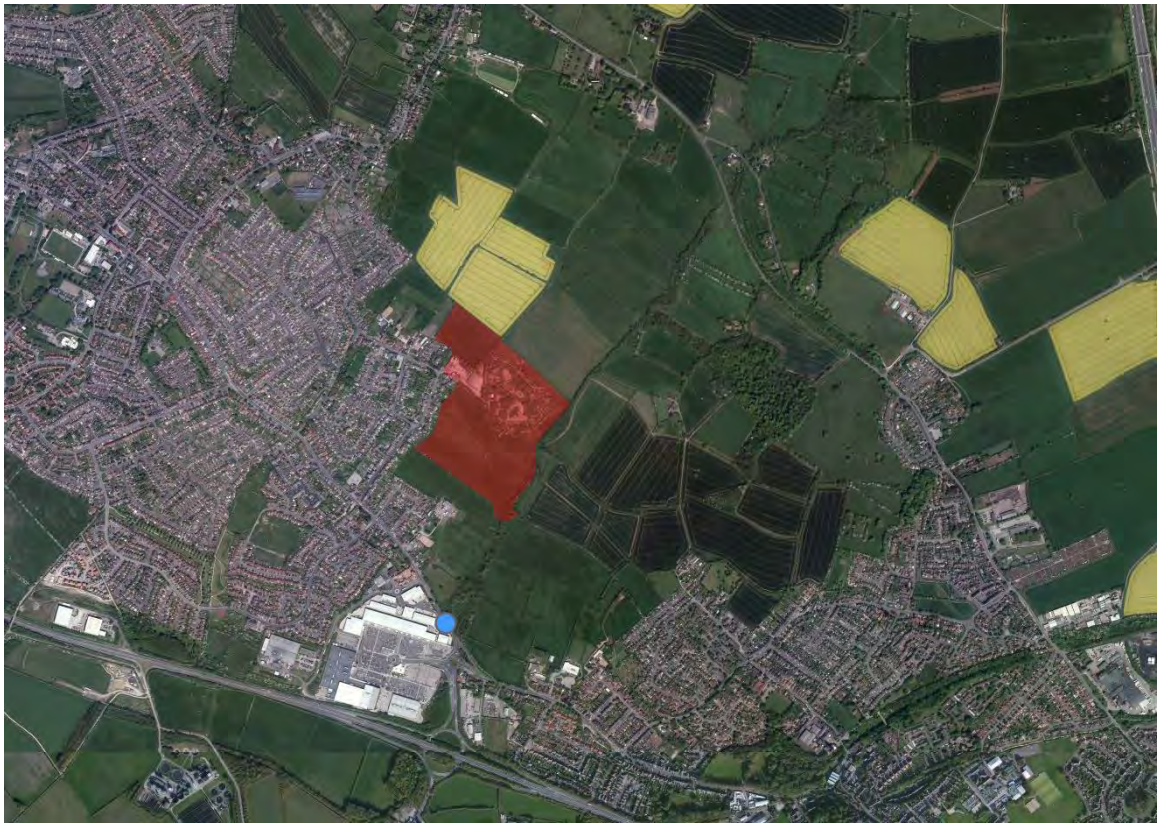
Land off Baker Road, Main Street, Giltbrook, Eastwood

Landscape and Visual Appraisal

PDP Associates

1.0 Introduction.

PDP Associates has been commissioned by Phoenix Planning Ltd to carry out a landscape and visual impact appraisal on parcel of land to the east of Baker Road and north of Main Street, Giltbrook.



This report looks at the landscape and visual impact of development in an objective manner using recommended guidelines and techniques.

1.1 Technical Difficulties

The site survey was carried out in late December 2013 during a period of very stormy weather making access to the surrounding countryside difficult due to ground conditions. However, visibility was sufficient to assess all representative viewpoints.

2.0 Methodology

Guidance for the undertaking of this appraisal has been sourced primarily from:

The Guidelines for Landscape and Visual Impact Assessment (second edition), published April 2013 by the Landscape Institute and Institute of Environmental Management and Assessment (hereafter referred to as GLVIA)

This document describes and considers all of the potential effects and generally assumes that an impact could lead to a positive or adverse effect. The definition of impact terminology has been developed to ensure that, wherever possible, an objective assessment has been made and that the terminology used is appropriate to the development and the landscape setting.

Current guidelines advise that the assessment of an impact on the visual amenity resulting from a particular development should take full account of the landscape (character) impacts as well as the potential visual impacts. Although they are separate, it is difficult to isolate each category and so both landscape and visual effects are considered as part of the assessment process.

3.0 Policy Context

3.1 General

A detailed summary of relevant policies is provided in the Planning Statement that accompanies this report. However, given the Council's housing land supply position (where they do not have a 5 year supply of housing land) all housing policies are deemed to be out of date by para. 49 of the National Planning Policy Framework. It is then for the LPA to assess applications against para. 14 which states that permission should be granted unless any adverse impacts of the proposal would significantly or demonstrably outweigh the benefits, or that specific policies in the Framework indicate development should be restricted.

4.0 Landscape Character

4.1 General

The character of the landscape evolves over time as a result of the interaction of human activity and the natural environment (people and place). Factors used to assess landscape character include:

- Physical – geology, landform, climate, soils, fauna and flora;
- Cultural and Social – land use, settlement, enclosure & history; and
- Aesthetics – colour, texture, pattern, form and perception.

These elements combine to create a sense of place and identity for an area that can be described and assessed.

4.1.2 Landscape character is defined as 'a distinct, recognisable and consistent pattern of elements in the landscape that makes one place different from another, rather than better or worse' i.e. it is what makes an area unique.

4.2 Site Description

The site lies at the north east corner of the Giltbrook area of Eastwood, which itself lies to the south east of Eastwood town centre. Covering approximately 18ha it comprises a mixture of neglected pasture fields, remnant hedgerows, an existing commercial area and an informal BMX area.

The site is bounded to the east by Giltbrook (a tributary of the River Erewash), beyond which lie further pasture and arable fields. Approximately 600m further south east lies the north western edge of Kimberley. To the north is a similar arrangement of small pasture fields separated by fragmented hedgerows. The western and southern boundaries are with existing residential development.

The site slopes from east to west, with a low point adjacent to Glitbrook of around 70m and a high point of approximately 90 in the north west corner.

Further afield, to the east lies the M1 and Nottingham, to the north and south generally open countryside with small settlements and to the west further towns of Langley Mill, Heanor and Ripley.

The site lies within land designated as the Nottinghamshire Green Belt and contains a site of importance for nature conservation. Within the study zone lies Greasley Castle Scheduled Ancient Monument and the listed buildings of the Church of St Mary, The Sexton's House and other Grade II listed buildings.

4.3 Landscape Character

Landscape character is defined as a distinct, recognisable and consistent pattern of elements in the landscape that make one landscape different from another. Landscape character types can be categorised at national, regional and local levels. Each level provides a more detailed description, breaking the landscape into smaller units.

4.4 At a national level the site falls within National Character Area 30, Southern Magnesian Limestone. The characteristics of this landscape type are:

- *Elevated ridge with smoothly rolling landform dissected by dry valleys.*
- *Predominantly Magnesian Limestone geology which influences soils and ecological character.*
- *Long views over surrounding lowland.*
- *Fertile, intensively-farmed arable land.*
- *Large fields bounded by low-cut thorn hedges creating a generally large-scale, open landscape.*
- *Large number of country houses and estates with parkland, estate woodlands, plantations and game coverts.*
- *Woodlands combining with open arable land to create a wooded farmland landscape in some parts.*
- *Unifying influence of creamy white Magnesian Limestone as a building material often combined with red clay pantile roofing.*
- *River valleys and gorges cutting through the ridge exposing the underlying rock.*
- *Industrial influences, especially in the Aire and Don Valleys and other central valleys and along the Coal Measures fringe, with mines, shale tips, transport routes, power lines and industrial settlements.*
- *Main transport corridor of the A1 which is often apparent in areas of otherwise undisturbed rural landscape.*
- *Archaeological remains reflecting the long-standing importance of the area for settlement and transport*

4.3.2 At a county level, the site lies within area NC03 – Selston and Eastwood urban fringe farmland, the key characteristics of which are:

- *The area has a strongly undulating landform*
- *An artificial rise in the landform created by the restoration of a former mining spoil heap is prominent in the west of the area*
- *The coal measures underlying the area have had a significant impact on the land use in the past, which is still visible in the restored landscapes and coal mining relics*
- *Small streams transect the area and have created shallow valleys where they have eroded softer rocks*
- *There are many settlements in the area, giving the DPZ an urban fringe character*
- *Land use is agricultural, including a mix of pastoral and arable farming*
- *Field sizes are medium to large and geometrically shaped*
- *The field pattern is predominantly a modern, modified pattern although there is some evidence of the former smaller, narrow, linear field pattern to the north of Bagthorpe and adjacent to the settlement edges*
- *Hedgerows commonly border the fields and are generally well maintained, although some are fragmented or have been lost through field size expansion*
- *There are no large blocks of woodland in this area, although there are views to larger plantation woodlands in adjoining DPZs*
- *Mature linear woodland follows the streams*
- *Small clumps of woodland and frequent hedgerow trees combine to give the area a partially wooded appearance*
- *New woodland planting is a feature on restored mineral workings which will increase the woodland cover in the area as they mature*
- *There are frequent infrastructure routes: A, B and smaller roads criss-cross the area and overhead lines are visible on the skyline*
- *Settlements are a frequent feature of this DPZ and include Eastwood, Brinsley, Underwood, Jacksdale and Selston, although views to the urban fringes are often filtered by hedgerows and undulations in the landform*
- *Settlements have strong associations with the mining past of the area are characteristically include rows of red brick terraced housing*
- *Modern settlement expansion and ribbon development along the roads has contributed to a strong urban influence on the area*
- *Red brick properties with a modern style are common on the settlement edges*
- *There are some large, red brick farm houses scattered through the landscape*
- *Eastwood Hall, Brinsley Hall, Wansley Hall and Selston Hall are all features of the landscape although Eastwood*

- *Views are medium distance over the patchwork of agricultural land and settlement fringes*
- *There are longer views towards the west as the landform falls towards the River Erewash valley*
- *The mining heritage associated with this area is clear in the landscape, and includes the Brinsley Headstocks and*
- *Durban House Heritage Centre, which was formally the offices of the mine owners*
- *The DPZ has a strong connection to DH Lawrence and the mining landscape formed a key component in his literary works; there are heritage trails based on his life and works through the area.*

Also within the study area is are NC04 – Moorgreen Rolling Woodland. The key characteristics of this character area are:

- *A rolling landform which includes enclosed valleys, steep slopes and wooded plateaus*
- *Moorgreen Reservoir is a significant feature in the centre of this DPZ*
- *There are a number of small streams flowing through the area, along the enclosed valleys*
- *The area has a rural character*
- *Land use is agricultural with arable farming on the valley slopes and plateaus and pasture land along the valley floor*
- *Pockets of farmland are nestled between large woodland blocks*
- *Field sizes are larger on the slopes and plateaus and are smaller and narrower along the valleys*
- *The historic field pattern has mostly been modified or modernised in this area, although there are some pockets of fields with historic enclosure still evident*
- *The smaller fields in the valley floors often have dense, well maintained hedgerows, while the larger arable fields have a high number of fragmented hedges*
- *In the north of the area there is evidence of hedgerow removal; lines of isolated trees passing through large fields are the only remnant of the former field boundaries*
- *This is a well wooded DPZ and includes woodland belts, smaller clumps of deciduous woodland and large plantation woodlands*
- *Coniferous and mixed woodland blocks are a significant feature in the area and include High Park Wood, Morning Springs and Willey Wood*
- *Woodland is common on the ridgelines and tree belts often form the skyline*
- *Dense riparian vegetation and woodland borders the streams*

- *The village of Greasley lies in the area and the church tower is a distinctive feature, visible through the trees*
- *The spire of St Michael and All Angels Church at Underwood is prominent on the horizon*
- *Large, red brick farmhouses and smaller farm workers cottages are dispersed through this rural landscape*
- *Historic sites in the area include the remains of Greasley Castle, Beauvale Priory and Felley Priory*
- *There are long and open views across the rolling landscape from the ridgelines*
- *From the ridgelines views extend over the reservoir and the wooded slopes, and there are some long views to the settlement of Eastwood to the south and Underwood to the north*
- *Views from the valleys are over short distances as they are channelled or restricted by the landform, giving the landscape an enclosed character*

4.4 Cultural Associations

The area has strong associations with DH Lawrence and elements of the landscape feature either directly or indirectly in the author's work. Most of the association lies to the north of Eastwood and not directly in the area around the site. However, St Mary's Church, Greasley formed the basis of churches in at least two books.

5.0 Visual Analysis

5.1 Site visibility

During the site survey, an assessment was made as to the site's visibility in the wider landscape. A list of viewpoints was then arrived at, taking into account a range of factors including accessibility to the public; the potential number, type and sensitivity of viewers (receptors) such as users of rights of way, highways etc. who may be affected by the development; viewing distance; and the nature and type of the view.

5.1.1 The viewpoints fall broadly into two groups:

- Representative Viewpoints − those viewpoints illustrating a large number of viewpoints from an area within the ZTV (zone of theoretical visibility);
- Specific Viewpoints − key viewpoints that are specific visitor attractions or destinations, are noteworthy as a result of their visual and/or recreational amenity such as those within designated areas, or viewpoints with particular cultural associations.

5.1.2 The location of each viewpoint is shown on figure 2 and is represented by the photographs (viewpoints 1 − 11).

5.1.3 Within the study area a number of representative views of the site have been selected according to the distance, the degree of visibility, the nature of the view and the anticipated number and type of potential receptors. All the photographs were taken in late summer or early autumn with trees in full foliage; visibility will be higher in the winter.

5.2 Visual Receptors

5.2.1 The following residents and local people are potential receptors of visual effects:

Residential properties:

- Properties along Baker Road and Main Street
- Properties along Giltbrook Crescent/South Street.

Recreational users

- Users of the footpath network, including Robin Hood Way

5.3 The visual envelope

The visual envelope (the area from which direct views of the site are possible) is limited to a relatively small area. The site's visibility is limited by the proximity of existing residential development to the south and west. To the east, views are available but curtailed by the houses along Millfield Road, Kimberley. To the north, views towards the site are widely available, but views of the site itself from the wider area are limited to fleeting views where topography and vegetation (hedgerows and/or woodland) allow. From the footpath network immediately adjacent to the site, views will naturally be available, although read in the context of an urban fringe location.

5.4 Selection of Viewpoints.

Viewpoints were selected to ensure a representative assessment of the site's likely impact from publicly accessible locations was achieved. Selected viewpoints are shown in Figure 2.

5.5 In order to objectively assess the visual impact at any viewpoint, it is important to also assess the importance of that viewpoint.

Viewpoint	Exceptional	Special	Representative
Established viewpoints	Dedicated viewing area with interpretation signage, recorded on OS maps and in publications as having panoramic views; opportunity to take prolonged view (for example viewing beacons or toposcope); viewpoint of national importance.	Popular viewpoint with dedicated viewing area, where viewers may stop to take the view (for example seating area within town park or common land); viewpoint of regional importance.	Other viewpoints of the locality
Historic viewpoints	Scheduled, historic site of national importance, either with a view of surrounding landscape (for example certain hill forts, or publicly accessible scheduled monuments).	Scheduled, historic site of regional importance that is publicly accessible.	Other, unscheduled historic sites of local importance
Cultural heritage viewpoints	Cultural heritage site of national importance; for example, publicly accessible Grade I Registered Historic Parkland or Garden with designed view (for example tree lined avenue or dedicated seating/viewing area); or birthplace/home of nationally famous artist, author or poet whose work has been inspired by the locality.	Cultural heritage site of regional importance; for example, conservation Area where street pattern affords vista towards or from the surrounding countryside.	Other cultural heritage site of local importance (for example unregistered historic park or garden); or sites not open to the public.
Movement corridor viewpoints	Where viewer has a unique and prolonged/unfolding view of a protected landscape from a main transport corridor, scenic holiday route or national cycle route; hills represent a way finding landmark; view is free from visual detractors (for example highway structures).	Where viewer has the opportunity to appreciate the view; for example, approach road leading towards AONB, regional long distance footpath, or well used bridleway or footpath with tranquil and rural setting	Other views from movement corridors, which are typical of the locality, or have fleeting view, are degraded by presence of urban/ highway structures
Other visitor designation viewpoints	Visitor designations of national importance (for example a National Trust site).	Visitor designations of regional importance.	Other visitor designations within the locality.
Designated landscape area or character type viewpoints	Designated and protected area of national importance (for example AONB, National Park); or highly valued and unique area of intact landscape character, quintessential to the identity of the area.	Designated and protected area of regional/district importance (for example SLA, AGLV); or valued area of intact landscape character that contributes to the enjoyment and identity of the area.	Other local designated areas (for example protected by countryside and open spaces policies); or area of typical landscape character, that may have suffered some degradation.

Table 1. Criteria for grading importance of viewpoint

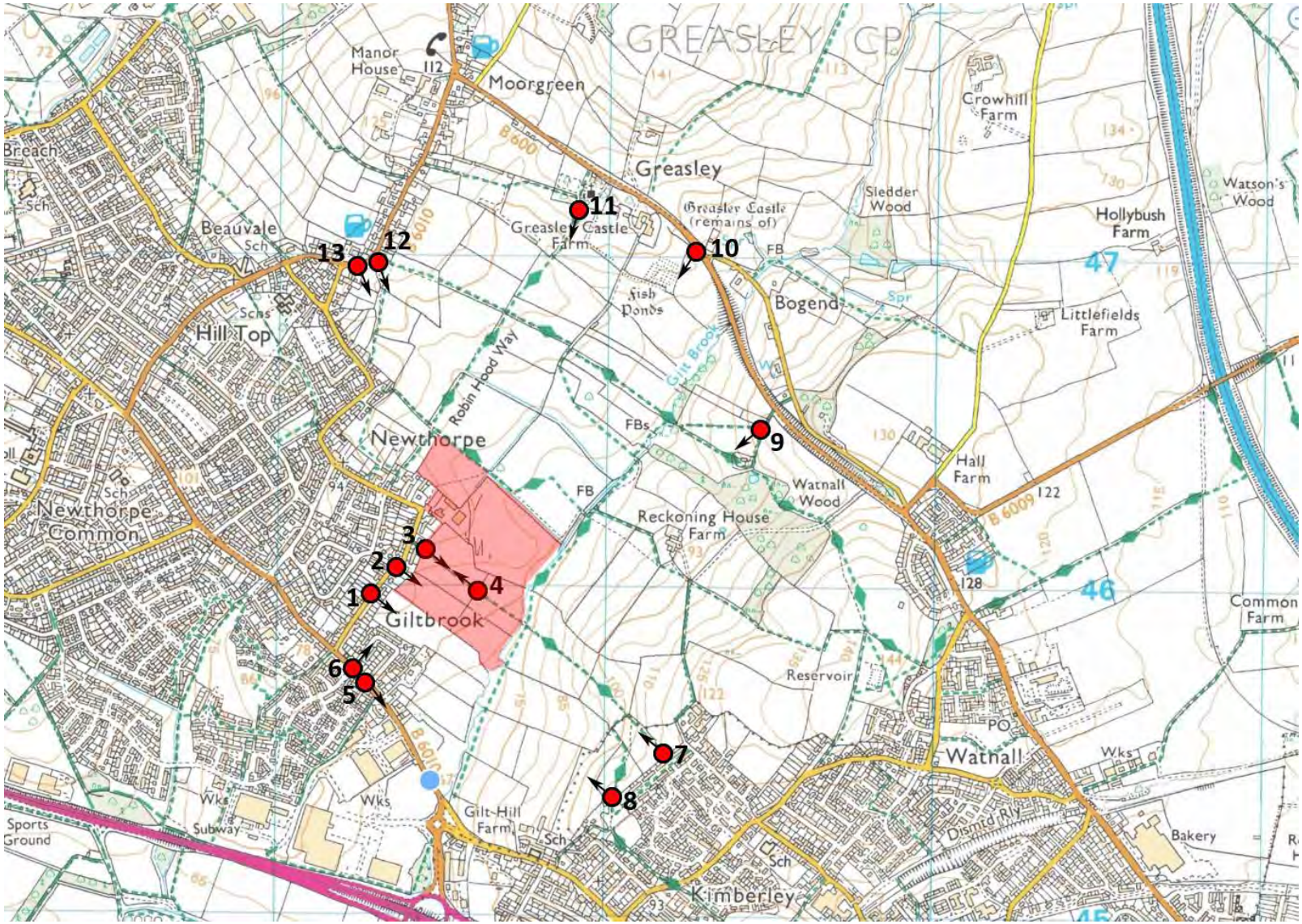


Figure 2 - viewpoint locations

6.0 Analysis of Impact from Development

6.1 Promoted Site

The site comprises pasture fields that adjoin existing housing, and further similar agricultural land. The topography and land use are typical of the national landscape character area in which the site is situated. The site itself contains no notable landscape features. It is, however, a component of the Nottinghamshire Green Belt and does serve in separating Giltbrook from Kimberley to the east.

6.2 Nottinghamshire Green Belt

The site is within the Nottinghamshire Green Belt. The five purposes of the Green Belt are listed within the NPPF as:

- to check the unrestricted sprawl of large built-up areas;
- to prevent neighbouring towns merging into one another;
- to assist in safeguarding the countryside from encroachment;
- to preserve the setting and special character of historic towns; and
- to assist in urban regeneration, by encouraging the recycling of derelict and other urban land

The Nottinghamshire Green Belt Review describes the areas around both Kimberley and Eastwood as having a "*high suitability for high level of growth"* in the direction which Giltbrook lies.

6.4 Broxtowe Borough Council SHLAA

The site is located within an area identified as *206, E of Baker Rd/N of Nottm Road Giltbrook*. It says of the site as a whole;

Could be suitable if policy changes – Forms part of an important prominent and narrow Green Belt gap between Eastwood and Kimberley. Part of the site is at risk of flooding including part of the this on which an access point may be required; this area also includes a site of Importance for Nature Conservation. Tribal did not consider this an appropriate direction for growth. Local Plan Review 2003 Inspector considered that the sites value to the Green Belt purposes outweighs any benefits to its development and considered that development would involve substantial encroachment into the countryside and would constitute urban sprawl.

6.5 Landscape Sensitivity of the Site

Overall the site itself is judged to be of medium sensitivity, due to;

- Its urban fringe location
- Its location within designated Green Belt and its role in separating Giltbrook from Kimberley.
- Its lack of features of either intrinsic landscape value or obvious qualities belonging to its wider landscape character definitions (either national, regional or local)
- The existing land use of part of the site, including recreation and business.

6.6 Landscape impact on selected viewpoints

To determine the landscape impact on a given viewpoint, a correlation can be made between the landscape sensitivity and the magnitude of change experienced due to development.

Landscape sensitivity	**Description**
Very high	Typically highly valued landscape of international or national landscape or conservation importance such as National Parks, Areas of Outstanding Natural Beauty in pristine condition with no detracting elements.
High	Typically valued landscape of national or regional landscape or conservation importance such as some Special Landscape Areas, or areas within National Parks or AONBs with minor detracting factors.
Medium	Typically valued landscape of regional or local landscape or conservation importance such as some Special Landscape Areas and Areas of Local Landscape Importance or areas within National Parks or AONBs with significant detracting factors.
Low	Typically undesignated landscape with some local community importance such as parks, recreation areas or value expressed in local publications.
Very low	Other publicly accessible areas.

Table 2 – Summary of landscape receptor sensitivity

Magnitude of effect **Landscape sensitivity**	***Negligible***	***Low***	***Medium***	***High***
Very low	Negligible	Negligible	Negligible/minor	Minor
Low	Negligible	Negligible/minor	Minor	Minor/moderate
Medium	Negligible/minor	Minor	Minor/moderate	Moderate
High	Minor	Minor/moderate	Moderate	Moderate/major
Very high	Minor/moderate	Moderate	Moderate/major	Major

Table 3 – Criteria for assessing landscape impact

These criteria have been applied to the selected viewpoints, as described overleaf.

Viewpoint(s)	Location	Receptors	Landscape sensitivity	Magnitude of landscape effects	Significance of effects
1, 2 & 3	Baker Road to the west of the site	Residential, general public	Low	Low negative	Negligible/minor
4	Public footpath within site	General public, recreational users	Medium	High negative	Moderate
5	Nottingham Road	General public	Very low	Negligible	Negligible
6	Giltbrook Crescent	Residential, general public	Very low	Negligible	Negligible
7 & 8	Robin Hood Way	General public, recreational users, residential, tourists	Medium	Low negative	Minor
9	Public footpath to north east of Giltbrook	Recreational users, tourists	Medium	Negligible	Negligible/minor
10	Greasley Castle (remains of)	Recreational, tourists	Medium	Negligible	Negligible/minor
11	Greasley Church	General public	Medium	Negligible	Negligible/minor
12 & 13	Moorgreen, Giltbrook	Recreational, residential, general public	Low	Negligible	Negligible

Table 4 – Significance of landscape impacts on selected viewpoints

High negative	The proposed development would: be extremely damaging to landscape character and would: • Result in a complete change to character, or introduce features, which are dominant, intrusive or totally uncharacteristic; • Be at complete variance with landform, scale and settlement pattern; • Result in the total loss or alteration of characteristic features and elements, and/or reduce or remove their setting; • Be incapable of mitigation.
Medium negative	The proposed development would damage landscape character and would: • Result in a clearly identifiable or prominent change to character, although may not necessarily considered to be substantially uncharacteristic; • Be out of scale, or at odds with the landform, scale and settlement pattern; • Result in partial loss or alteration of characteristic features and elements, and/or reduce or remove their setting; • Be incapable of full mitigation and/or mitigation may conflict with local guidelines
Low Negative	The proposed development would have a minor, but discernible change to landscape character and would: • Result in a discernible change to character, although not necessarily uncharacteristic when set within the attributes of the receiving landscape; • Not quite fit the landform, scale and settlement pattern; • Result in the minor loss or alteration of characteristic features and elements, and/or reduce their setting; • Cannot be entirely mitigated, due to the nature of the proposals or character or not fulfil local guidelines.
Negligible	The proposed development will have no noticeable effect due to: • The development being barely discernible as a change in character; • It complements the scale, landform and settlement pattern; • It incorporates measures for mitigation/enhancement that enable the proposals to blend with the surrounding area, meeting local guidelines for the area.

Table 5 – Magnitude of landscape impacts

6.7 Predicted Visual Impacts

By correlating the importance of the viewpoint with the importance of the view, it is possible to arrive at an overall judgement on the view itself; exceptional, special or representative. The overall grading of the view can then be further correlated against the magnitude of change development, using the following terminology.

Negligible – Where the change is so small that there is, in effect, no change at all within the viewed landscape.

Small – Where proposals constitute only a minor component of the wider view which could be missed by the casual observer or where awareness does not affect the overall quality of the scene.

Moderate – Where proposals would form a visible and recognisable new development but where it is not intrusive within the overall view.

Large – Where the proposals would form a significant and immediately apparent element of the scene and would affect the overall impression of the view.

Importance Magnitude	Representative	Special	Exceptional
Negligible	Negligible	Slight	Slight/moderate
Small	Slight	Slight/moderate	Moderate
Moderate	Slight/moderate	Moderate	Moderate/substantial
Large	Moderate	Moderate/substantial	Substantial

Table 6 – criteria for assessing visual impact.

The assessed level of impact can subsequently be described as follows:

Level of significance	Definition
No impact	The proposed scheme would affect no landscape or visual receptors
Negligible	The proposed scheme is largely appropriate in its context and would have very little effect on its surround and affect very few receptors
Negligible/slight	The proposed scheme would have a minimal change on the landscape and would affect very few receptors
Slight	The proposed scheme would have a slight change on the landscape and would affect few receptors
Slight/moderate	The proposed scheme would have a noticeable effect on the landscape and would affect several receptors, therefore changing the character of a view
Moderate	The proposed scheme would have a very noticeable effect on the landscape and would affect several or many receptors, therefore changing the character of a view
Substantial	The proposed scheme would change the character and appearance of the landscape, either for a long period or permanently. It would affect many receptors and would therefore greatly alter the character of a view

Table 7 – Significance of criteria for visual impact.

6.8 Viewpoints 1, 2 & 3. Baker Road, Giltbrook.

Importance of view – Representative Importance of viewpoint – Representative Overall grade of view - Representative

Existing views and key components

- Established residential development in suburban area.
- Views available through gaps in housing to countryside separating Giltbrook from Kimberley.
- Properties along Millfield Road, Kimberley, visible on opposite side of fields.

Predicted views

- Development would be visible through gaps in housing, but would associate strongly with existing land use.
- Depth of housing would be mitigated by drop in levels, reducing the visibility of housing further from Baker Road.
- Retained gap between Kimberley and Giltbrook would be apparent.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **moderate.** When this magnitude of visual impact is correlated with the **representative** view grade, it would result in a **slight/moderate** impact.

6.9 Viewpoint 4. Public footpath within site (looking towards Giltbrook).

Importance of view − Representative Importance of viewpoint − Representative Overall grade of view - Representative

Existing views and key components

- Undulating, neglected pasture fringed by residential development.
- Hedgerow prominent along northern side of field.
- Giltbrook Retail Park evident to the south, with Nottingham Road visible.
- No rural character due to surrounding development.

Predicted views

- The area will undergo a large change but visual impact reduced by the presence of existing housing.
- Route of the footpath retained with layout accommodating pathway through linear open space.
- Substantial hedgerow retained and undeveloped area around the Site of Importance for Nature Conservation will remain visible with no change to the character.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **large**. When this magnitude of visual impact is correlated with the **representative** view grade, it would result in a **moderate** impact.

6.10 Viewpoint 5. Nottingham Road.

Importance of view – Representative Importance of viewpoint – Representative Overall grade of view - Representative

Existing views and key components

- Established suburban area with major traffic route.
- View of green gap between Giltbrook and Kimberley visible in mid-distance

Predicted views

- Development will not be visible from this location.

There will be no impact from this location.

6.11 Viewpoint 6. Giltbrook Crescent.

Importance of view – Representative Importance of viewpoint – Representative Overall grade of view - Representative

Existing views and key components

- Established residential development in suburban area.
- Views available through gaps in housing to countryside separating Giltbrook from Kimberley.

Predicted views

- Development may be visible through gaps in housing, but would associate strongly with existing land use.
- Development would not alter the character of the view.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **negligible.** When this magnitude of visual impact is correlated with the **representative** view grade, it would result in a **negligible** impact.

6.12 Viewpoint 7. Robin Hood Way to the west of Millfield Road, Kimberley.

Importance of view – Representative Importance of viewpoint – Representative Overall grade of view - Representative

Existing views and key components

- Undulating countryside with significant urban fringe character. Wooded area along Giltbrook prominent.
- Residential and commercial areas of Giltbrook and Eastwood beyond highly evident.
- Stark boundary between development along Baker Road and undeveloped land.
- Distant views available to the west.

Predicted views

- Proposed housing would be highly visible.
- Housing would extend no more than existing development along Giltbrook Crescent and associate strongly with all adjacent development. Land to the north of Main Street and on existing commercial area would not be visible.
- The undeveloped area around the Site of Importance for Nature Conservation will remain visible with no change to the character.

- Gap between Giltbrook and Kimberley would still be very evident, with south eastern section of the proposed site left undeveloped and landscape enhancements along developed boundary helping to soften edge and create a defensible boundary.
- Soft edge between development and undeveloped land would be created.
- Distant views to the west remain unaltered, retaining the overall sense of place.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **moderate.** When this magnitude of visual impact is correlated with the **representative** view grade, it would result in a **slight/moderate** impact.

6.13 Viewpoint 8. Robin Hood Way to the west of Millfield Road, Kimberley.

Importance of view – Representative Importance of viewpoint – Representative Overall grade of view - Representative

Existing views and key components

- Undulating landscape of agricultural fields bounded by residential and commercial development of Giltbrook and Eastwood.
- Views largely directed beyond proposed site and towards countryside to the east of Moorgreen.
- Gap between Kimberley and Giltbrook not key feature.
- Stark boundary between development along Baker Road and undeveloped land.
- Distant views available to the west.

Predicted views

- Development would be visible but views would still be directed over towards Moorgreen and surrounding countryside to the north of Giltbrook.
- Soft edge between development and undeveloped land would be created.
- The undeveloped area around the Site of Importance for Nature Conservation will remain visible with no change to the character.
- Distant views to the west remain unaltered, retaining the overall sense of place.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **moderate.** When this magnitude of visual impact is correlated with the **representative** view grade, it would result in a **slight/moderate** impact.

6.14 Viewpoint 9. Public footpath to north east of Giltbrook.

Importance of view – Representative Importance of viewpoint – Representative Overall grade of view - Representative

Existing views and key components

- Undulating countryside with reduced evidence of presence of Giltbrook and Eastwood.
- Woodland areas and agricultural fields bounded by hedgerows.
- Giltbrook Retail Park visible through woodland.
- Area has stronger associations to the work of DH Lawrence than the area of the site.

Predicted views

- Western-most section of the site, to the north of Main Street, visible just beyond woodland in mid-distance.
- Distance greatly mitigates impact, and mitigation along northern boundary will help soften the built edge.
- Development would associate very strongly with the existing development along Main Street.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **small.** When this magnitude of visual impact is correlated with the **representative** view grade, it would result in a **s** impact.

6.15 Viewpoint 10. Greasley Castle (remains of).

Importance of view – Special Importance of viewpoint – Special Overall grade of view - Special

Existing views and key components

- Undulating open countryside.
- Strong woodland element with hedgerow boundaries another key feature.
- Little visual evidence of Giltbrook, Eastwood, Kimberley or the Retail Park other than glimpses of commercial buildings.
- In summer months, screening of vegetation will be even more effective.
- Area has strong association with works of DH Lawrence.

Predicted views

- The majority of the site is screened by topography and vegetation.
- The western section of the proposed site is partially visible through gaps in the existing vegetation, but will be effectively screened in the summer. Where visible, existing development already visible.
- Distance would greatly mitigate any impact.
- Mitigation along northern boundary would be effective and in keeping with landscape character of the area.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **negligible.** When this magnitude of visual impact is correlated with the **special** view grade, it would result in a **slight** impact.

6.16 Viewpoint 11. Greasley Church.

Importance of view − Special Importance of viewpoint − Special Overall grade of view - Special

Existing views and key components

- Undulating open countryside.
- Strong woodland element with hedgerow boundaries another key feature.
- Northern edge of Giltbrook visible including commercial premises off Main Street.
- Area has strong association with works of DH Lawrence.

Predicted views

- Development to the north of Main Street would be visible, although would associate strongly with existing residential development.
- Commercial buildings would be replaced by housing; more in keeping with character of the area.
- Angle of view will greatly foreshorten development's encroachment into open countryside.
- Mitigation along northern boundary will effectively soften the edge of the developed area and form robust and logical, defensible boundary with open countryside.
- The undeveloped area around the Site of Importance for Nature Conservation will remain visible with no change to the character.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **small.** When this magnitude of visual impact is correlated with the **special** view grade, it would result in a **slight/moderate** impact.

6.17 Viewpoint 12. Moorgreen, Eastwood.

Importance of view – Representative Importance of viewpoint – Representative Overall grade of view - Representative

Existing views and key components

- Undulating countryside typical of character area.
- Evidence of urban fringe development of both Eastwood/Giltbrook and Kimberley (in mid-distance).
- Green gap between Giltbrook and Kimberley visible, although not read as such.
- Houses along Main Street partially visible.

Predicted views

- The northern area of the site could become partially visible from this location, but any development would associate strongly with existing housing.
- The undeveloped area around the Site of Importance for Nature Conservation will remain visible with no change to the character.
- The setting of Kimberley will be unaffected.

The magnitude of visual impact on the visual amenity arising from the proposed development would be **negligible.** When this magnitude of visual impact is correlated with the **representative** view grade, it would result in a negligible impact.

7.0 Comparison to other potential sites.

Another growth option is located in Eastwood at Nether Green, east of Mansfield Road.

Whilst the whole area around Eastwood has links with the works of DH Lawrence, the area to the north, between Eastwood and Brinsley has the most significance, both in terms of locations used in the author's books, and the presence of the Durban House Heritage Centre nearby. Promoted landscape locations associated with the author include Vine Cottage and Brinsley Colliery in Brinsley and Moorgreen Reservoir. The landscape sensitivity, therefore, is higher than to the east of Giltbrook and more sensitive to change. This is particularly true when considered against the retail development and associated infrastructure which has greatly impacted upon the landscape character of the surrounding area to the east of the town.

In terms of visual sensitivity, the option area is highly visible when approaching Eastwood from the north and development would have an impact on the setting of the town. Currently, Eastwood rises from the level, open countryside to the north of the town, in a series of terraced streets. Development would therefore greatly alter the setting of Eastwood whilst pushing the town's presence into open countryside, and also increasing the risk of coalescence with Brinsley.

In terms of providing a defensible Green Belt boundary, the line of the former railway track appears logical in plan form, but is poorly defined at ground level, unlike the route of Gilt Brook to the east.

Looking towards Eastwood from Brinsley.

Looking towards Eastwood from eastern boundary of option area.

Looking west from eastern boundary of option area.

8.0 Conclusion.

The land to the east of Baker Road and north of Main Street offers an opportunity for residential development within acceptable levels of both landscape and visual impact.

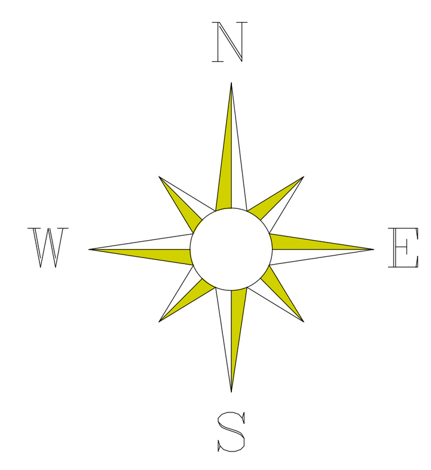
The area does have a generally medium landscape sensitivity due to a combination of its location within the Nottinghamshire Green Belt and its general association with the works of DH Lawrence (although this is far more significant to the north of Eastwood). The land to the east of Baker Road does have a function in preventing visual coalescence between Giltbrook and Kimberley. However, development around Giltbrook Crescent and South Street already extends beyond the boundaries of Baker Road and the proposed layout reflects this and does not encroach beyond this established line. The Giltbrook watercourse provides a logical, defensible and tangible boundary suitable as a new Green Belt boundary. The proposals offer a significant offset to this watercourse in the form of open space. Not only does this retain a substantial green gap between development and the water course, but it also offers an opportunity to improve the biodiversity of the area, reflecting the character and quality of the adjacent SINC site.

When viewed from Kimberley, a significant undeveloped green gap will remain and the current stark boundary between the houses along Baker Road and the land to their east will be replaced by a softer interface.

The proposals also not only see the retention of the SINC, but also the removal of the existing commercial buildings, which will bring benefits beyond the visual amenity. No visual coalescence is caused by development in this direction, and whilst there is a dense footpath network in between Giltbrook and Greasley, the area is one of urban fringe already and the character of those close to the proposed northern boundary will not change significantly.

From the more sensitive areas to the north, which do possess true open countryside characteristics, the site is largely screened by existing vegetation and/or landform. Where visible, it strongly associates with the existing adjacent residential development and a combination of distance and angle of view will further mitigate any visibility. Sensitive landscape treatment of the northern boundary will provide further mitigation completely in keeping with the landscape character of the area.

In summary, the proposals offer the opportunity for residential development within acceptable levels of landscape and visual impact, with some visual and landscape benefits, the retention of the green gap between Kimberley and Giltbrook, the formation of new logical and defensible Green Belt boundaries and without pushing development further into the open countryside than adjacent development already does.



Notes - off road biking area
Due to the undulating and vegetated nature of the off road biking area small bunds and bike rutted tracks are omitted from the drawing. Sufficient levels have been taken across the site to produce a comprehensive topographical model.
Use contours in this area as a guide.

KEY:

IC	Inspection chamber	Fh	Fire Hydrant	BH	Bore Hole
CL	Cover level	St	Stop tap	TH	Trial Hole
IL	Invert level	Sv	Stop valve	Pb	Post box
P.Inv	Pipe invert	Wo	Wash Out	Lb	Litter Bin
Gy	Gully	Wm	Water Meter	Bo	Bollard
Bg	Back Gully	Mkr	Service Marker	TCB	Telephone call box
MH	Manhole	Re	Rodding eye	Fs	Flagstaff
EC	Electric	Lp	Lamp Post	THL	Threshold level
BT	British Telecom	Sp	Sign Post	Re	Rodding Eye
Tp	Telegraph Post	Ep	Electricity Post	Dk	Drop kerb
TL	Traffic light	WL	Water level	Gas	Gas
Bs	Bus Stop	ht	Height	Er	Earth rod
		IFL	Internal floor level	BM	Benchmark

Road
Drop Kerb
Verge Tarmac
Verge Concrete
Verge Grass
Verge
Tops
Bottoms

Ordnance Survey information is provided for a guide only.
OS GENERAL HATCH
OS BUILDING HATCH
OS BUILDING OUTLINE
OS DETAIL
OS ROAD HATCH

Station	Easting (m)	Northing (m)	Level (m)
M1	448442.536	346223.036	89.060
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M201	448726.586	346022.064	75.216

REV	DATE	DESPRIPTION OF WORK	SURVEYOR	CHECKED
1	08.01.14	Topo survey work added	RP	AW

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CLIENT
Phoenix
Planning Ltd

PROJECT
Wade Printers
Giltbrook

TITLE
Topographical
Survey

SCALE	1: 1250 @A1	DATE	19.12.2013
DRAWN	MC	CHECKED	AW
Level datum	OS GPS	Grid orientation	OS GPS
Job number	890	Rev.	1

NOTES:
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Some services may be omitted due to parked vehicles and debris.
Please note drainage information has been ascertained by visual inspection from the surface and therefore values are estimated.
THIS SURVEY HAS BEEN ORIENTATED TO THE ORDNANCE SURVEY (O.S) NATIONAL GRID (OSGB36) VIA A GLOBAL POSITION SYSTEM (GPS) AND THE O.S. ACTIVE NETWORK (OS NET). A TRUE OSGB36 COORDINATE HAS BEEN ESTABLISHED NEAR TO THE SITE CENTRE VIA A TRANSFORMATION USING THE OSTN02 & OSGM02 TRANSFORMATION MODELS.
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RICS ICES

ARMSTRONG STOKES & CLAYTON LIMITED
Civil & Structural Engineering Consultants

Land off Baker Road (Wade Printers), Newthorpe, Nottinghamshire

Drainage Assessment

December 2013

AUTHOR:	JS
CHECKED:	JLW
APPROVED:	JS
REPORT REF:	PX100 Baker Road, Newthorpe Drainage Statement
STATUS:	FINAL

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Registered office 1 Mavis Avenue, Ravenshead, Nottinghamshire NG15 9EB
Registered in England No. 04960061

CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 This Drainage Strategy Statement has been produced on behalf of Phoenix Planning (UK) Limited by Armstrong Stokes and Clayton Limited with the purpose to inform and support the preparation of a Masterplan for residential development of land located east of Baker Road, Newthorpe, Nottinghamshire.

1.2 This statement considers the drainage implications of the site, whilst also making comment on flood risk with consideration of the National Planning Policy Framework (NPPF) document. However this statement should not be considered as a comprehensive flood risk assessment, which may be necessary should the site be promoted through the planning process.

1.3 The statement has been prepared with consideration of NPPF, including the accompanying interim Technical Guidance, and in consultation with the Environment Agency (EA) and Severn Trent Water Limited (STWL).

2.0 PLANNING POLICY

National

2.1 The NPPF and the accompanying interim technical guidance document provide national planning guidance on the management of flood risk in respect to new development. Paragraph 2 of the technical guidance document states *'As set out in the NPPF, inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. For these purposes:*

- *'areas at risk of flooding' means land within Flood Zone 2 and 3; or land within Flood Zone 1 which has critical drainage problems and which has been notified to the local planning authority by the Environment Agency;*
- *flood risk' means risk from all sources of flooding – including from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers and drainage systems, and from reservoirs, canals and lakes and artificial sources.'*

2.2 Whilst the NPPF supersedes PPS25, it should be noted that both this document and the accompanying technical guidance document retain the key elements of PPS25. It should also be noted that the PPS25 Technical Guidance document currently remains live.

Local

2.3 A Strategic Flood Risk Assessment (SFRA) covering the Greater Nottingham Area, which encompasses Broxtowe Borough Council within Volume 2 published in June 2008, provides further local guidance in respect of flood risk.

3.0 EXISTING SITE

General

3.1 The land proposed for development has a gross area of approximately 17.93ha and is located adjacent to Nottinghamshire urban settlements of Newthorpe, to the north-west and Giltbrook to the south. An OS based location plan identifying the site is included within **Appendix A**.

3.2 The site is currently occupied by a commercial premises *Wade Print and Paper Limited*, which is situated to the north-west of the site, occupying an area of approx. 1.0ha, with an off road *'dirt'* biking area dominating the north-eastern portion of the site within an area of approx. 5.0ha. The remaining area of the site is made up of agricultural / open pasture land.

3.3 The site is bounded to the north by agricultural / open pasture land, to the east by the Gilt Brook watercourse and to the south by further open pasture land and subsequently on to B6010 Nottingham Road with its adjoining urban settlement. Baker Road and the adjoining residential dwellings are located to the west of the site and provide the current access via the Wade Printers site and a Public Right of Way off Baker Road.

Levels

3.4 A topographical survey of the site has been carried out by *Mapmatic Land Surveying and Site Engineering,* and is included within **Appendix B**. This illustrates that the site falls quite sharply from north-west to south-east, towards the Gilt Brook, with a highest level to the north-west in the region of 91.24m AOD and a lower level of approx. 66.65m AOD located in the south-eastern corner of the site.

Drainage

3.5 Public sewer information has been obtained from STWL and a plan illustrating the adjacent sewers within Baker Road is included within **Appendix C**. The records

indicate that there are no public sewers within the site. The nearest sewers, as identified by STWL, are located within Baker Road and Main Street.

3.6 A 225mm diameter public combined sewer flows from north to south within Baker Road, which we understand currently includes the Wade Printers site within its catchment. The STWL records locate a manhole in front of the access to Wade Printers site at the junction with Main Street and Baker Road, then flowing downstream with a manhole located outside property No's 89/90 Baker Road. STWL do not have any further record of the downstream sewer adjacent to the site from this location.

3.7 STWL also advise that their records indicate that a 150mm diameter public storm water sewer flows within Main Street towards its junction with Baker Road. The data then highlights this sewer again at property No's 98D Baker Road, where it changes direction, south-easterly, towards the Gilt Brook. It is understood that this sewer then discharges to the open ditch course that is situated within the southern portion of the site and flows from west to east, subsequently discharging in to the Gilt Brook.

3.8 Whilst no detail information on the current outfalls from the Wade Printers site is available, with consideration of the information currently held by STWL with regards to the adjacent public sewers, it is evident that these sewers currently act as an outfall for the existing commercial site.

3.9 Based on the existing topography, it is clear that the site falls within the Greenfield catchment of the Gilt Brook watercourse located to the east of the site. The existing hard standing and roof areas within the Wade Printers site equate to approx. 1.0ha. Adopting a robust approach, an assessment of the Greenfield run-off from the whole site has been made using the ICP SUDS Mean Annual Flood method, giving an average (QBAR) discharge of 78.8l/s which equates to a rate of 4.4l/s/ha. A copy of the rural run-off calculations produced with the Micro Drainage software suite is included within **Appendix D**.

4.0 POTENTIAL SOURCES OF FLOODING

Fluvial/Tidal Flooding

4.1 The nearest potential source of fluvial/tidal flooding to the site is represented by an open ditch course located within the southern portion of the site and the Gilt Brook watercourse located to the eastern boundary of the site. From an assessment of the Environment Agency (EA) Web site these watercourses are classified as 'Ordinary Watercourses'. From anecdotal information we are aware that the Gilt Brook does play a strategic role in this locality.

4.2 An extract of the Environment Agency's on line flood mapping is shown in Figure 1 below. The dark blue areas represent Flood Zone 3, land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year. The light blue areas represent Flood Zone 2, land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year. All remaining areas are classified as Flood Zone 1, land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1%) in any year.

4.3 The site is indicated on the flood mapping extract within Figure 1. The mapping illustrates that the majority of the site lies within Flood Zone 1 and therefore at the lowest probability of river or sea flooding. A small area of the site, as it adjoins the Gilt Brook on the eastern boundary, does however fall within Flood Zone 3 and therefore this area is considered to have a high probability of river or sea flooding.

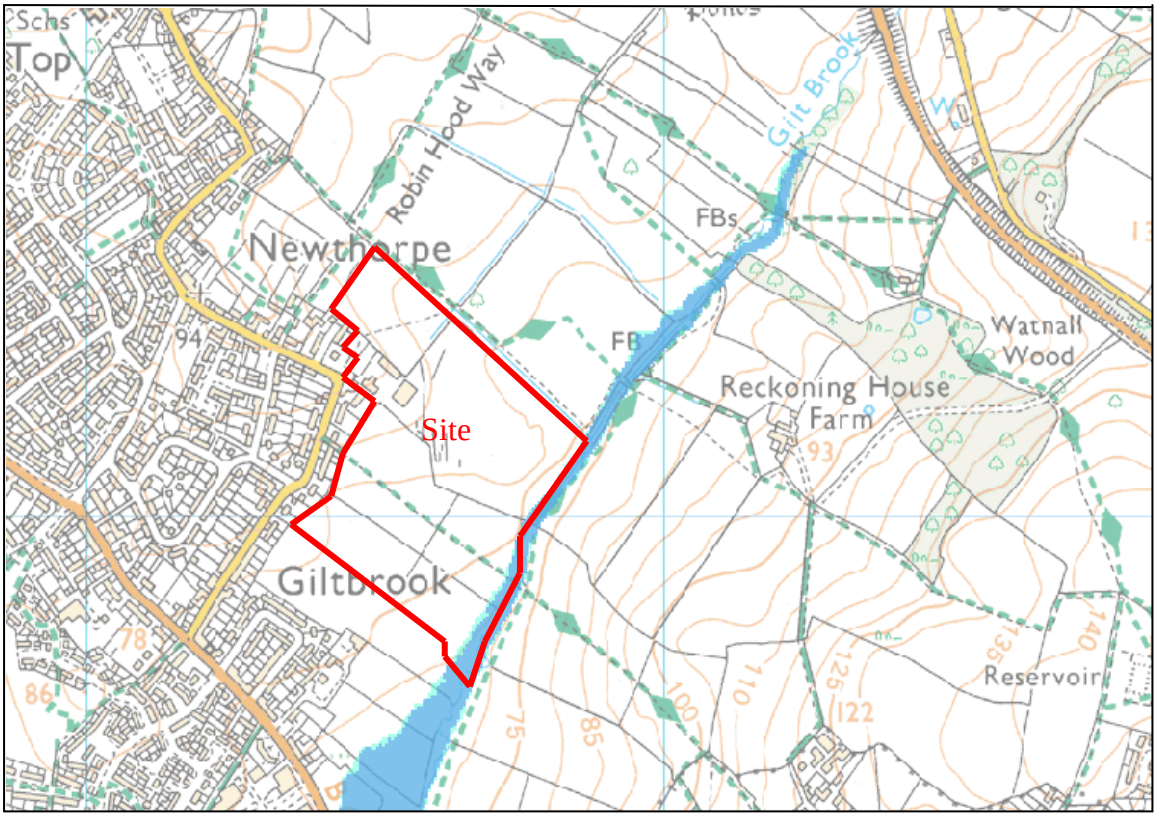


Figure 1 – Environment Agency Floodplain Mapping Extract

4.4 We are not aware of any evidence to suggest that the area of the site that falls within Flood Zone 1 has been subject to fluvial/tidal flooding from within the site or from adjoining areas.

Surface Water Flooding

4.5 Overland and groundwater flooding is highly variable and dependant on localised ground conditions.

4.6 We are aware of evidence to suggest that portions of the site are susceptible to overland surface water flooding, which is likely to be caused by saturation of the natural formation following prolonged periods of rainfall.

4.7 The site does not lie within a groundwater Source Protection Zone (SPZ).

Existing Sewers

4.8 We are not aware of any records or evidence to suggest that this site has been subject to flooding via this source.

4.9 There are no known flooding problems affecting the site associated with any private drainage networks serving existing or adjoining development.

Reservoirs, Canals & Other Artificial Sources

4.10 We are not aware that any local artificial sources will pose a flood risk to the site.

5.0 PROPOSED DEVELOPMENT

General

5.1 The Masterplan seeks to promote a residential development of approx. 330 dwellings with allocated private garden space, associated landscaping and parking. We understand the Masterplan will include the demolition of the Wade Printers site.

5.2 A preliminary Masterplan layout is illustrated within **Appendix E**.

Levels

5.3 Whilst the proposed finished floor levels and external levels have yet to be finalised, they will generally reflect the existing topography.

Foul Drainage

5.4 Based on a residential development of 330 dwellings, the peak foul drainage discharge generated will be approx. 15.3l/s (4000l/day x 330 dwellings).

5.5 The nearest accessible public sewer is a 225mm diameter combined sewer located in Baker Road. At the junction with Main Street and Baker Road this sewer is recorded as 2.75m deep. While this may allow a gravity outfall to an area to the north and west of the site the depth of the sewer would not permit a gravity outfall from the majority of the site, particularly to the east, and thus a pumped outfall to this sewer would be necessary.

5.6 Further to preliminary discussions with STWL, it is evident that with consideration of the number of dwellings proposed and the potential for some existing restrictions within the public sewerage, a sewer modelling exercise, by STWL, of the existing public sewer system will be necessary to assess the capacity available within the existing network for this development. This assessment will highlight whether the network requires upgrading, if a phased development would be more appropriate or whether on site attenuation is necessary.

5.7 At the commencement of the detail design stage STWL should be instructed to carry out a network capacity assessment utilising existing model data.

5.8 It is expected that the main on site foul sewers will be offered to STWL for adoption in accordance with a section 104 agreement of the Water Industry Act 1991.

Surface Water Drainage

5.9 A surface water drainage strategy that does not increase discharge levels and therefore does not increase the risk of flooding to other areas, should be provided in accordance with Table 1 of the NPPF Technical Guidance. Furthermore, the surface water drainage strategy should actively seek to reduce positive discharge levels via the use of SUDS (Sustainable Urban Drainage Systems) wherever possible.

5.10 In accordance with NPPF and Building Regulations the developer should consider SUDS for the disposal of surface water from the site. Any surface water flows from the post development to the existing sewer or watercourse network should not exceed the existing pre-development run-off. In addition, the EA will look for any new development to positively reduce pre-development flows where practicable.

5.11 Whilst no specific information relating to soil infiltration rates is available for the site, we understand that the underlying strata is of limited permeability thus potentially restricting or prohibiting the use of infiltration SUDS techniques. The soil index value of 0.45 indicated by the rural run-off calculations also suggests low permeability.

5.12 In order to confirm the viability of infiltration SUDS techniques, it will be necessary to carry out percolation testing on site in accordance with BRE Digest 365 at the detail design stage.

5.13 Based on the information currently available, and with a consideration of reducing pre-development run-off, the proposed surface water drainage strategy is based on a Greenfield equivalent discharge to the watercourse.

5.14 From the initial indications of the likely ground conditions, it is clear that on site attenuation may be necessary in restricting surface water run-off from the proposed development. Preference should always be given to above ground attenuation techniques such as ponds, swales, etc. wherever possible. In this instance, the proposed development layout provides sufficient open space to permit the use of a balancing pond, possibly supported by suitably located swales.

5.15 With a restricted discharge to the watercourse a balancing pond should be located so it considers site topography and allows for surface water flows from the whole development to pass through it.

5.16 Preliminary attenuation calculations have been prepared to size the proposed balancing pond based on the following design criteria.

- An impermeable area equivalent to 40% of the site area, representing a conservative estimate for residential development.
- A 1 in 100 year rainfall event plus an allowance for climate change, in accordance with NPPF.
- A maximum pond depth of 1.3m, 1.0m effective depth with a 300mm freeboard allowance.
- 1 in 4 side slopes, in accordance with the SUDS Manual.
- A single outlet incorporating a hydrobrake flow control device.
- A restricted discharge of 78.8l/s for the pond based on the Greenfield run-off from the site.

A set of calculations have been produced with an allowance of 30% climate change. A copy of the attenuation calculations is included within **Appendix D**. The calculations illustrate a preliminary storage requirement of approx. 3900m3.

5.17 It should be noted that the size of the balancing pond could be reduced at the detail design stage by the use of SUDS techniques such as pervious paving for

private drives and parking areas, water butts and rainwater / grey water harvesting should also be considered as methods of surface water disposal.

5.18 Pervious paving has been proved to be effective in areas where infiltration SUDS are not feasible. The use of multiple staged outlets for the critical storms (10, 30, 50 and 100yr) would also reduce the attenuation volume required.

5.19 An outfall to the watercourse will require the consent of the Environment Agency or the local lead flood authority responsible for the watercourse in accordance with the Land Drainage Act 1991, and if applicable the relevant riparian owner(s).

5.20 Whilst the site does not lie within a groundwater SPZ, the proposed surface water drainage system should be designed in accordance with all relevant Environment Agency Pollution Prevention Guidance (PPG).

5.21 The proposed surface water drainage system should be designed to accommodate the 1 in 100 year event, plus an appropriate allowance for climate change, without causing surface flooding. Should this not be possible, flood flow paths taking flood water away from buildings will need to be demonstrated.

5.22 It is evident from the topographical survey that a gravity outfall to the watercourse will be available.

5.23 It is expected that the main on site storm sewers will be offered to STWL for adoption in accordance with a section 104 agreement of the Water Industry Act 1991.

6.0 VULNERABILITY & COMPATIBILITY

General

6.1 In accordance with Table 2 of the NPPF Technical Guidance, the proposed development use is classified as ‘More vulnerable’.

6.2 In accordance with Table 3 of NPPF Technical Guidance, ‘More vulnerable’ development is suitable for location within Flood Zone 1.

6.3 Thus the development should be confined to Flood Zone 1 and outside of the area highlighted as Flood Zone 3.

Sequential Test

6.4 Paragraphs 100 and 101 of the NPPF state that a risk based Sequential Test should be applied at all stages of the planning process to steer new development to areas with the lowest probability of flooding.

6.5 In accordance with the NPPF, it is proposed to locate the site within Flood Zone 1, thus the sequential process can be deemed to have been followed and a Sequential Test should therefore not be required.

Exception Test

6.6 In accordance with paragraph 5 and Table 3 of the NPPF Technical Guidance, the Exception Test is not applicable in this instance.

7.0 ASSESSMENT OF FLOOD IMPACT

Fluvial/Tidal Flooding

7.1 The proposed development will be located within Flood Zone 1 and therefore assessed as being at a low probability (<0.1%) of fluvial/tidal flooding.

7.2 As the proposed development will be located within Flood Zone 1, there will be no increase in the risk of flooding to other areas via the displacement of floodwater.

7.3 We are not aware of any evidence to suggest the area of the site within Flood Zone 1 has ever been subject to fluvial/tidal flooding.

Surface Water Flows

7.4 There is evidence to suggest some areas of the site may be prone to some surface water flooding. This can be mitigated within the detail drainage design, which will include a surface water management plan. Thus the risk of flooding to the proposed development from excess surface water / overland flows is considered to be low.

Existing Sewers

7.5 We are not aware of any evidence to suggest that the site has been subject to flooding as a result of hydraulic deficiencies with any existing public or private drainage systems within the vicinity. The risk of flooding to the proposed development via this source is therefore considered to be low.

Surface Water Drainage

7.6 The implementation of a surface water drainage strategy, as identified within paragraphs 5.9 – 5.23 of this report, will ensure that positive surface water run-off is restricted to equivalent Greenfield levels thus ensuring that flood risk to the surrounding area is not increased.

Reservoirs, Canals & Other Artificial Sources

7.7 The artificial sources within the vicinity do not pose a flood risk to the site.

8.0 CONCLUSIONS & RECOMMENDATIONS

General

8.1 Foul flows generated by the development will drain to the Baker Road public sewer network subject to STWL capacity assessment findings.

8.2 Surface water will drain to the Gilt Brook and/or adjoining tributaries, with discharge flows from the new development limited to Greenfield run-off. The remaining flows will be attenuated on site for the 100 year return period plus a 30% allowance for climate change.

8.3 The risk of flooding to the proposed development and surrounding areas from all sources is considered to be low providing the development is contained within Flood Zone 1.

Mitigation Measures

8.4 Following STWL capacity assessment there may be a requirement to upgrade the existing foul network, consider on site attenuation or if a phased development would be more appropriate.

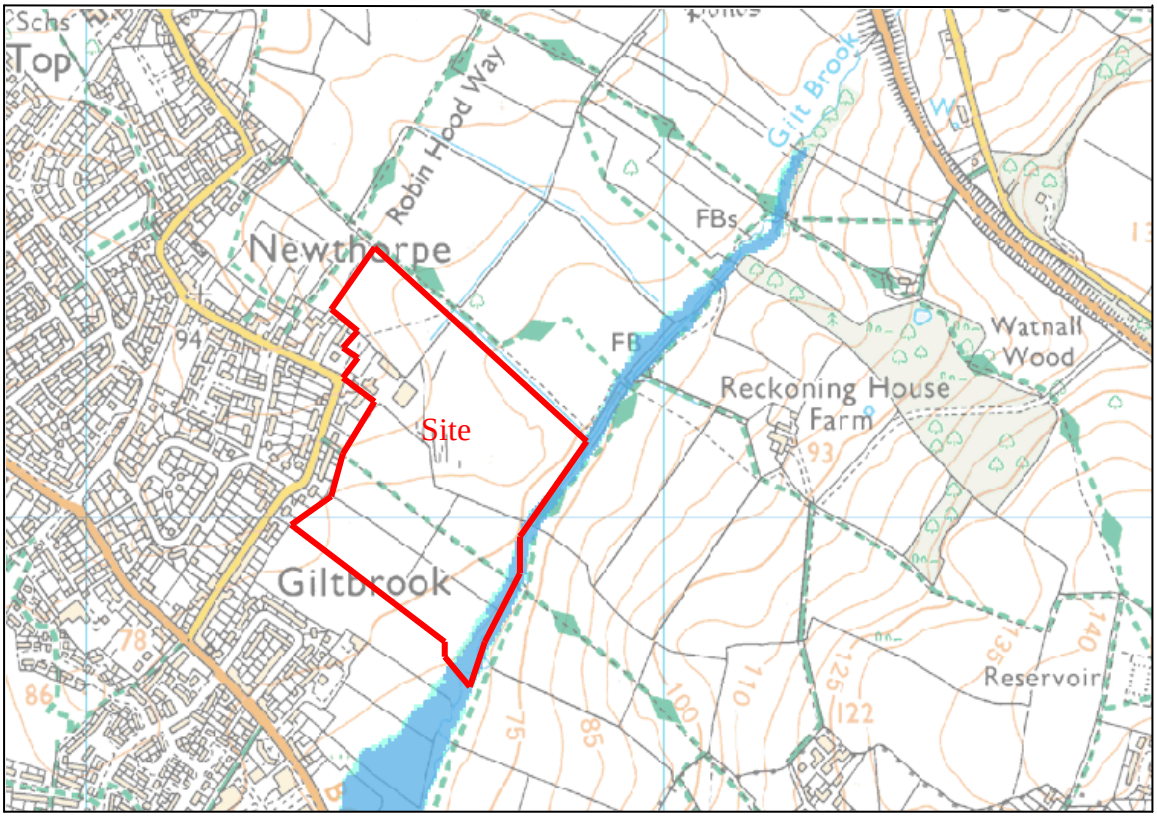
8.5 A good proportion of the site will require a pumped outfall to the existing public sewer network.

8.6 The implementation of a sustainable surface water drainage strategy, as outlined within paragraphs 5.9 – 5.23 of this report, will ensure that there is no increase in flood risk to surrounding areas through the disposal of surface water run-off in the post development scenario.

8.7 As the proposed development is to be located within Flood Zone 1, it will not displace floodwater. No floodwater storage mitigation measures are therefore proposed.

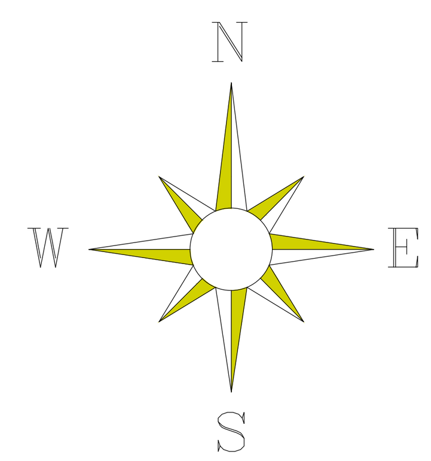
APPENDICES

APPENDIX A



LOCATION PLAN

APPENDIX B



Notes - off road biking area
Due to the undulating and vegetated nature of the off road biking area small bunds and bike rutted tracks are omitted from the drawing. Sufficient levels have been taken across the site to produce a comprehensive topographical model.
Use contours in this area as a guide.

KEY:

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CLIENT
Phoenix Planning Ltd

PROJECT
Wade Printers Giltbrook

TITLE
Topographical Survey

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RICS
ICES

APPENDIX C

PLAN A


Comb.
2.75
NL86.46
NG16 2DP
100 Baker Rd
448435 346221
SW
D1157
IL91.10.
150Ø
SW
225Ø
outside 89.19Ø
D2.47
IL 81.84
SW
Discharge
ditch
98D
2MH's
Comb
in Rd
River
INFORMAT
HSP Co

APPENDIX D

ICP SUDS Mean Annual Flood

Input

Return Period (years)	2	Soil	0.450
Area (ha)	17.930	Urban	0.000
SAAR (mm)	700	Region Number	Region 4

Results	**l/s**
QBAR Rural	78.8
QBAR Urban	78.8
Q2 years	70.6
Q1 year	65.4
Q30 years	154.3
Q100 years	202.4

Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m^3)	Status
15 min Summer	100.420	0.420	70.2	1679.3	O K
30 min Summer	100.544	0.544	76.6	2177.1	O K
60 min Summer	100.667	0.667	76.6	2669.7	O K
120 min Summer	100.776	0.776	76.6	3105.4	O K
180 min Summer	100.823	0.823	76.6	3291.9	O K
240 min Summer	100.843	0.843	76.6	3370.5	O K
360 min Summer	100.850	0.850	76.6	3401.3	O K
480 min Summer	100.849	0.849	76.6	3396.8	O K
600 min Summer	100.844	0.844	76.6	3375.7	O K
720 min Summer	100.836	0.836	76.6	3343.3	O K
960 min Summer	100.813	0.813	76.6	3252.7	O K
1440 min Summer	100.754	0.754	76.6	3017.1	O K
2160 min Summer	100.655	0.655	76.6	2621.3	O K
2880 min Summer	100.565	0.565	76.6	2259.1	O K
4320 min Summer	100.449	0.449	72.9	1795.6	O K
5760 min Summer	100.379	0.379	66.1	1517.5	O K
7200 min Summer	100.336	0.336	59.3	1343.4	O K
8640 min Summer	100.306	0.306	53.4	1222.6	O K
10080 min Summer	100.283	0.283	48.4	1131.0	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	128.285	26
30 min Summer	84.226	40
60 min Summer	52.662	68
120 min Summer	31.800	126
180 min Summer	23.353	184
240 min Summer	18.644	242
360 min Summer	13.543	336
480 min Summer	10.792	390
600 min Summer	9.043	452
720 min Summer	7.823	518
960 min Summer	6.219	654
1440 min Summer	4.493	926
2160 min Summer	3.241	1320
2880 min Summer	2.568	1676
4320 min Summer	1.847	2380
5760 min Summer	1.461	3072
7200 min Summer	1.217	3816
8640 min Summer	1.048	4504
10080 min Summer	0.923	5248

Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m^3)	Status
15 min Winter	100.471	0.471	74.6	1882.5	O K
30 min Winter	100.612	0.612	76.6	2448.2	O K
60 min Winter	100.752	0.752	76.6	3009.0	O K
120 min Winter	100.876	0.876	76.6	3505.0	O K
180 min Winter	100.931	0.931	76.6	3722.5	O K
240 min Winter	100.955	0.955	77.1	3820.2	O K
360 min Winter	100.968	0.968	77.6	3873.0	O K
480 min Winter	100.960	0.960	77.3	3838.8	O K
600 min Winter	100.949	0.949	76.9	3794.7	O K
720 min Winter	100.935	0.935	76.6	3740.8	O K
960 min Winter	100.899	0.899	76.6	3595.4	O K
1440 min Winter	100.808	0.808	76.6	3232.3	O K
2160 min Winter	100.656	0.656	76.6	2625.4	O K
2880 min Winter	100.527	0.527	76.6	2107.3	O K
4320 min Winter	100.392	0.392	67.6	1566.6	O K
5760 min Winter	100.325	0.325	57.3	1300.8	O K
7200 min Winter	100.286	0.286	49.0	1143.8	O K
8640 min Winter	100.259	0.259	42.9	1036.4	O K
10080 min Winter	100.239	0.239	38.1	956.8	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Winter	128.285	26
30 min Winter	84.226	40
60 min Winter	52.662	68
120 min Winter	31.800	124
180 min Winter	23.353	182
240 min Winter	18.644	238
360 min Winter	13.543	348
480 min Winter	10.792	446
600 min Winter	9.043	478
720 min Winter	7.823	554
960 min Winter	6.219	708
1440 min Winter	4.493	1004
2160 min Winter	3.241	1412
2880 min Winter	2.568	1756
4320 min Winter	1.847	2428
5760 min Winter	1.461	3120
7200 min Winter	1.217	3824
8640 min Winter	1.048	4576
10080 min Winter	0.923	5256

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time / Area Diagram

Total Area (ha) 7.200

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	2.400	4-8	2.400	8-12	2.400

Model Details

Storage is Online Cover Level (m) 101.300

Tank or Pond Structure

Invert Level (m) 100.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	4000.0	0.700	4000.0	1.400	0.0	2.100	0.0
0.100	4000.0	0.800	4000.0	1.500	0.0	2.200	0.0
0.200	4000.0	0.900	4000.0	1.600	0.0	2.300	0.0
0.300	4000.0	1.000	4000.0	1.700	0.0	2.400	0.0
0.400	4000.0	1.100	4000.0	1.800	0.0	2.500	0.0
0.500	4000.0	1.200	4000.0	1.900	0.0		
0.600	4000.0	1.300	4000.0	2.000	0.0		

Hydro-Brake® Outflow Control

Design Head (m) 1.000 Hydro-Brake® Type Md3 Invert Level (m) 100.000
Design Flow (l/s) 78.8 Diameter (mm) 284

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.9	1.200	86.1	3.000	136.2	7.000	208.0
0.200	28.6	1.400	93.0	3.500	147.1	7.500	215.3
0.300	52.2	1.600	99.4	4.000	157.2	8.000	222.4
0.400	68.5	1.800	105.5	4.500	166.8	8.500	229.2
0.500	76.2	2.000	111.2	5.000	175.8	9.000	235.8
0.600	74.9	2.200	116.6	5.500	184.4	9.500	242.3
0.800	72.5	2.400	121.8	6.000	192.6		
1.000	78.8	2.600	126.8	6.500	200.4		

APPENDIX E

Kent Road

Hemmingway Close

Main Street

Baker Road

South Street

NORTH

surface water balancing area

LEAP

site of importance for nature conservation (SINC)

gross site area 17.93 Ha approx

development area 11.49 Ha approx

existing dwellings by site

proposed dwellings - upto 330 total number

existing hedgerows and trees retained as part of development proposal

existing public right of way crossing site

approximate line of public right of way by site - opportunity to provide links

existing ditches on site retained - opportunity to provide green corridor adjacent for bio-diversity enhancement

area of SINC to be retained and enhanced

proposed village green location

potential future link to Northern boundary

potential future link to Western boundary

indicative location of proposed native planting - opportunity for bio-diversity enhancement

Potential location for local equipped area of play

Proposed surface water balancing area- opportunity to for ecological enhancement

proposed open space areas throughout development

proposed local areas of play

potential footpath links through development

primary street

secondary street

private lane (non-adopted)

approximate line of flood zone 3

site entrance from Baker Road / Main Street

Land off Baker Road Giltbrook - Master Plan

dwg.no. 13-117-01 January 2014

vista
architecture & urban design
Four Winds High Lane Ridgeway Sheffield S12 3XF
☎ 0114 251 4497

Baker Road, Giltbrook

Transport Report

January 2014

Waterman Group plc

[redacted]

www.watermangroup.com

Document Reference: 001
Project Number: CIV15904

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2009 and BS EN ISO 14001: 2004)

Issue	Date	Prepared by	Checked by	Approved by
Draft V1	02.01.14	Dave Prior	Dave Cheetham	Dave Cheetham

Comments

Disclaimer

Content

Figures/Photographs

Tables

Appendices

1. Background

Introduction

1.1. This report has been prepared by Waterman Transport & Development in support of the allocation within the Local Plan for the development of approximately 330 residential dwellings on land off Baker Road, Giltbrook.

1.2. The Local Planning Authority for the area is Broxtowe Borough Council (BBC) and the Local Highway Authority is Nottinghamshire County Council (NCC).

Consultation

1.3. Due to the early nature of the proposals for allocation of the proposed site within the Local Plan consultation with the relevant local highway authorities to date has been limited. As part of a future Transport Assessment for the development a scoping exercise would be carried out with NCC.

Aims and Objectives

1.4. The objective of this report is to provide NCC with the necessary level of detail to demonstrate that there are no transport related reasons which would prevent this site being allocated for development within the Local Plan. In order to demonstrate this the report will show that the site can be accessed safely and sustainably, whilst assessing the transport impact the proposals would have on the existing network and identify how such impacts would be mitigated. This Transport Report is designed to ensure that sustainable transport alternatives are promoted and utilised.

1.5. Whilst this is not a Transport Assessment, this report has been prepared taking into consideration the joint Department for Transport (DfT) and the Department for Communities and Local Government (DCLG) document, 'Guidance on Transport Assessments' (March 2007). This guidance states that a Transport Assessment should address the following issues –

- Reducing the need to travel, especially by car – ensure, at the outset, that thought is given to reducing the need to travel; consider the types of uses (or mix of uses) and the scale of development in order to promote multi-purpose or linked trips;
- Sustainable accessibility – promote accessibility by all modes of travel, in particular public transport, walking and cycling; assess the likely travel behaviour or travel pattern to/from the proposed site; and develop appropriate measures to influence travel behaviour;
- Dealing with residual trips – provide accurate and quantitative and qualitative analyses of the predicted impacts of residual trips from the proposed development and ensure that suitable measures are proposed to manage these impacts; and
- Mitigation measures – ensure as much as possible that the proposed mitigation measures avoid unnecessary physical improvements to the highway and promote innovative and sustainable transport solutions.

Report Layout

1.6. Following this introductory section, the layout of the report is as follows:

- Section 2 describes the local highway network and sustainable transport facilities;
- The development proposals are outlined in Section 3;
- Local and national policy documents are reviewed in Section 4;
- Section 5 considers access to local facilities, such as, education, health services, employment, leisure and retail;
- Section 6 provides details on how the proposed development would provide appropriate measures to influence travel behaviour and promote accessibility by all modes of travel, particularly walking, cycling and public transport;
- The development trip generation and distribution is examined in section 7;
- Section 8 assesses the impacts of the proposed developments traffic generation on the local highway network; and
- Section 9 summarises the report.

2. Existing Conditions and Sustainable Transport

Introduction

2.1. This section considers the location of the site with respect to the existing highway, pedestrian, cycle and public transport links in the area.

Existing Site

2.2. The site is located off Baker Road in Giltbrook, Nottinghamshire. The location of the site is shown on drawing **CIV15094-003** provided in **Appendix A**.

2.3. The proposed site is currently occupied by a number of commercial buildings and by a team building/outdoor events site. The site is bounded by the Newthorpe residential area to the west and south. Agricultural land bounds the site to the north and east.

2.4. The site is currently accessed from Baker Road, at the location where Baker Road bends left and becomes Main Street. There is an existing public footpath which can be accessed from Baker Road and which runs through the site towards the Gilt Brook and Kimberley. There is also a public footpath that runs from Main Street in a south-easterly direction and follows the northern boundary of the existing site. **Photographs 1 and 2** provided below, illustrates the existing access into the site.

Photograph 1: Existing Site Access from Baker Road

Photograph 2: Existing Public Footpath from Baker Road

2.5. In order to provide a robust assessment of the impact of the proposed development, no allowance has been made within this report for the existing land uses of the site. This would need to be reviewed within any later Transport Assessment, but is considered to provide for an appropriately robust assessment at this stage in the Local Plan process.

Newthorpe and Giltbrook

2.6. Newthorpe and Giltbrook are located in Broxtowe, Nottinghamshire. They are located approximately 12km west of the city of Nottingham and 6km north of the town of Ilkeston.

2.7. Local facilities within the vicinity of the site include a post office, shops, primary schools, college, public house, chemists, medical centre and a recreation ground. . The Giltbrook Retail Park, which contains Ikea and numerous other retail outlets, is also in close proximity to the site.

Local Road Network

2.8. The development site location can be seen from drawing **CIV15094-003** provided in **Appendix A**. It is proposed that the highway access to the development would be from Baker Road.

Baker Road/Main Street

2.9. Baker Road/Main Street is a residential road providing access to parts of the Newthorpe area, north of Nottingham Road. Baker Road is of variable road width along its length, but in the vicinity of the proposed site is an 8.1m wide single carriageway road, while Main Street is an 6.3m wide single

carriageway road. Baker Road/Main Street is subject to a 30mph speed limit and has street lighting provided along its length.

2.10. A 2m footway is provided along both sides of the carriageway for the entire length of Baker Road/Main Street. **Photographs 3** and **4**; illustrate the existing conditions along Baker Road in the vicinity of the site and in the vicinity of the Nottingham Road junction.

Photograph 3: Baker Road (adjacent to site)

Photograph 4: Baker Road (from Nottingham Road)

Nottingham Road

2.11. The B6010 Nottingham Road travels in a south easterly direction between Eastwood and Kimberley. Nottingham Road is street lit, has footway provision on both sides of the carriageway and is subject to a 30mph speed limit in the vicinity of Baker Road. Nottingham Road is a 7.3m wide single carriageway road. A cycle lane is identified along Nottingham Road across the junction with Baker Road. There is also provision of a zebra crossing of Nottingham Road immediately to the east of the Baker Road junction.

A610

2.12. The A610 is aligned in a west-east direction and is located to the south of Giltbrook/Eastwood. This road provides access to the M1 at Junction 25 and is a dual carriageway between the M1 and Langley Mill. From the M1 eastbound the A610 provides a connection to Nottingham. The A610 is subject to speed limits of 50 mph and 40 mph along the length between the M1 and Langley Mill.

Base Traffic Flows

2.13. Consideration was given to the scale of the proposed development, the characteristics of the surrounding highway network and the requirements for allocation of this site within the Local Plan when determining which junctions would require assessment within this Transport Report. Taking into consideration the necessary level of detail to demonstrate that there are no transport related reasons for this site not to be allocated for development within the Local Plan it has been identified that only the site access and the Baker Road/Nottingham Road junctions require assessment at this time.

2.14. A classified turning count and queue length survey was undertaken by Road Data Services Limited on Thursday 12th December 2013 (a non-standard traffic survey period, but suitable for a robust assessment) between 07:00 – 09:30 hours and 15:30 – 18:30 hours at the following off site junction:

- Baker Road / Nottingham Road priority 'T' junction

2.15. A diagrammatic summary of the 2013 base peak hour traffic flows (converted into passenger car units) is included in **Appendix B**. The highway peak hour for traffic flows has been utilised to represent a worst case scenario. The following ratios have been used for converting the traffic count data into PCU's:

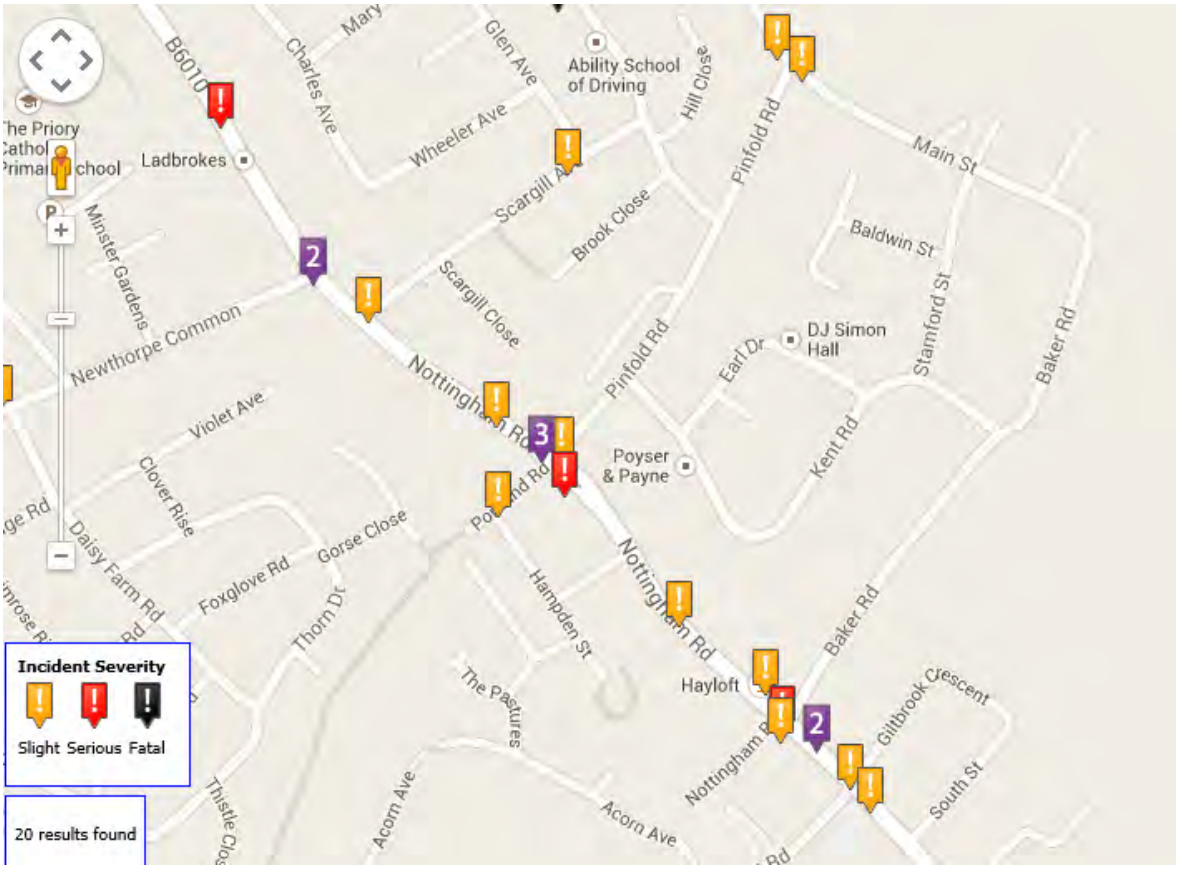
- Light - 1 PCU;
- Heavy - 2 PCU;

Accident History

2.16. As the purpose of this report is only to support the allocation of the site within the Local Plan a detailed assessment of the accident record in the study area has not been undertaken. Instead an initial analysis of the recorded personal injury accident data in the vicinity of the site has been undertaken using the website 'Crashmap'. Accident data for 2008 to 2013 (the most recent 5 year period for which data is available). **Figure 5** illustrates the location of the accidents within the area of the site.

2.17. It is generally considered that any junctions at which there has been an average of 3 or more accidents per year require more detailed analysis to establish whether they can be considered accident 'cluster' sites. It can be seen from **Figure 5** that there are no junctions within the study area that have an average accident rate of over 3 accidents per year.

Figure 5: Recorded Accidents in the Vicinity of the Site over a 5-Year Period



2.18. As shown in **Figure 5** above, for the most recent five year period there have been no recorded road traffic accidents along Baker Road and Main Street in the vicinity of the site. There are two accidents within the vicinity of the Baker Road/Nottingham Road junction, 1 accident of serious severity and 1 accident of slight severity. There are 2 slight accidents on the Nottingham Road link between Baker Road and Portland Road and 1 slight and 1 serious accident on the Nottingham Road link between Baker Road and Giltbrook Crescent.

2.19. In view of the above it is considered that the additional trips generated by the proposed development would not have a detrimental impact on highway safety in the vicinity of the proposed development. Therefore the development is unlikely to lead to road conditions which are detrimental to highway safety.

Sustainable Transport and Local Facilities

2.20. To minimise the impact of the proposed development upon the local highway network it is important that the site can be accessed via a range of sustainable travel options which residents and visitors can use. The following paragraphs consider the existing level of sustainable transport in the vicinity of the site as well as considering those measures that could positively influence travel patterns in the delivery of sustainable transport to the site.

Walking

2.21. Walking is an important sustainable mode of transport used by people who live close to basic amenities. Walking is important for internal trips in villages where distances to shops and local transport facilities are close and easily accessible by foot.

2.22. The Chartered Institution of Highways and Transportation (CIHT) publication "Guidelines for providing for journeys on foot" (2000) describes acceptable walking distances for pedestrians without impaired mobility in a table format as shown in **Table 1** below.

Table 1: Suggested Acceptable Walking Distances

	Town Centre (m)	Commuting/School Sightseeing (m)	Elsewhere
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200

2.23. A walking isochrone plan is shown on drawing **CIV15904-004** provided in **Appendix C. T**he location of local facilities in the vicinity of the site is illustrated on drawing **CIV15904-005** provided in **Appendix D**.

2.24. The area surrounding the proposed site has number of local facilities including shops, post office, public house, primary school, recreation ground and health facilities.

2.25. Pedestrian facilities in the vicinity of the site are adequate with a footway provided along both sides of Baker Road and Main Street. These footways provide a link into the wider footway network to the west and south of the site. The footways provide safe access to the bus stops and a range of local facilities.

2.26. A number of Public Rights of Way (PRoW) are also located within the vicinity of the site. A plan illustrating the local PRoW network is included as **Appendix E**. As shown on the PRoW plan, there is an existing public footpath which can be accessed from Baker Road and which runs through the site towards the Gilt Brook and Kimberley. There is also a public footpath that runs from Main Street in a south-easterly direction and follows the northern boundary of the existing site.

2.27. Given the level of pedestrian infrastructure around the site, and links to areas within an acceptable walking distance, the site is located to encourage pedestrian journeys in place of car journeys to local facilities.

Cycling

2.28. The Broxtowe Borough Council, Cycling in Broxtowe guide illustrates the cycle routes in the local area and is provided in **Appendix F.** This identifies Pinfold Road and Main Street as a 'Connection using quiet roads and lanes away from traffic'. This route is located to the west of the proposed site and is easily accessibly using Main Street.

2.29. The Sustrans website identifies a cycle route connecting Nottingham Road to Ilkeston/Awsworth. This route is approximately 1km south of the proposed development site. This information is also provided in **Appendix F.**

Public Transport - Buses

2.30. The Chartered Institute of Highways and Transportation's (CIHT) document 'Planning for Public Transport in Developments' states that 'new developments should be located so that public transport trips involve a walking distance of less than 400m from the nearest bus stop'. The CIHT guidelines do however state that the recommended 400m is to be 'treated as guidance' and that it is 'more important to provide services that are easy for passengers to understand and attractive to use than to achieve slavish adherence to some arbitrary criteria for walking distance'.

2.31. The NCC regional design guide, referred to as the 6C's Design Guide states that:

"Generally walking distances to bus stops in urban areas should be a maximum of 400m and desirably no more than 250m. In rural areas the walking distance should not be more than 800m".

2.32. The nearest bus stop to the site is located on Main Street, approximately 75m to the west of the proposed site access on Baker Road. This bus stop is used by the 101 bus service, which operates on an hourly daytime frequency during weekdays. This circular service serves Eastwood, Beauvale, Moorgreen and Newthorpe.

2.33. The Main Street bus stop consists of a flagpole with timetable information attached. A photograph of the bus stop is provided below in **Photograph 6.**

Photograph 6: Main Street Bus Stop

2.34. Drawing **CIV15904-005** provided in **Appendix G** shows the location of local bus stops. It should be noted that in addition to the 101 service along Baker Road/Main Street there are bus stops located nearby on Nottingham Road. These bus stops are approximately 550m to the south of the proposed site access on Baker Road and are served by the Rainbow 1 and Amberline bus services. The Rainbow 1 has a ten-minute daytime frequency during weekdays and connects Nottingham, Eastwood and Ripley. The Amberline service operates on an hourly daytime frequency during weekdays and connects Derby, Heanor and Hucknall.

2.35. The Nottingham Road east and westbound bus stops consist of a bus shelter and flagpole with timetable information attached

2.36. **Table 2** below, provides a summary of the bus services operating to/from Giltbrook.

Table 2: Bus Service Information

Operator	Service and Key Destinations Served	Monday to Saturday Frequency		Sunday Frequency
		Daytime	Evening	Daytime
Yourbus	101: Eastwood-Newthorpe	60 Mins	No service	No service
Trent Barton	Rainbow 1: Nottingham-Eastwood-Ripley	10 Mins	Includes late night service	30 mins
Trent Barton	Amberline: Derby–Heanor-Hucknall	60 Mins	No service	120 mins

2.37. The proposed site is located close to a number of existing bus services that have nearby bus stops, are frequent and serve a range of possible destinations.

Sustainable Transport Summary

2.38. This assessment shows that the site is located with suitable access to public transport, walking and cycling facilities and the potential exists for a number of trips to be made by these modes of transport. A number of key facilities are also located within walking and cycling distance of the site including post office, shops, public house, primary school, college, church and a recreation ground. Bus stops are located within a short walk of the site and offer regular services into Eastwood, Heanor, Hucknall, Giltbrook, Derby and Nottingham.

3. Development Proposals

Development

3.1. The development proposals are for approximately 330 residential dwellings on land off Baker Road, Giltbrook. In order to ensure a robust assessment it has been assumed, for assessment purposes within this report, a total of 350 residential dwellings would be provided.

Site Access Options

3.2. Access to the proposed development would be achieved from Baker Road. For the purposes of this report two alternative access junction layouts have been developed. The purpose of identifying two options for providing access to the site is to demonstrate that safe and appropriate access to the site can be achieved and therefore the site is suitable for allocation within the Local Plan.

3.3. The two alternative site access layouts from Baker Road are:

- An alteration of Baker Road/Main Street to a priority 'T' junction
- The provision of a three-arm roundabout junction at Baker Road/Main Street/Site Access

3.4. The site access options have been designed in accordance with Nottinghamshire County Council's document 'The 6C's Design Guide'.

Site Access Priority Junction Option

3.5. This priority junction option for the site access is shown in drawing **CIV15094-001** in **Appendix G**. The site access has been designed to the standards for a major residential access road, as defined within the 6C's Design Guide', and incorporates the following design characteristics:

- 6m Radi;
- 2m footways; and
- 6.75m carriageway.

3.6. Main Street would be provided with appropriate visibility splays (minimum achievable visibility levels of 2.4m by 43m), in line with Table DG4 in the 6C's Design guide.

Site Access Roundabout Junction Option

3.7. This roundabout junction option for the site access is shown in drawing **CIV15094-002** in **Appendix H**. The proposal is for a small three-arm roundabout with a central overrun area, in order to allow for necessary vehicle turning movements while constraining vehicle speeds. The site access from this roundabout has been designed to the standards for a major residential access road, as defined within the 6C's Design Guide', and incorporates the following design characteristics:

- 2m footways; and
- 6.75m carriageway.

Pedestrian / Cyclist Access Points

3.8. Pedestrians and cyclists would be able to access the site from Baker Road as shown on the site access layouts provided in **Appendix G and H**. Access to the existing public footpath from Baker Road to Kimberley would also be provided within the site. The potential for connection to the existing footpath that passes along the northern perimeter of the site would also be investigated

3.9. These pedestrian links would provide residents with safe and convenient routes into the adjacent urban area and to local facilities.

3.10. A comprehensive network of footways would be provided within the development. Dropped kerbs and tactile paving would be provided at all crossing points within the site and at the proposed site access.

Internal Site Layout

3.11. The internal highway would be designed to accommodate the swept path requirements of appropriate design vehicles. The development would be designed in a manner to ensure that it is well connected to the local area and not dominated by the car. The development would also be designed so that it meets the needs of non-motorised users as well as users of the private car.

Service and Emergency Vehicles

3.12. Service and emergency vehicles would gain access to the development via the same route as other vehicular traffic, i.e. from Baker Road.

Parking Provision

3.13. Car parking provision and guidance are discussed within both the DCLG's 'Residential Car Parking Research' and NCC 'Residential Car Parking Research for Nottinghamshire – Highway Development Control Guidance' (February 2010) document. However, following discussions with NCC Highway Development Control Officers, it is understood that the following provision is now requested for residential developments, which are:

- 4 or more bedrooms – 3 parking spaces; and
- 3 or fewer bedrooms – 2 parking spaces.

3.14. As the development mix is unknown at this time, it is not possible to confirm the number of car parking spaces to be provided at the development. However, provision would be in line with that identified above.

4. Local and National Policy Documents

4.1. The objectives for the development have been defined taking into account national, regional and local policies that seek to safeguard the environment and resources and to put into practice the principles of sustainable development. Consideration has been given to the following documents:

Smarter Choices

4.2. The publication of the "Smarter Choices – Changing the Way We Travel" report by the DfT in July 2004 has further reinforced the stature of soft measures within the overall context of transport planning. These soft measures encompass workplace and school travel plans, as well as other initiatives such as car sharing schemes, car clubs, personalised journey planning, teleworking, teleconferencing, information and marketing, and home shopping.

4.3. These measures are becoming increasingly important issues for the DfT, and the provision of targeted information, marketing and incentives are receiving much higher priority. The research into 'soft' measures that was published in the report has been viewed as a significant milestone. As such, soft measures have a role in their own right in raising awareness of the available journey options and as a support measure for other more traditional interventions in the transport arena, such as mobility management schemes, infrastructure and service-related measures.

Transport White Paper – The Future of Transport: A Network for 2030

4.4. The thrust of the White Paper is one of sustainability and the integration of transport systems and modes. The main aim of the White Paper is to increase choice by improving sustainable transport alternatives. This recognises that building more roads is not the only solution to accommodate growth.

4.5. The White Paper stresses the responsibility for reducing congestion, providing safer streets, improving air quality, giving real transport choice and raising the quality of life for all. Achieving these goals means some people using their cars less often, more people walking, cycling and using public transport, and everybody thinking more about their transport choices.

4.6. The proposed development would be designed to meet these objectives. The proposed site for the development can have provision of public transport and walking / cycling facilities to promote sustainability as well as giving a means of travel for those without a car.

National Planning Policy Framework

4.7. In March 2012, the Government published the National Planning Policy Framework (NPPF), which sets out the planning policies for England and how these are expected to be applied. The main thrust of the NPPF is one of sustainable development, and where development is shown to be sustainable, it should be permitted without delay.

4.8. At paragraph 14, the NPPF states the following:-

"At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.

For decision-taking this means:

- *Approving development proposals that accord with the development plan without delay;*
- *Where the development plan is absent, silent or relevant polices are out-of-date, granting permission unless:*
- *Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
- *Specific polices in this Framework indicate development should be restricted."*

4.9. Therefore, any development that can be shown to be sustainable should be granted planning permission unless the adverse impacts would outweigh the benefits.

4.10. Transport is discussed in section 4 of the NPPF. At paragraph 29, the NPPF states:-

"Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives. Smarter use of technologies can reduce the need to travel. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel."

4.11. Sustainable modes of transport, such as walking, cycling and public transport are therefore placed at the heart of the NPPF.

4.12. At paragraph 32, the NPPF states the following:

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

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

4.13. Equally important is situating development in the right location in order to minimise vehicle movements. This is set out in paragraph 34, which states:-

"Plans and decisions should ensure developments that generate significant movement are located where the needs to travel will be minimised and the use of sustainable transport modes can be maximised."

4.14. It is considered that the proposed development accords with the transport policies set out in the NPPF. The site is located relatively close to existing public transport services which can be used to access Eastwood, Nottingham and Heanor. The site is located within a reasonable walking / cycling distance of facilities within Eastwood and Giltbrook e.g. primary school, post office, shops, public house etc. It is likely that a large proportion of journeys to these facilities would be made via sustainable modes of transport, particularly walking and cycling. The development would also have only a marginal impact upon the operation of the local highway network (the impact of the proposed development upon the local highway network is discussed in more detail later in this report).

The 6C's – Highways, Transportation and Development

4.15. The '6C's Design Guide' - 'Highways, Transportation and Development' (HTD) deals with highways and transportation infrastructure for new developments in areas for which Leicestershire County Council, Leicester City Council, Nottinghamshire County Council, Nottingham City Council, Derbyshire County Council and Derby City Council are the highway authorities. The document provides guidance on preparing and considering proposals, in terms of when a Transport Assessment, Transport Statement or Travel Plan is required, and sets out design requirements, which are intended to help developers design layouts that provide for safe and free movement of all road users. The document also contains standards for parking within the authority areas.

Nottinghamshire County Council Third Local Transport Plan (LTP)

4.16. The Third LTP came into force on 1st April 2011, and sets out the transport vision, goals, challenges to be tackled and a strategy across the county until 2026.

"The long-term transport vision for Nottinghamshire is at three spatial levels:

1. Within local neighbourhoods, to provide safe and sustainable access to local facilities and services, such as health, schools, colleges and local shops. This will include priority for pedestrians, cyclists and those with mobility difficulties.

2. To provide everyone with safe and sustainable transport options for movement within and between our towns and district centres. This will include a fully integrated, high quality public transport network and appropriate parking provision for private cars.

3. To connect our towns, district centres and villages to other parts of the Plan area and beyond (including regional and national trip generators).This will include safe and sustainable strategic links by road and rail for both people and goods.

4.17. The principal strategic transport goals for Nottinghamshire are to:

• provide a reliable, resilient transport system which supports a thriving economy and growth whilst encouraging sustainable and healthy travel;

• improve access to key services, particularly enabling employment and training opportunities, and

• minimise the impacts of transport on people's lives, maximise opportunities to improve the environment and help tackle carbon emissions.

4.18. The proposed development aims to comply with the above goals. Given the sustainable access into Eastwood, Heanor, Hucknall, Giltbrook, Derby and Nottingham that is possible from the site, encouraging sustainable and healthy travel would be part of the future operation of the site through the Travel Plan that would be submitted with the planning application.

Broxtowe Borough Council Local Development Framework (LDF)

4.19. The Borough's forward planning is contained within several documents, primarily the Broxtowe Local Plan (2004) which will be gradually replaced over the coming years by the new Development Plan documents in the LDF.

4.20. The first of these LDF documents will be the Core Strategy. BBC has worked with neighbouring authorities and the Broxtowe Borough Aligned Core Strategy therefore forms part of the Greater Nottingham Aligned Core Strategies. The Aligned Core Strategies contain a number of transport related policies, with the following being of particular significance:

4.21. Policy 14: Managing Travel Demand.

1. The need to travel, especially by private car, will be reduced by securing new developments of appropriate scale in the most accessible locations following the Spatial Strategy in Policy 2, in combination with the delivery of sustainable transport networks to serve these developments.

2. The priority for new development is in firstly selecting sites already accessible by walking, cycling and public transport, but where accessibility deficiencies do exist these will need to be fully addressed. The effective operation of the local highway network and its ability to provide sustainable transport solutions should not be compromised.

3. A hierarchical approach to ensure the delivery of sustainable transport networks to serve, in particular, Sustainable Urban Extensions, will be adopted which will seek to provide (in order of priority):

a) site specific and area wide travel demand management (measures to reduce travel by private car and incentives to use public transport, walking and cycling for appropriate journeys including intensive travel planning);

b) improvements to public transport services, walking and cycling facilities that are provided early in the build out period of new developments and that are sufficient to encourage sustainable modes of transport;

c) optimisation of the existing highway network to prioritise public transport, walking and cycling that are provided early in the build out period of new developments such as improved/ new bus and cycle lanes and measures to prioritise the need of pedestrians above the car; and

d) highway capacity enhancements to deal with residual car demand where the initiatives required under points (a) to (c) above are insufficient to avoid significant additional car journeys.

4. There will be a level of iteration between the stages to ensure their effective delivery, and the implementation of the approach will have regard to the needs of people with mobility difficulties.

4.22. Policy 15: Transport Infrastructure Priorities includes the following elements:

1. Where new development gives rise to the need for additional transport infrastructure, it should be prioritised in accordance with delivering the Spatial Strategy in Policy 2, the principles of travel demand management in Policy 14 and the priorities of the Local Transport Plans covering the plan area. The details and certainty of funding and timing are in the Infrastructure Delivery Plan.

2. New development, singly or in combination with other proposed development, must include a sufficient package of measures to ensure that journeys by non private car modes are encouraged, and that residual car trips will not unacceptably compromise the wider transport system in terms of its effective operation.

Summary

4.23. The proposed development would be designed in accordance with policy objectives set out in national, regional and local documentation. The site is well located to an existing residential area, is close to existing bus services and accessible by walking and cycling. The site location and proposed residential use is considered to accord well with the national, regional and local transport policy objectives summarised in this chapter.

5. Accessibility

Introduction

5.1. Planning policy now highlights the need for sustainable developments to have good accessibility to education, health facilities, employment, leisure and retail. Paragraph 38 of the National Planning Policy Framework (NPPF) states:

"Where practical, particularly within large scale developments, key facilities such as primary schools and local shops should be located within walking distance of most properties".

5.2. This section therefore considers the accessibility from the development, by modes of sustainable transport to local facilities including education, health services, employment, leisure and retail. The location of local facilities in the vicinity of the site is illustrated on drawing **CIV15094-005** provided in **Appendix D**.

Accessibility to Education

5.3. The Greasley Beauvale Primary School is located within 1km to the north west of the proposed development site and can easily be accessed on foot or by cycling. The Gilthill Primary School is located within 1km to the south east of the proposed development site. This school can also be easily accessed on foot, using either the public rights of way network or Nottingham Road. A key objective of the development would be to encourage as many people (i.e. children and parents) as possible to walk /or cycle to these primary schools. The proposed development site is within the catchment area for Eastwood Comprehensive School. This school is located 2.8 km distance to the west of the proposed development site. The school can be easily accessed by cycling or by bus.

Accessibility to Health

5.4. The most accessible primary health care facilities relating to the development are located in Eastwood. Eastwood Dental Care, Stephen Green Dental & Burrows Close Pharmacy and the New Thorpe Medical Centre are all located within Eastwood and are within 2km of the proposed development site. As detailed previously, in Chapter 2, Eastwood is easily accessible from the proposed development site by walking, cycling and by public transport.

Accessibility to Employment

5.5. There are a range of local employment opportunities within Eastwood, Giltbrook and Kimberley. Such local employment opportunities would be easily accessible by walking, cycling or public transport. In addition the towns of Heanor and Ilkeston are located approximately 6km from the site and therefore accessible by cycling/public transport. The city of Nottingham is located to the east (12km from the site) and the city of Derby to the south west (27km from the site). Access to the employment opportunities within these cities is provided by the Rainbow 1 and Amberline bus services respectively.

Accessibility to Retail and Leisure

5.6. Local retail and leisure facilities within the vicinity of the site include a post office, shops, public house, chemists and a recreation ground. The Giltbrook Retail Park is also in close proximity to the site. This contains Ikea and numerous other retail outlets.

5.7. Nottingham has a range of larger retail and leisure facilities and is accessible by public transport using the Rainbow 1 bus service, which has a ten minute frequency during the daytime.

6. Sustainable Accessibility

Introduction

6.1. This section details how the proposed development would provide appropriate measures to influence travel behaviour and promote accessibility by all modes of travel, particularly walking, cycling and public transport.

Sustainable Transport

6.2. One key objective of the development is to encourage residents to travel by sustainable modes of transport in order to limit the number of single-occupancy vehicle movements that are generated. This objective would be achieved by:

- Encouraging the use of alternative modes of transport to the private car in order to reduce environmental impacts for all journeys to and from the proposed development;
- Delivering long-term commitment to changing travel habits by minimising the percentage of journeys to and from the development made by single occupancy cars, and maximise the proportion of trips to the development made by public transport, by car share, on foot and by cycle;
- Educating residents regarding the health benefits of walking and cycling;
- Addressing residents' need for access to a full range of facilities for work, education, health, leisure, recreation and shopping;
- Reducing traffic generated by development to a significantly lower level of car trips than would be predicted without the implementation of a Travel Plan; and
- Promoting healthy lifestyles and vibrant communities.

6.3. The following paragraphs detail a range of measures that are proposed to encourage residents to travel by sustainable modes of transport.

Walking

6.4. To promote walking trips, the following infrastructure improvements are proposed:

- Pedestrian links are to be provided from the proposed development to the existing footway on Baker Road.
- The existing public footpath from Baker Road through the development site to Kimberley will be retained. The potential for connection to the existing footpath that passes along the northern perimeter of the site will be investigated
- All pedestrian facilities within the proposed development would have a minimum width of 2m;
- All pedestrian routes would be adequately surfaced and lighting would be provided in accordance with local design standards; and
- All footway routes would be designed to ensure that they are open and subject to appropriate levels of natural surveillance.

6.5. All new pedestrian facilities would conform to the appropriate design standards. This would ensure that there would be sufficient capacity and space for all users, along with an adequate provision of street lighting, in order to encourage their use.

Public Transport

6.6. It is considered that travel by bus would represent a realistic public transport mode for residents of the proposed development, particularly for travel to/from Eastwood, Nottingham, Heanor and Kimberley.

6.7. The proposed development would seek to take advantage of public transport facilities and services within the adjacent area. Information on bus and rail services would be provided to all residents, in advance of occupying the site. Information would include details on routes, services, timetables and fares. This information would be contained in 'New Household Sustainable Travel Packs' (discussed below).

6.8. Through the provision of 'New Household Local Sustainable Travel Packs' vouchers for 2 free bus passes (for 3 months) per household would be provided. These vouchers would be provided on request to the first occupiers of each property only. It is considered that the provision of these bus passes would encourage residents to use the existing bus services and consequently improve their viability.

6.9. Such provision would significantly influence the travel patterns of residents in favour of public transport and can also be promoted in the sales material for the units. Establishing a culture of public transport use at the early stages of the development's life would also encourage more people to use such modes in the long term.

New Residents Local Sustainable Travel Pack

6.10. It is proposed that all new residents of the development would receive a local sustainable travel pack upon occupation. The travel pack would provide useful information in relation to sustainable travel options to assist residents in making informed choices for travelling to/from the site. The travel packs would include information such as:

- Plans showing the location of local bus stops and rail stations;
- Details of the services from the local bus stops;
- Walking maps and plans showing local cycle routes;
- Contact details for organisations providing public transport information;
- Details of local taxi operators;
- Plans showing local amenities and facilities (shops, schools and community facilities); and
- Details of local discounted ticketing arrangements for public transport operators.

6.11. The sales team would ensure that the travel packs contain up-to-date information on public transport services. The travel packs would be provided in hard copy however, the information could also be provided on any website which is used to promote or advertise the proposed development.

7. Vehicular Trip Generation and Distribution

Proposed Development

7.1. To estimate the trips likely to be generated by the development, person-based trip rates have been derived from the TRICS online database (version 2013b v7.1.1) for sites that have similar characteristics to the proposed development.

7.2. Trip rates were obtained using the 'Houses Privately Owned' land use category. A proportion of the dwellings would be designated as affordable housing, which generally has a lower trip rate than standard market housing. As such, the 'Houses Privately Owned' trip rates represent a robust assessment.

7.3. Only multi-modal surveys were selected, with sites in London or outside of England excluded from the analysis as unrepresentative. Only sites in the range of between 150 and 700 dwellings were selected. This resulted in a dataset of 8 weekday surveys (Monday-Thursday). The TRICS outputs are provided in **Appendix I**.

7.4. Trip rates have been obtained for the periods 08:00-09:00 and 17:00-18:00. These periods are the peak periods for 'Houses Privately Owned'. The resulting morning and evening peak hour trip rates are shown in **Table 3** below.

Table 3: Person Based Trip Rates

Time Period	Trip Rate per Dwelling			Trip Generation for 350 Dwellings		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak	0.236	0.825	1.061	83	289	371
PM Peak	0.609	0.387	0.996	213	135	349

7.5. In order to convert the person-based trip rates into vehicle trip rates, 2011 method of travel to work census data was obtained for the 'Greasley ward' (See **Figure 7** below). This data is presented in **Table 4** below.

Figure 7: Greasley Ward

Table 4: 2011 Census Data - Method of Travel to Work - Greasley Ward

Mode	Journey to Work Trips	Journey to Work %
Train	16	1%
Bus, minibus or coach	185	6%
Taxi or minicab	4	0%
Driving a car or van	2225	77%
Passenger in a car or van	164	6%
Motorcycle	31	1%
Bicycle	48	2%
On foot	213	7%
Other	7	0%
Total People	2893	100%

7.6. It can be seen from **Table 4** that 77% of journeys to work are undertaken by driving in a car or van. This high proportion of trips being by car/van will ensure that a robust assessment is undertaken for the calculated vehicular trip generation from the proposed development. It is considered that the proportion of trips by sustainable modes is likely to be underestimated using this approach as it will not reflect the likely modal split for non-travel to work trips from the proposed development e.g. trips to and from school. However, for the purposes of the assessment of the allocation of this site for development within the Local Plan, this robust approach is considered to be appropriate.

7.7. By applying the mode splits presented in **Table 4** to the person trip generation figures presented in **Table 3**, the volume of trips by mode can be calculated for the development and these are presented in **Table 5** below.

Table 5: Multi Modal Trips

Mode	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Train	0	2	2	1	1	2
Bus, minibus or coach	5	18	24	14	9	22
Taxi or minicab	0	0	1	0	0	0
Driving a car or van	64	222	286	164	104	268
Passenger in a car or van	5	16	21	12	8	20
Motorcycle	1	3	4	2	1	4
Bicycle	1	5	6	4	2	6
On foot	6	21	27	16	10	26
Other	0	1	1	1	0	1
Total	83	289	371	213	135	349

7.8. As identified previously, it is considered that the number of trips to be undertaken by car/van outlined in **Table 7** above is too high for the identified development at the proposed location. However these calculations are considered to provide for a robust assessment for the purpose of considering the allocation of this site within the Local Plan.

7.9. From **Table 8**, it can be seen that the proposed development would generate 286 vehicular trips in the morning peak hour and 268 vehicular trips in the evening peak hour. This equates to approximately 5 vehicular trips per minute during the morning and evening peak hours.

Trip Distribution

7.10. Development generated vehicular traffic has been distributed in a manner suitable to provide for a robust assessment of the Nottingham Road/Baker Road junction. This is because this is the only off-site junction subject to assessment within this report. In order to ensure this robust assessment, it has been assumed that all of the development traffic would travel south to the Nottingham Road/Baker Road junction. Development traffic at the Nottingham Road/Baker Road junction has then been distributed based upon existing turning movements.

8. Highway Impact

Introduction

8.1. The purpose of this report is to assess whether there are any transport impacts arising from the development of this site in the context of the sites potential allocation within the Local Plan. This report therefore considers how the highway impact of the development of this site could be mitigated in order to assess the suitability of the site for allocation within the Local Plan for development. Should the site be allocated within the Local Plan, then a Transport Assessment would be required as part of any future planning application.

Assessment Years

8.2. An assessment year 5 years after submission of this report has been chosen. As a result a 2019 assessment year has been assumed.

Traffic Growth

8.3. In order to obtain future year traffic flows, TEMPRO growth factors (adjusted by National Traffic Model (NTM) traffic growth calculations) have been applied to the existing 2013 peak hour traffic flows. The growth factors have been obtained from the TEMPRO database and 'Eastwood' has been utilised as the local area. Eastwood was chosen as that had a higher growth factor than the growth rates for Broxtowe and Kimberley areas. The resulting growth factors are displayed below:

- 2013 AM to 2019 AM = 1.088
- 2013 PM to 2019 PM = 1.088

Committed Developments

8.4. Committed schemes are defined as development or transport schemes which have a current planning consent, but which are, as yet, unimplemented or incomplete, and could in the future have a significant effect on transport conditions, or the layout of the local highway network.

8.5. This assessment of the Baker Road site is for potential development allocation within the Local Plan. Therefore, no committed developments have been considered as part of this report, but may need to be taken into consideration in any future Transport Assessment within a submitted planning application. The traffic growth figures described in paragraph 8.3 above have taken account of growth within the local area and therefore provide a suitable assessment of conditions in 2019 for the purpose of consideration within the Local Plan.

Junction Capacity Assessments

Methodology

8.6. As discussed in Section 2 traffic data has been obtained for the following junction:

- Baker Road/ Nottingham Road priority 'T' junction

8.7. In order to provide for a robust assessment it has been assumed that all development traffic would travel south from the site to this junction. The development traffic has then been distributed at this junction based upon existing turning movements.

8.8. Traffic flows in the vicinity of the proposed site access have been derived from the traffic survey counts for Baker Road at the Baker Road/ Nottingham Road junction

8.9. The results obtained in the Baker Road/Nottingham Road traffic models have been validated against data obtained from the queue counts carried out during the traffic surveys. Queue survey data is included as part of **Appendix B**.

Traffic Flows

8.10. Traffic network diagrams have been produced and these are shown in **Appendix J**. These network diagrams illustrate traffic flows for the following scenarios:

- 2013 Base;
- 2019 Base;
- Development Traffic; and
- 2019 Base + Development.

Results

8.11. The full output files of the junction capacity assessments carried out and the associated junction models are included in:

- **Appendix K** – Site Access: Priority Junction Option;
- **Appendix L** – Site Access: Roundabout Junction Option;
- **Appendix M** – Baker Road/ Nottingham Road

Site Access Priority Junction: Capacity Assessment Results

8.12. The capacity of this site access junction option has been assessed using PICADY. The results of the site access capacity assessment are summarised in **Table 6** below.

Table 6: Site Access (Priority): 2019 Base + Development Capacity Assessment Results

Junction Arm	AM Peak		PM Peak	
	Max RFC	Max Queue (PCU)	Max RFC	Max Queue (PCU)
Main Street	0.119	0.13	0.120	0.14
Site Access	0.000	0.00	0.000	0.00

8.13. As can be seen from the results summarised in **Table 6**, the proposed site access would operate comfortably within capacity in both the morning and evening peak hours. The highest RFC recorded, occurs on the Main Street during the morning peak hour, reaching 0.025. There would be no significant queuing at the junction. It has therefore been demonstrated that this site access junction option would provide satisfactory access in terms of both layout and design. .

Site Access Roundabout Junction: Capacity Assessment Results

8.14. The capacity of this site access roundabout junction option has been assessed using ARCADY. The results of the site access capacity assessment are summarised in **Table 7** below.

Table 7: Site Access (Roundabout): 2019 Base + Development Capacity Assessment Results

Junction Arm	AM Peak		PM Peak	
	Max RFC	Max Queue (PCU)	Max RFC	Max Queue (PCU)
Main Street	0.044	0.0	0.047	0.0
Site Access	0.251	0.3	0.117	0.1
Baker Road	0.061	0.1	0.159	0.2

8.15. As can be seen from the results summarised in **Table 7**, the proposed roundabout site access would operate comfortably within capacity in both the morning and evening peak hours. The highest RFC recorded, occurs on the site access road during the morning peak hour, reaching 0.251. There would be no significant queuing at the junction. It has therefore been demonstrated that this site access junction option would also provide satisfactory access in terms of both layout and design. .

Nottingham Road/Baker Road Junction: Capacity Assessment Results

8.16. The Nottingham Road/Baker Road junction is located approximately 500m to the south-west of the site. The layout of the junction can be seen below in **Figure 8**.

Figure 8: Aerial Image of the Nottingham Road/Baker Road Junction

2013 Google · DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky ·

8.17. The results of the 2013 base capacity assessments are summarised in **Table 8** below.

Table 8: Nottingham Rd/Baker Rd: 2013 Base Capacity Assessment Results

Junction Arm	AM Peak		PM Peak	
	Max RFC	Max Queue (PCU)	Max RFC	Max Queue (PCU)
Baker Road	0.105	0.12	0.098	0.11
Nottingham Road (East)	0.052	0.08	0.197	0.57

8.18. As shown in **Table 8** above, the Nottingham Road/Baker Road junction currently operates well within capacity during the morning and evening peak hours. The highest RFC occurs on Nottingham Road during the evening period, reaching 0.197. The queue surveys identified very little queuing at the junction and this is replicated within the PICADY results.

8.19. The results of the 2019 base capacity assessments are summarised in **Table 9** below.

Table 9: Nottingham Rd/Baker Rd: 2019 Base Capacity Assessment Results

Junction Arm	AM Peak		PM Peak	
	Max RFC	Max Queue (PCU)	Max RFC	Max Queue (PCU)
Baker Road	0.119	0.13	0.108	0.12
Nottingham Road (East)	0.060	0.10	0.228	0.70

8.20. As shown in **Table 9** above, the junction continues to operate satisfactorily within capacity in both the morning and evening peak hours in 2019. The highest RFC again occurs on Nottingham Road during the evening period, reaching 0.228.

8.21. The results of the 2019 base plus development capacity assessments are summarised in **Table 10** below.

Table 10: Nottingham Rd/Baker Rd: 2019 Base + Development Capacity Assessment Results

Junction Arm	AM Peak		PM Peak	
	Max RFC	Max Queue (PCU)	Max RFC	Max Queue (PCU)
Baker Road	0.599	1.46	0.320	0.47
Nottingham Road (East)	0.186	0.48	0.722	4.64

8.22. As shown in **Table 10** above, the Nottingham Road/Baker Road junction would continue to operate well within capacity in 2019 with the addition of development traffic. The highest RFC again occurs on Nottingham Road during the evening period, reaching 0.722. It should be noted that this junction assessment has been undertaken using extremely robust assumptions regarding vehicular trip generation and distribution from the proposed development site. Therefore the results of this assessment can be viewed as being for a 'worst case' scenario.

8.23. In summary, the junction operates with a degree of spare capacity. Therefore, no improvement scheme is proposed at this junction.

9. Conclusions

9.1. This report investigates the feasibility of allocation within the Local Plan of the identified site located off Baker Road, Giltbrook for residential development. The development proposals are for approximately 330 residential dwellings, but in order to ensure a robust assessment it has been assumed, for assessment purposes within this report, a total of 350 residential dwellings is to be provided.

9.2. Two options for the site access, to comply with the appropriate local design standards, have been identified from Baker Road. These site access options are a priority T-junction and a roundabout. These are illustrated in drawings **CIV15904-001** and **CIV15904-002** in **Appendix G and Appendix H** respectively.

9.3. The location of the site is such that existing sustainable travel opportunities are reasonable. Pedestrian facilities are of a good standard within the local area and provide a safe and convenient links to schools, bus stops, employment and local facilities. The site is located within a residential area that provides a variety of roads suitable for use by cyclists.

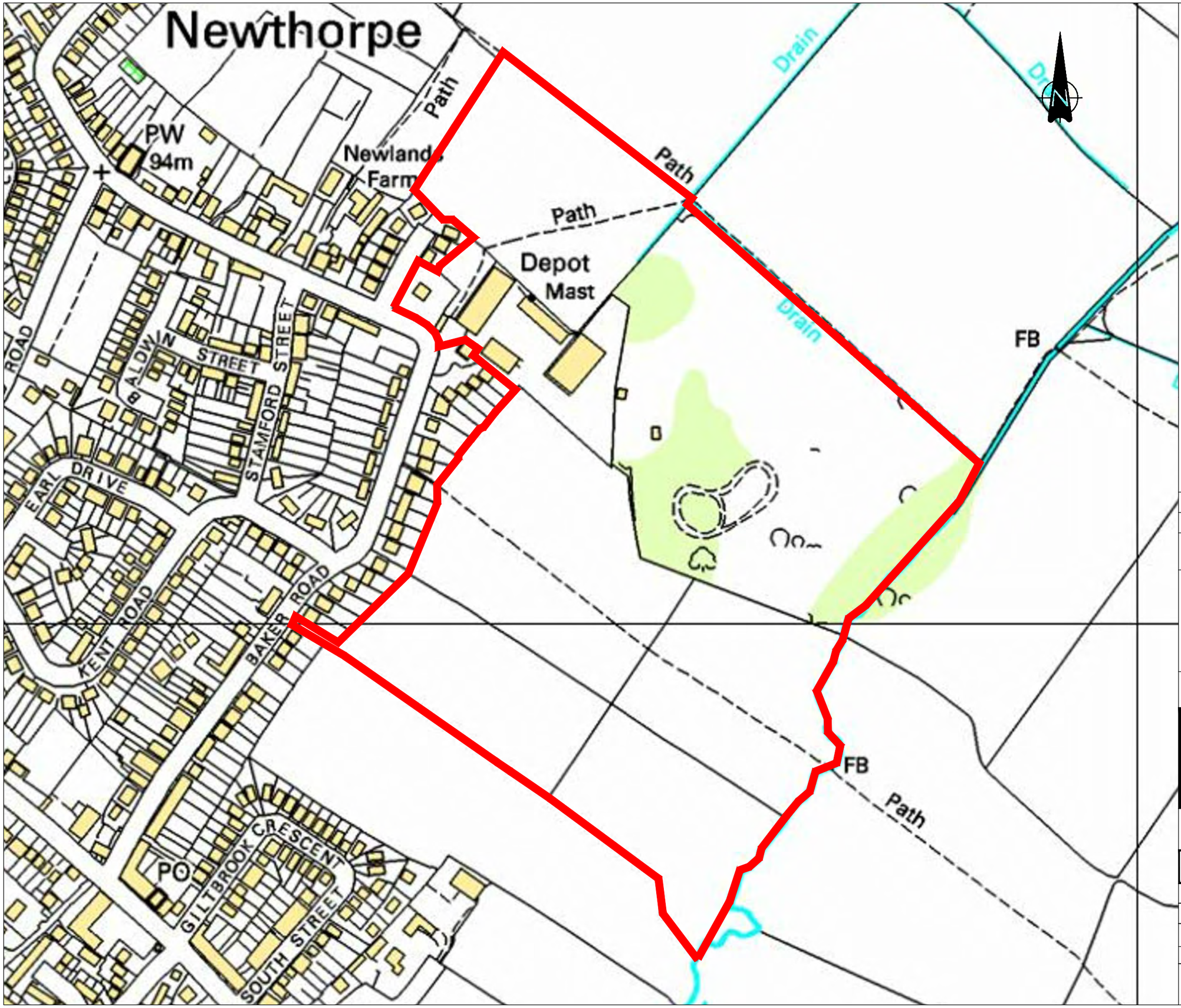
9.4. The site is well served by public transport, offering services to Eastwood, Nottingham, and Heanor. The proposed development would seek to take advantage of public transport facilities and services within the adjacent area by offering vouchers for 2 free bus passes (for 3 months) per household. These vouchers would be provided on request to the first occupiers of each property only.

9.5. The proposed development is expected to have a minimal impact upon the operation of the local highway network. A 'worst case' assessment of the nearby Nottingham Road/Baker Road junction has been undertaken in order to assess the impact of the proposed development upon the operation of that junction. This has identified that the existing junction layout would continue to operate within capacity with the proposed development.

9.6. Overall in transportation terms, the site has significant sustainable travel opportunities and there are no identified overriding transport related issues to the proposed residential development. The site is therefore considered to be suitable for allocation for residential development within the Local Plan.

APPENDICES

A. Location Plan



KEY

Application Site Boundary

Rev	Date	Description	By

Amendments

Project
BAKER ROAD, GILTBROOK

Title
SITE LOCATION PLAN

Client
TAYLOR & BURROWS PROPERTY

Waterman
Halifax House Halifax Place Nottingham NG1 1QN
t 0115 948 2612 f 03333 444 501
mail@watermangroup.com www.watermangroup.com

Drawing Status
PRELIMINARY

Designed by		Checked by	DP	Project No	CIV15094-100
Drawn by	EM	Date	18/12/2013		
Scales @ A3 work to figured dimensions only	NTS			Computer File No	003_Site Location Plan.dwg

Publisher	Zone	Category	Number	Revision
CIV	NG	00	003	

File Path K:\Projects\CIV15094-100 Baker Road, Giltbrook\Drawings\

A3-Waterman-S

B. Baseline Traffic Flows

Nottingham - Manual Traffic Survey, Thursday 12th December 2013

Produced by Road Data Services Ltd

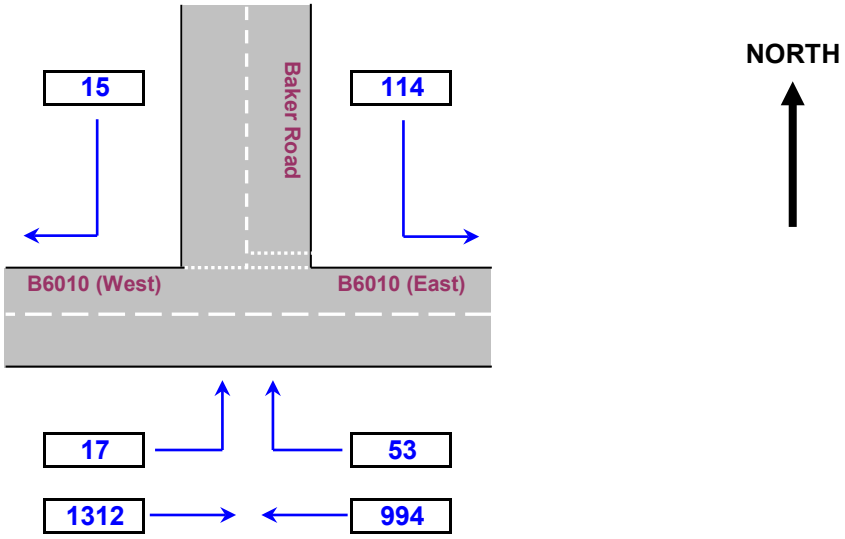
Junction: Baker Road / B6010

Vehicle Class: ALL CLASSES

Start Time: 1) 0700

End Time: 1) 0930

☐ **Peak Hour**



Note: The above diagram represents the Junction surveyed, although may not be the exact layout of the actual location.

Important Note: This spreadsheet & Interactive Vehicle Flow Diagram was produced based on specific parameters. Consequently, alteration to the spreadsheet format or it's properties may result in malfunction.

Nottingham - Manual Traffic Survey, Thursday 12th December 2013

Produced by Road Data Services Ltd

Junction: Baker Road / B6010

Approach: Baker Road

		Left to B6010 (East)			Right to B6010 (West)		
	TIME	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**
	0700 - 0715	7	0	**7**	0	0	**0**
	0715 - 0730	16	0	**16**	2	0	**2**
	0730 - 0745	14	0	**14**	2	0	**2**
	0745 - 0800	11	0	**11**	2	0	**2**
	0800 - 0815	10	0	**10**	3	0	**3**
	0815 - 0830	11	0	**11**	3	0	**3**
	0830 - 0845	11	0	**11**	1	0	**1**
	0845 - 0900	9	1	**10**	1	0	**1**
	0900 - 0915	10	1	**11**	0	0	**0**
	0915 - 0930	13	0	**13**	1	0	**1**
Peak hour	0730 - 0830	41	1	**42**	8	0	**8**
	1530 - 1545	13	0	**13**	3	0	**3**
	1545 - 1600	6	0	**6**	1	0	**1**
	1600 - 1615	14	0	**14**	0	0	**0**
	1615 - 1630	8	0	**8**	1	0	**1**
	1630 - 1645	16	0	**16**	0	0	**0**
	1645 - 1700	15	0	**15**	0	0	**0**
	1700 - 1715	13	1	**14**	0	0	**0**
	1715 - 1730	12	1	**13**	0	0	**0**
	1730 - 1745	14	0	**14**	0	0	**0**
	1745 - 1800	5	0	**5**	3	0	**3**
	1800 - 1815	10	0	**10**	2	0	**2**
	1815 - 1830	12	0	**12**	0	0	**0**
Peak hour	1700 - 1800	44	2	**46**	3	0	**3**

Nottingham - Manual Traffic Survey, Thursday 12th December 2013

Produced by Road Data Services Ltd

Junction: Baker Road / B6010

Approach: B6010 (East)

		W/B to B6010 (West)			Right to Baker Road		
	TIME	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**
	0700 - 0715	57	3	**60**	5	0	**5**
	0715 - 0730	61	3	**64**	4	0	**4**
	0730 - 0745	109	8	**117**	9	0	**9**
	0745 - 0800	112	2	**114**	6	1	**7**
	0800 - 0815	102	6	**108**	5	0	**5**
	0815 - 0830	85	4	**89**	5	0	**5**
	0830 - 0845	104	1	**105**	6	0	**6**
	0845 - 0900	111	7	**118**	2	0	**2**
	0900 - 0915	106	5	**111**	5	0	**5**
	0915 - 0930	101	7	**108**	5	0	**5**
Peak hour	0730 - 0830	402	18	**420**	18	0	**18**
	1530 - 1545	144	1	**145**	14	0	**14**
	1545 - 1600	148	5	**153**	16	1	**17**
	1600 - 1615	195	3	**198**	13	0	**13**
	1615 - 1630	135	4	**139**	15	0	**15**
	1630 - 1645	155	4	**159**	17	0	**17**
	1645 - 1700	158	5	**163**	16	0	**16**
	1700 - 1715	171	0	**171**	14	0	**14**
	1715 - 1730	144	2	**146**	17	0	**17**
	1730 - 1745	139	2	**141**	10	0	**10**
	1745 - 1800	147	2	**149**	19	0	**19**
	1800 - 1815	153	2	**155**	5	0	**5**
	1815 - 1830	127	3	**130**	4	0	**4**
Peak hour	1700 - 1800	601	6	**607**	60	0	**60**

Nottingham - Manual Traffic Survey, Thursday 12th December 2013

Produced by Road Data Services Ltd

Junction: Baker Road / B6010

Approach: B6010 (West)

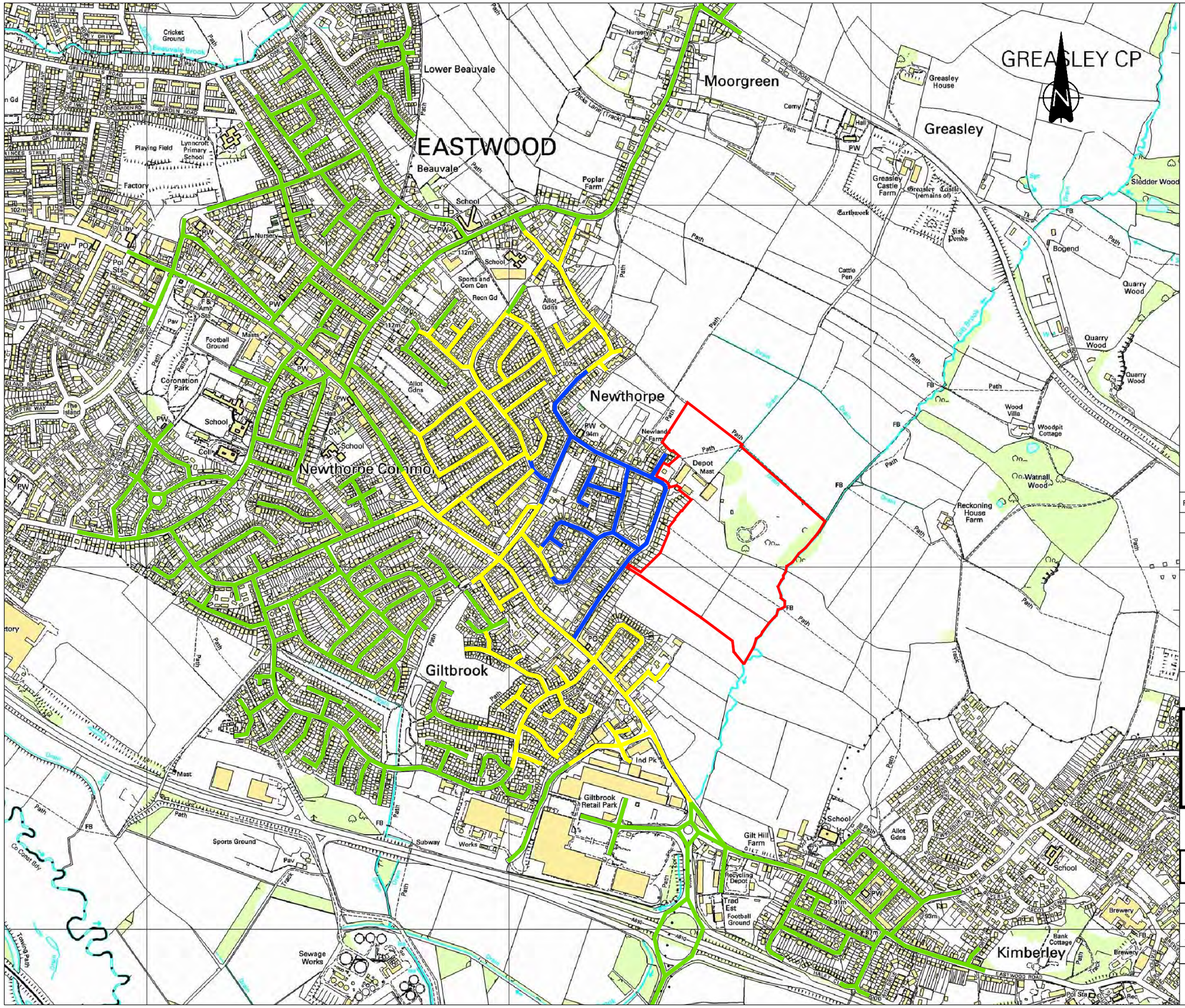
		Left to Baker Road			E/B to B6010 (East)		
	TIME	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**
	0700 - 0715	1	0	**1**	145	2	**147**
	0715 - 0730	1	0	**1**	147	3	**150**
	0730 - 0745	0	0	**0**	128	6	**134**
	0745 - 0800	1	0	**1**	125	4	**129**
	0800 - 0815	3	0	**3**	118	3	**121**
	0815 - 0830	1	0	**1**	102	7	**109**
	0830 - 0845	2	0	**2**	116	3	**119**
	0845 - 0900	4	0	**4**	133	2	**135**
	0900 - 0915	4	0	**4**	130	7	**137**
	0915 - 0930	0	0	**0**	128	3	**131**
Peak hour	0730 - 0830	10	0	**10**	469	15	**484**
	1530 - 1545	3	0	**3**	127	3	**130**
	1545 - 1600	6	0	**6**	119	3	**122**
	1600 - 1615	4	0	**4**	105	2	**107**
	1615 - 1630	2	0	**2**	103	1	**104**
	1630 - 1645	3	0	**3**	117	3	**120**
	1645 - 1700	2	0	**2**	119	2	**121**
	1700 - 1715	3	0	**3**	133	4	**137**
	1715 - 1730	3	0	**3**	106	2	**108**
	1730 - 1745	7	0	**7**	98	2	**100**
	1745 - 1800	2	0	**2**	91	1	**92**
	1800 - 1815	0	0	**0**	98	1	**99**
	1815 - 1830	2	0	**2**	116	0	**116**
Peak hour	1700 - 1800	15	0	**15**	428	9	**437**

Nottingham Queues
Thursday 12th December 2013

Produced by Road Data Services Ltd

Time			Baker Road	Right into Baker Road
			Metres	
7:00	-	7:05	0	0
7:05	-	7:10	10	0
7:10	-	7:15	0	10
7:15	-	7:20	10	0
7:20	-	7:25	0	0
7:25	-	7:30	0	0
7:30	-	7:35	0	0
7:35	-	7:40	0	0
7:40	-	7:45	0	0
7:45	-	7:50	0	0
7:50	-	7:55	0	0
7:55	-	8:00	0	0
8:00	-	8:05	0	0
8:05	-	8:10	0	0
8:10	-	8:15	0	0
8:15	-	8:20	10	0
8:20	-	8:25	0	0
8:25	-	8:30	0	0
8:30	-	8:35	0	0
8:35	-	8:40	0	0
8:40	-	8:45	0	0
8:45	-	8:50	0	0
8:50	-	8:55	10	0
8:55	-	9:00	0	0
9:00	-	9:05	20	0
9:05	-	9:10	0	0
9:10	-	9:15	0	0
9:15	-	9:20	10	0
9:20	-	9:25	0	0
9:25	-	9:30	0	0
15:30	-	15:35	0	0
15:35	-	15:40	0	0
15:40	-	15:45	0	0
15:45	-	15:50	0	0
15:50	-	15:55	0	0
15:55	-	16:00	0	0
16:00	-	16:05	0	0
16:05	-	16:10	0	10
16:10	-	16:15	0	0
16:15	-	16:20	0	0
16:20	-	16:25	0	0
16:25	-	16:30	0	10
16:30	-	16:35	0	0
16:35	-	16:40	15	10
16:40	-	16:45	10	0
16:45	-	16:50	10	0
16:50	-	16:55	0	0
16:55	-	17:00	10	0
17:00	-	17:05	0	10
17:05	-	17:10	0	0
17:10	-	17:15	0	0
17:15	-	17:20	10	0
17:20	-	17:25	0	15
17:25	-	17:30	0	0
17:30	-	17:35	0	0
17:35	-	17:40	0	0
17:40	-	17:45	0	15
17:45	-	17:50	10	0
17:50	-	17:55	0	0
17:55	-	18:00	0	0
18:00	-	18:05	0	0
18:05	-	18:10	0	0
18:10	-	18:15	10	0
18:15	-	18:20	0	0
18:20	-	18:25	0	0
18:25	-	18:30	0	0

C. Walking Isochrones



KEY

- Application Site Boundary
- 0-500m Travel distance
- 500-1000m Travel distance
- 1000-2000m Travel distance

Rev	Date	Description	By

Amendments

Project
BAKER ROAD, GILTBROOK

Title
WALKING ISOCHRONES

Client
TAYLOR & BURROWS PROPERTY

Waterman
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Drawing Status
PRELIMINARY

Designed by		Checked by	DP	Project No
Drawn by	EM	Date	20/12/2013	CIV15094-100
Scales @ A3 work to figured dimensions only	NTS			Computer File No 004_Walking Isochrones.dwg

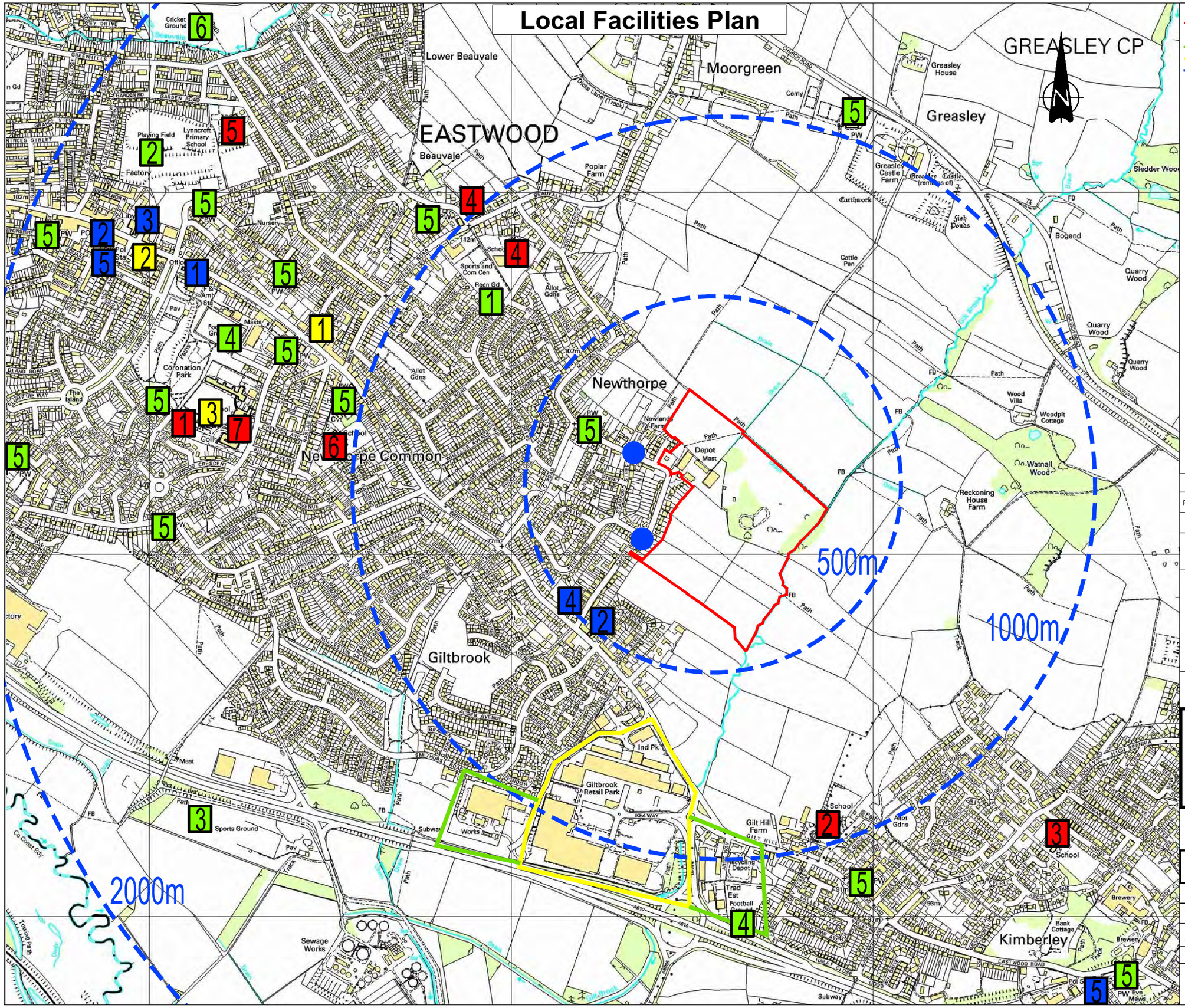
Publisher	Zone	Category	Number	Revision
CIV	NG	06	004	

File Path K:\Projects\CIV15094-100 Baker Road, Giltbrook\Drawings\

A3-Waterman-S

D. Local Facilities Plan

Local Facilities Plan



KEY

- Application Site Boundary
- Bus Stops
- Industrial Area
- Retail Shopping Area
- Travel Distances

Recreation / Leisure Facilities

1. Recreation Ground
2. Playing Field
3. Sports Ground
4. Football Ground
5. Church
6. Cricket Ground

Day Nursery

1. Galaxies Day Nursery

Primary Schools

2. Gilthill Primary School
3. Hollywell Primary School
4. Greasley Beauvale Primary School
5. Lynncroft Primary School
6. Priory Catholic Primary School

College

7. Castle College

Retail and Public Services

1. Fire and Ambulance Station
2. Post Office
3. Library
4. Public House - The Hayloft
5. Police Station

Heath Facilities

1. Stephen Green Dental & Burrows Close Pharrmacy
2. The Eastwood Dental Care
3. New Thorpe Medical Centre

Rev	Date	Description	By

Amendments

Project
BAKER ROAD, GILTBROOK

Title
LOCAL FACILITIES PLAN

Client
TAYLOR & BURROWS PROPERTY

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Drawing Status
PRELIMINARY

Designed by		Checked by DP	Project No CIV15094-100
Drawn by EM		Date 20/12/2013	
Scales @ A3 work to figured dimensions only	NTS		Computer File No 005_Local Facilities Plan.dwg

Publisher	Zone	Category	Number	Revision
CIV	NG	06	005	

File Path K:\Projects\CIV\15094-100 Baker Road, Giltbrook\Drawings\

A3-Waterman-S

E. Public Rights of Way Plan

The rights of way near to Giltbrook using an Ordnance Survey map

This web page is from www.rowmaps.com, a project to show rights of way on maps. The underlying map on this page has been obtained from the Ordnance Survey.

The coloured lines that have been superimposed on this map show rights of way.

The following colours have been used for the coloured lines:
- solid red line: footpath;
- solid fuchsia line: bridleway;
- solid green line: restricted byway;
- solid blue line: byway open to all traffic.

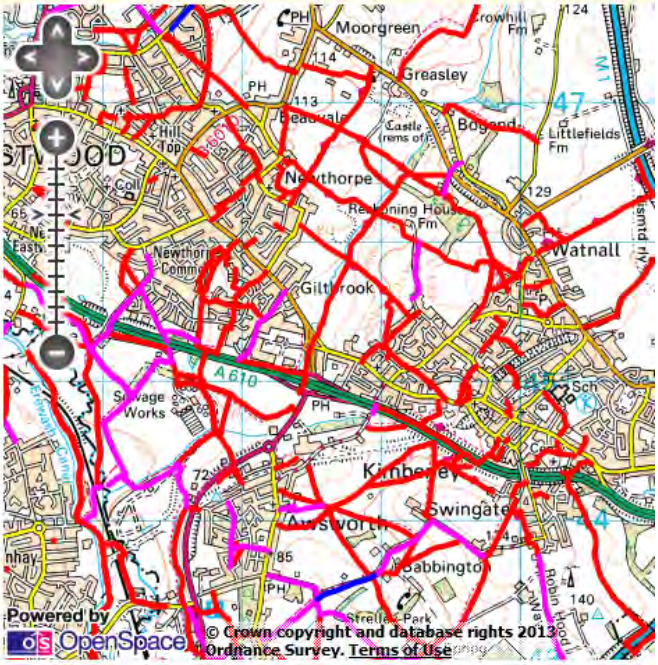
If you click on a coloured line, a popup will appear giving some details about that right of way.

The popup has a button labelled *add to your route* enabling you to build a route of rights of way for a walk, run, etc. Once you've estabished your route you can ask for the route to be output in KML or GPX.

Credits and small print

The underlying map on this web page is provided by OS OpenSpace and this is © Crown copyright and database rights 2012 Ordnance Survey.

The council of Derbyshire releases under licence data containing details of the rights of way that are in Derbyshire. The date of this data is 11th February 2013.



The rights of way near to Giltbrook using an Ordnance Survey map

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Credits and small print

The underlying map on this web page is provided by OS OpenSpace and this is © Crown copyright and database rights 2012 Ordnance Survey.

The council of Nottinghamshire releases under licence data containing details of the rights of way that are in Nottinghamshire. The date of this

F. Cycling in Broxtowe Guide and Sustrans Cycle Network Map

Broxtowe Borough Council

CYCLING IN BROXTOWE

Supported by

KEY

- Purpose-designed facilities, including parts of the Greater Nottingham Cycle Network and other routes suitable for all types of bicycle
- Bridleways suitable for sturdier bicycles
- Connections using quiet roads and lanes away from traffic
- Bridleway less suitable for cycling
- Millennium Cycle Route
- Leisure Centre
- Sites of Interest
- Major Parks/Nature Reserves
- Canals

SEE OTHER SIDE FOR SOUTH OF BOROUGH

This leaflet shows suggested cycling routes in the borough. Cycling is an economical, pollution-free and healthy means of transport which should be encouraged in order to cut down the number of car journeys being made, particularly over relatively short distances. At present it is estimated that 60% of all car trips are under 5 miles.

In order to assist the achievement of these targets, Broxtowe Borough Council will identify suitable additional cycling routes and facilities in the area, and encourage their proper signing and maintenance through appropriate funding, in liaison with Nottinghamshire County Council.

This leaflet also shows Bridleways which may not be suitable for cyclists but which can be used for horse riding.

This map is best used in conjunction with Ordnance Survey Landranger sheet 129.

Broxtowe Borough Council permits cycling on the Nottingham Canal Towpath although it is not a cycle route

SAFETY TIPS

- Make sure your bike is in good working order.
- Always concentrate and try to anticipate what is going to happen ahead of you.
- In bad weather, take extra care to brake smoothly and in plenty of time. Corner gently.
- Wear bright colours during the day and reflective materials at night.
- Put a bicycle bell on your bike to warn pedestrians against wandering into your path.
- Wear a properly fitted cycle helmet.
- Use a cycle lock. 'U' locks are better as they are harder to break.

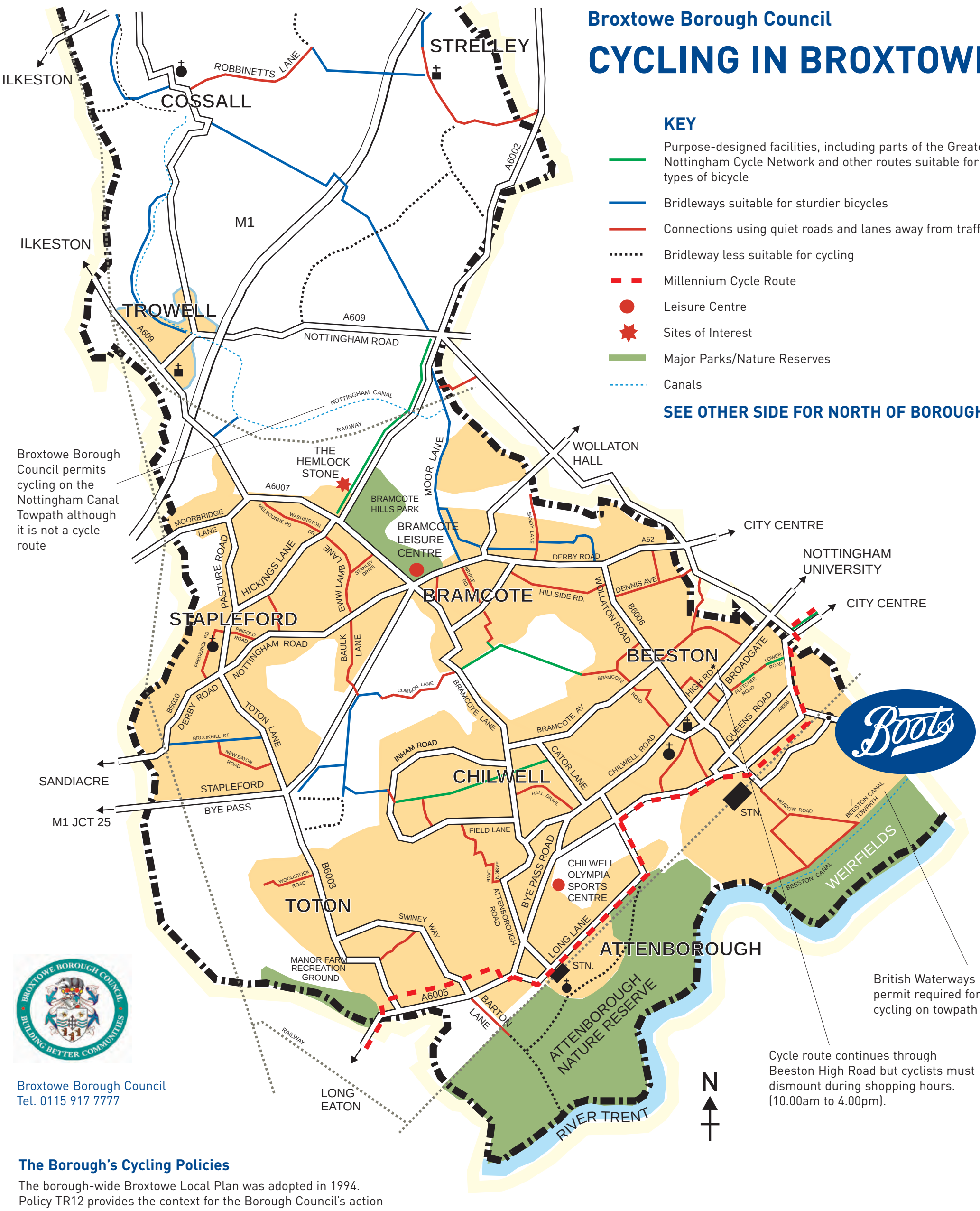
Broxtowe Borough Council

CYCLING IN BROXTOWE

KEY

- Purpose-designed facilities, including parts of the Greater Nottingham Cycle Network and other routes suitable for all types of bicycle
- Bridleways suitable for sturdier bicycles
- Connections using quiet roads and lanes away from traffic
- Bridleway less suitable for cycling
- Millennium Cycle Route
- Leisure Centre
- Sites of Interest
- Major Parks/Nature Reserves
- Canals

SEE OTHER SIDE FOR NORTH OF BOROUGH



Broxtowe Borough Council permits cycling on the Nottingham Canal Towpath although it is not a cycle route

British Waterways permit required for cycling on towpath

Cycle route continues through Beeston High Road but cyclists must dismount during shopping hours. (10.00am to 4.00pm).

Broxtowe Borough Council
Tel. 0115 917 7777

The Borough's Cycling Policies

The borough-wide Broxtowe Local Plan was adopted in 1994. Policy TR12 provides the context for the Borough Council's action on cycling and reads as follows:

"The Borough Council, in conjunction with the County Council, will continue to make provision for cyclists, including safe routes linking houses with shops, schools and employment and recreational cyclways. Large scale new developments should include provision for cyclists."

As part of its assessment of planning applications, the Council is already encouraging new developments to take the needs of cyclists into account.

The Borough's Local Agenda 21, Community Strategy and Travel Plan process will increase awareness of the merits of cycling as a sustainable activity.

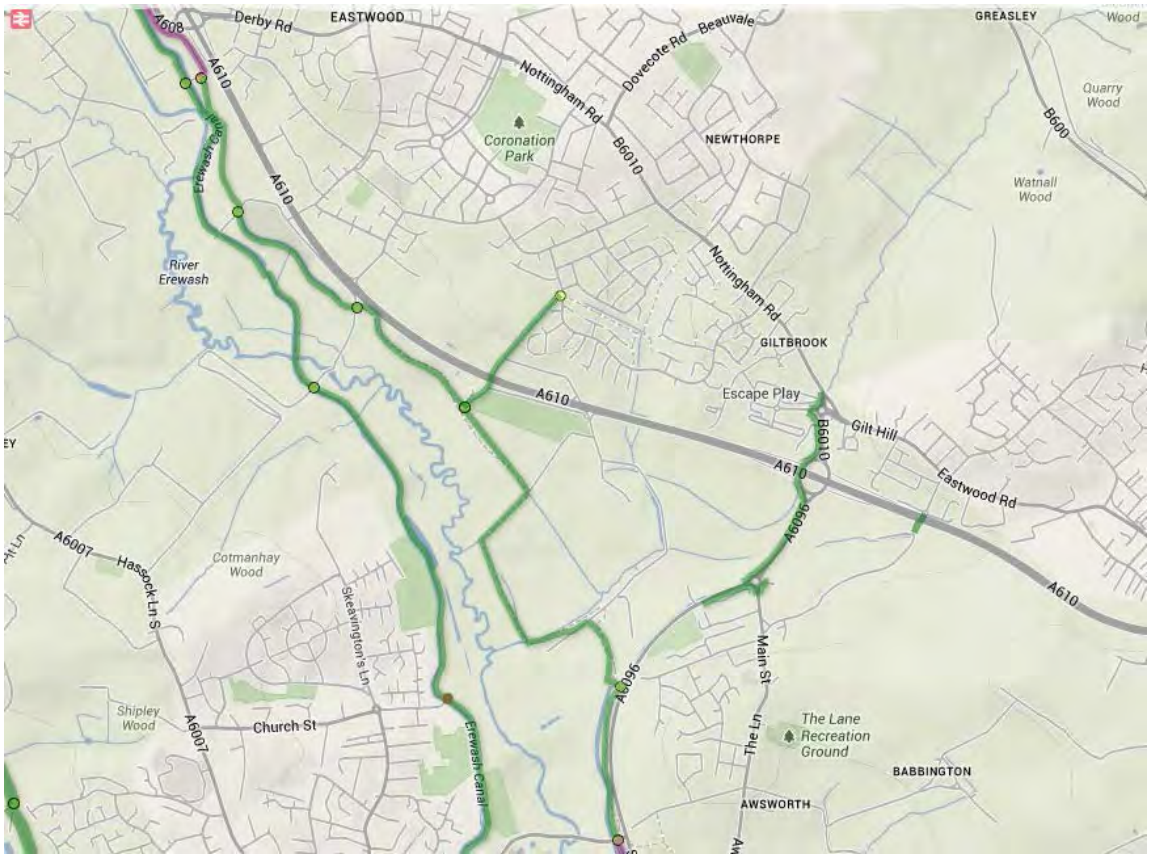
Links to Millennium Cycle Route

The Millennium Cycle Route runs from Inverness to Dover, promoted by Sustrans, a charity awarded funding by the Millennium Commission. The 2,500 mile route opened during 2000 and is the first stage of the 6,500 mile National Cycle Network due for completion by 2005.

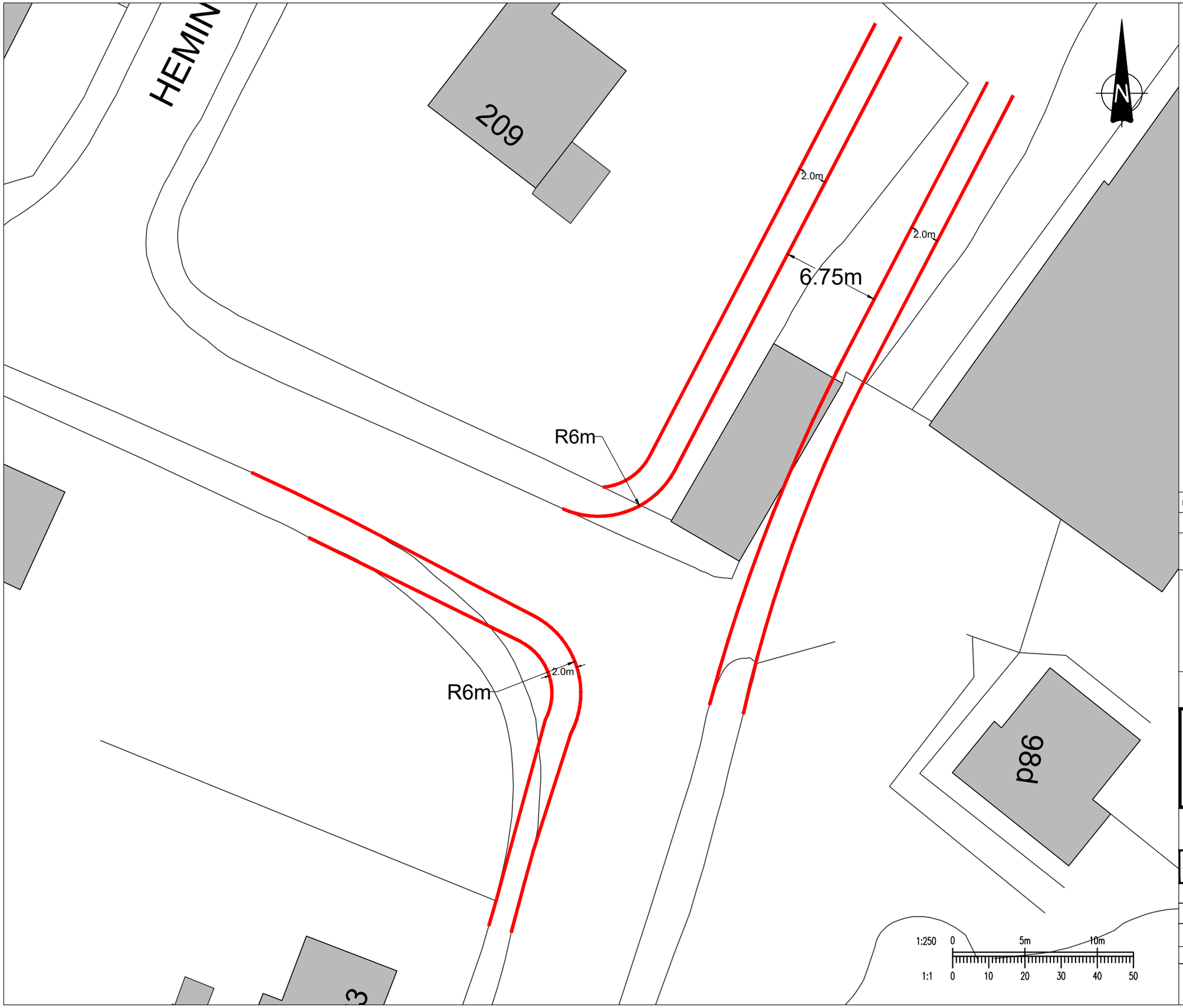
This Millennium route passes through the south of the borough, very close to the Boots site, linking Nottingham and Long Eaton.

This route has immense local value for short journeys as it serves several employment areas, and educational, retail and leisure facilities, as well as providing improved links to the railway station at Beeston and Attenborough.

Cycling Routes in/near Giltbrook by Sustrans



G. Site Access: Priority Junction Option



KEY

Site Access Design

Rev	Date	Description	By
		Amendments	

Project

BAKER ROAD, GILTBROOK

Title

SITE ACCESS DESIGN

Client

TAYLOR & BURROWS PROPERTY

Waterman

Halifax House Halifax Place Nottingham NG1 1QN

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Drawing Status

PRELIMINARY

Designed by	EM	Checked by	DP
Drawn by	EM	Date	12/12/2013
Scales @ A3 work to figured dimensions only	1:250		

Project No: CIV15094-100

Computer File No: 001_Site Access Design.dwg

Publisher	Zone	Category	Number	Revision
CIV	NG	06	001	

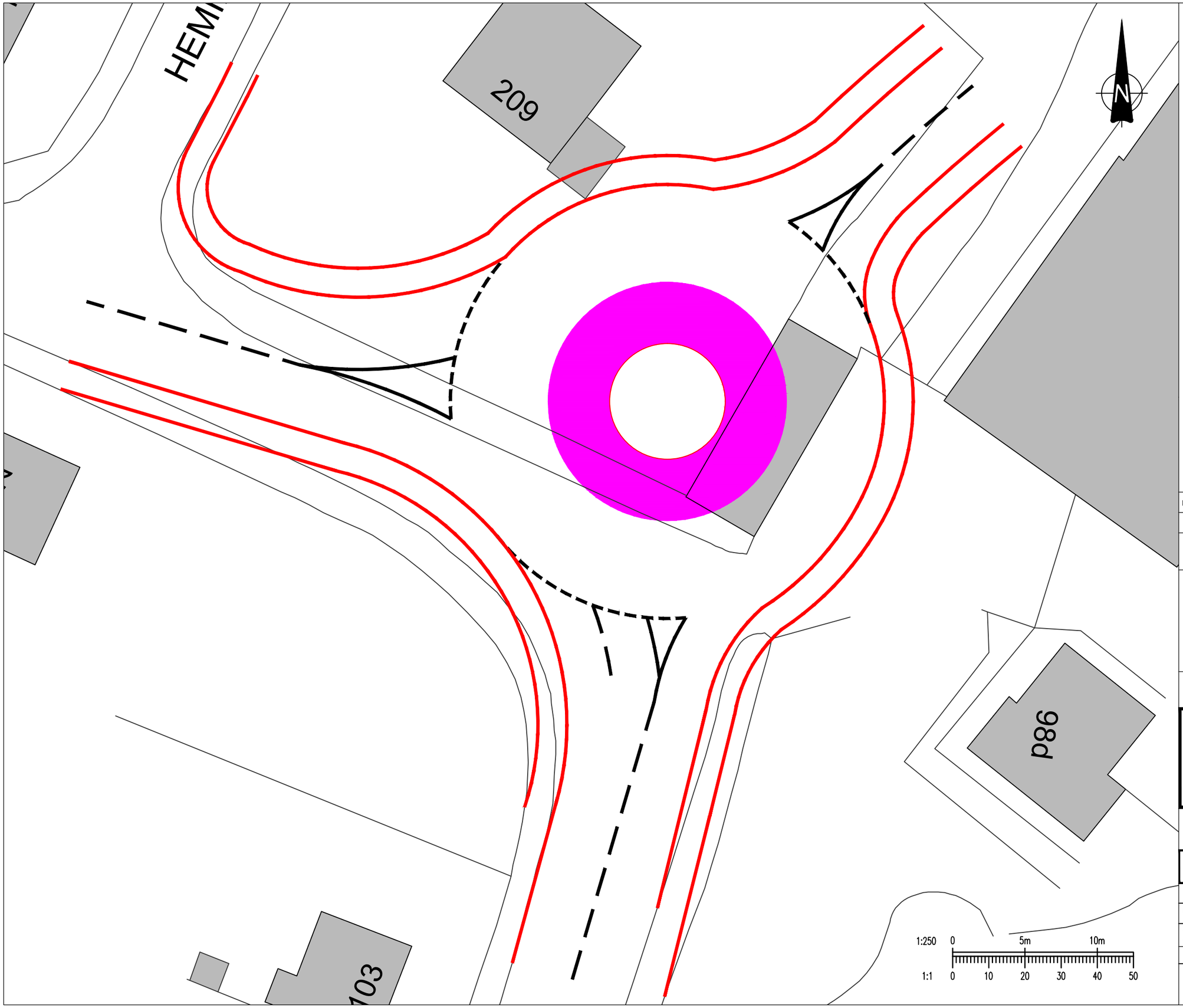
1:250 0 5m 10m

1:1 0 10 20 30 40 50

File Path K:\Projects\CIV\15094-100 Baker Road, Giltbrook\Drawings\

A3-Waterman-S

H. Site Access: Roundabout Junction Option



KEY

Site Access Design
Central overrun area

Rev	Date	Description	By
		Amendments	

Project
BAKER ROAD, GILTBROOK

Title
SITE ACCESS DESIGN - ROUNDABOUT

Client
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Drawing Status
PRELIMINARY

Designed by	EM	Checked by	DP	Project No CIV15094-100
Drawn by	EM	Date	17/12/2013	
Scales @ A3 work to figured dimensions only	1:250			Computer File No 002_Site Access Design.dwg

Publisher	Zone	Category	Number	Revision
CIV	NG	06	002	

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A3-Waterman-S

I. TRICS Data

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	WO	WORCESTERSHIRE	1 days
08	NORTH WEST		
	MS	MERSEYSIDE	1 days
09	NORTH		
	TV	TEES VALLEY	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: 150 to 372 (units:)
Range Selected by User: 150 to 700 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/05 to 20/07/08

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	1 days
Tuesday	2 days
Wednesday	1 days
Thursday	4 days

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

Selected survey types:

Manual count	8 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 undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	5
Neighbourhood Centre (PPS6 Local Centre)	1

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
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

Filtering Stage 3 selection:

Use Class:

C3	8 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:

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

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

Population within 5 miles:

75,001 to 100,000	2 days
100,001 to 125,000	2 days
125,001 to 250,000	4 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	4 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	8 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.

LIST OF SITES relevant to selection parameters

1 EX-03-A-01 SEMI-DET. ESSEX
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08 Survey Type: MANUAL

2 LN-03-A-01 MIXED HOUSES LINCOLNSHIRE
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY 15/05/07 Survey Type: MANUAL

3 LN-03-A-02 MIXED HOUSES LINCOLNSHIRE
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY 14/05/07 Survey Type: MANUAL

4 MS-03-A-01 TERRACED MERSEYSIDE
PALACE FIELDS AVENUE

RUNCORN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 372
Survey date: THURSDAY 06/10/05 Survey Type: MANUAL

5 NT-03-A-03 SEMI DETACHED NOTTINGHAMSHIRE
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY 28/06/06 Survey Type: MANUAL

6 SF-03-A-02 SEMI DET./TERRACED SUFFOLK
STOKE PARK DRIVE
MAIDENHALL
IPSWICH
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY 24/05/07 Survey Type: MANUAL

7 TV-03-A-01 HOUSES & FLATS TEES VALLEY
POWLETT ROAD

HARTLEPOOL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 225
Survey date: THURSDAY 14/04/05 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 WO-03-A-06 DET./TERRACED WORCESTERSHIRE
ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	8	225	0.087	8	225	0.279	8	225	0.366
08:00 - 09:00	8	225	0.148	8	225	0.412	8	225	0.560
09:00 - 10:00	8	225	0.162	8	225	0.204	8	225	0.366
10:00 - 11:00	8	225	0.146	8	225	0.190	8	225	0.336
11:00 - 12:00	8	225	0.188	8	225	0.181	8	225	0.369
12:00 - 13:00	8	225	0.183	8	225	0.187	8	225	0.370
13:00 - 14:00	8	225	0.176	8	225	0.175	8	225	0.351
14:00 - 15:00	8	225	0.195	8	225	0.190	8	225	0.385
15:00 - 16:00	8	225	0.309	8	225	0.217	8	225	0.526
16:00 - 17:00	8	225	0.310	8	225	0.199	8	225	0.509
17:00 - 18:00	8	225	0.413	8	225	0.241	8	225	0.654
18:00 - 19:00	8	225	0.285	8	225	0.241	8	225	0.526
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.602			2.716			5.318

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:	150 - 372 (units:)
Survey date date range:	01/01/05 - 20/07/08
Number of weekdays (Monday-Friday):	8
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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	8	225	0.129	8	225	0.399	8	225	0.528
08:00 - 09:00	8	225	0.236	8	225	0.825	8	225	1.061
09:00 - 10:00	8	225	0.225	8	225	0.315	8	225	0.540
10:00 - 11:00	8	225	0.211	8	225	0.281	8	225	0.492
11:00 - 12:00	8	225	0.261	8	225	0.263	8	225	0.524
12:00 - 13:00	8	225	0.264	8	225	0.266	8	225	0.530
13:00 - 14:00	8	225	0.259	8	225	0.250	8	225	0.509
14:00 - 15:00	8	225	0.290	8	225	0.274	8	225	0.564
15:00 - 16:00	8	225	0.684	8	225	0.378	8	225	1.062
16:00 - 17:00	8	225	0.497	8	225	0.333	8	225	0.830
17:00 - 18:00	8	225	0.609	8	225	0.387	8	225	0.996
18:00 - 19:00	8	225	0.436	8	225	0.404	8	225	0.840
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.101			4.375			8.476

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

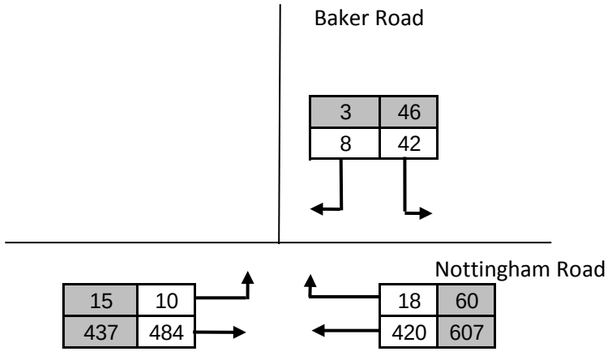
Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/05 - 20/07/08
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

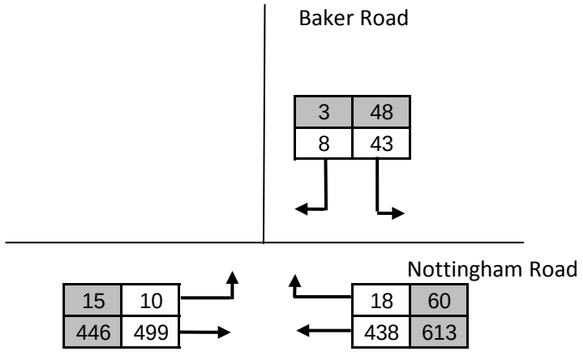
J. Traffic Network Diagrams

AM
PM

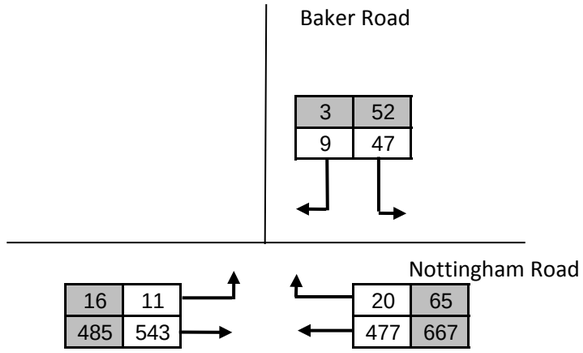
Base Traffic Data (2013) - Vehicles



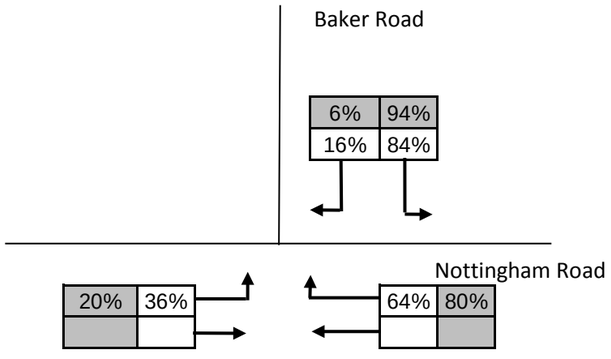
Base Traffic Data (2013)



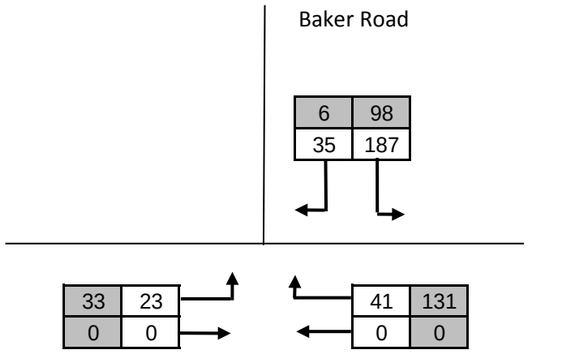
Base Traffic Data (2019)



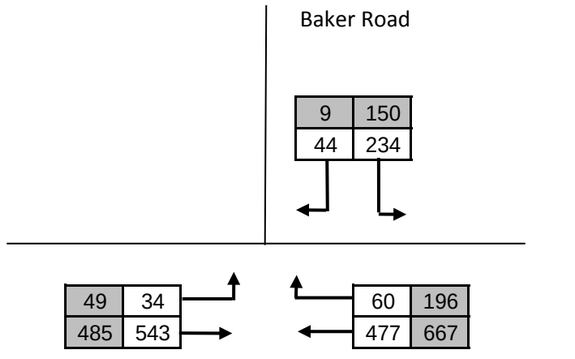
Development Traffic - Distribution



Development Traffic - Assignment



Base & Development Traffic Data (2019)



Notes:

1: All traffic flows are in Passenger Car Units (PCU) Unless otherwise stated

2: Highway Peak Hours **AM = 8:00am - 9:00am**
PM = 17:00pm - 18:00pm

3: Growth Factors **2013 - 2019 AM =** **1.088**
2013 - 2019 PM = **1.088**

4: Junction layout has been simplified and is not representative to the actual layout

5: Trip Generation based on TRICS outputs and 2011 Census Method of Travel to Work

K. Site Access Priority Junction Option: Capacity Assessments

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

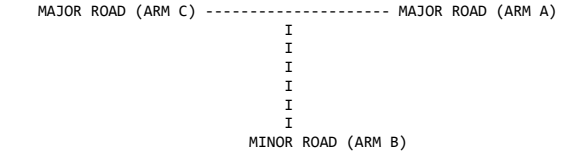
Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\Site Access\
2019 AM Peak with Development Site Access 140103.vpi"
(drive-on-the-left) at 16:44:17 on Friday, 3 January 2014

.RUN INFORMATION
****

RUN TITLE: 2019 AM Peak With Development Proposed Access
LOCATION: Main Street/ Baker Road
DATE: 02/01/14
CLIENT:
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Baker Road
ARM B IS Main Street
ARM C IS Site Access

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	120.0 M.
- BLOCKS TRAFFIC		YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	19.0 M.
- VISIBILITY TO RIGHT	(VB-A)	32.0 M.
- LANE 1 WIDTH	(WB-C)	4.54 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
743.39	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
576.47	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START TO RISE	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO TOP OF PEAK	NUMBER OF MINUTES FROM START WHEN FLOW STOPS IS REACHED FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.19	1.78	1.19
ARM B	15.00	45.00	75.00	0.70	1.05	0.70
ARM C	15.00	45.00	75.00	2.78	4.16	2.78

.

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.326	0.674
		0.0	31.0	64.0
		(0.0)	(0.0)	(0.0)
	ARM B	1.000	0.000	0.000
		56.0	0.0	0.0
		(0.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000
		222.0	0.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
07.45-08.00									
B-AC	0.70	8.94	0.079		0.00	0.08	1.2		0.12
C-AB	0.00	9.50	0.000		0.00	0.00	0.0		0.00
C-A	2.79								
A-B	0.39								
A-C	0.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	0.84	8.81	0.095		0.08	0.10	1.5		0.13
C-AB	0.00	9.45	0.000		0.00	0.00	0.0		0.00
C-A	3.33								
A-B	0.46								
A-C	0.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.03	8.62	0.119		0.10	0.13	2.0		0.13
C-AB	0.00	9.38	0.000		0.00	0.00	0.0		0.00
C-A	4.07								
A-B	0.57								
A-C	1.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.03	8.62	0.119		0.13	0.13	2.0		0.13
C-AB	0.00	9.38	0.000		0.00	0.00	0.0		0.00
C-A	4.07								
A-B	0.57								
A-C	1.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	0.84	8.81	0.095		0.13	0.11	1.6		0.13
C-AB	0.00	9.45	0.000		0.00	0.00	0.0		0.00
C-A	3.33								
A-B	0.46								
A-C	0.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.70	8.94	0.079		0.11	0.09	1.3		0.12
C-AB	0.00	9.50	0.000		0.00	0.00	0.0		0.00
C-A	2.79								
A-B	0.39								
A-C	0.80								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0

08.45	0.0
09.00	0.0
09.15	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	77.1	51.4	9.7	0.13	9.7	0.13
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	305.6	203.7				
A-B	42.7	28.4				
A-C	88.1	58.7				
ALL	513.4	342.3	9.7	0.02	9.7	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\Site Access\
2019 PM Peak with Development Site Access 140103.vpi"
(drive-on-the-left) at 16:54:04 on Friday, 3 January 2014

.RUN INFORMATION
****

RUN TITLE: 2019 PM Peak With Development Proposed Access
LOCATION: Main Street/ Baker Road
DATE: 02/01/14
CLIENT:
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Baker Road
ARM B IS Main Street
ARM C IS Site Access

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.50 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 19.0 M.
- VISIBILITY TO RIGHT	(VB-A) 32.0 M.
- LANE 1 WIDTH	(WB-C) 4.54 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
743.39	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
576.47	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	3.06	4.59	3.06
ARM B	15.00	45.00	75.00	0.69	1.03	0.69
ARM C	15.00	45.00	75.00	1.30	1.95	1.30

.

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S)		
		ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.331	0.669
		0.0	81.0	164.0
		(0.0)	(0.0)	(0.0)
	ARM B	1.000	0.000	0.000
		55.0	0.0	0.0
		(0.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000
		104.0	0.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
16.45-17.00									
	B-AC	0.69	8.79	0.078	0.00	0.08	1.2		0.12
	C-AB	0.00	9.10	0.000	0.00	0.00	0.0		0.00
	C-A	1.30							
	A-B	1.02							
	A-C	2.06							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.82	8.64	0.095		0.08	0.10	1.5		0.13
C-AB	0.00	8.97	0.000		0.00	0.00	0.0		0.00
C-A	1.56								
A-B	1.21								
A-C	2.46								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.01	8.42	0.120		0.10	0.13	2.0		0.13
C-AB	0.00	8.80	0.000		0.00	0.00	0.0		0.00
C-A	1.91								
A-B	1.49								
A-C	3.01								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.01	8.42	0.120		0.13	0.14	2.0		0.13
C-AB	0.00	8.80	0.000		0.00	0.00	0.0		0.00
C-A	1.91								
A-B	1.49								
A-C	3.01								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.82	8.64	0.095		0.14	0.11	1.6		0.13
C-AB	0.00	8.97	0.000		0.00	0.00	0.0		0.00
C-A	1.56								
A-B	1.21								
A-C	2.46								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.69	8.79	0.078		0.11	0.09	1.3		0.12
C-AB	0.00	9.10	0.000		0.00	0.00	0.0		0.00
C-A	1.30								
A-B	1.02								
A-C	2.06								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0

17.45	0.0
18.00	0.0
18.15	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	75.7	50.5	9.7	0.13	9.7	0.13
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	143.1	95.4				
A-B	111.5	74.3				
A-C	225.7	150.5				
ALL	556.1	370.7	9.7	0.02	9.7	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

L. Site Access Roundabout Junction Option: Capacity Assessments

_____ A R C A D Y 6 _____

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 7.0 (FEBRUARY 2010)

_____

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770758
Crowthorne House Fax: +44 (0) 1344 770356
Nine Mile Ride Email: software@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

Run with file:-
"k:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\Site Access\
2019 Base + Development AM Peak.vai"
(drive-on-the-left) at 11:20:11 on Friday, 3 January 2014

.FILE PROPERTIES
****

RUN TITLE: Baker Road / Site Access Junction
LOCATION: Baker Road; Giltbrook
DATE: 03/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmnjh [NMM-05]
JOB NUMBER: CIV15094
STATUS: On-going
DESCRIPTION: Geometry based upon Drawing CIVNG06002

.INPUT DATA
****
ARM A - Baker Road West
ARM B - Site Access
ARM C - Baker Road South

.GEOMETRIC DATA

T5

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	5.00	5.00	0.00	12.00	30.00	38.0	0.583	23.726
ARM B	3.35	3.35	0.00	17.00	30.00	30.0	0.513	16.772
ARM C	4.30	6.60	10.00	18.00	30.00	28.0	0.660	28.448

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

Only sets included in the current run are shown
.SCALING FACTORS
.---------- T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
.LENGTH OF TIME PERIOD -(90) MINUTES
.LENGTH OF TIME SEGMENT - (15) MINUTES

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

.DEMAND SET TITLE: 2019 Base + Development Traffic AM Peak

T15

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	0.69	1.03	0.69	

ARM B	15.00	45.00	75.00	2.78	4.16	2.78
ARM C	15.00	45.00	75.00	1.19	1.78	1.19

DEMAND SET TITLE: 2019 Base + Development Traffic AM Peak

T33

TIME	FROM/T	TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.000	1.000
		0.0	0.0	55.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	222.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.326	0.674	0.000
		31.0	64.0	0.0
		(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
ARM A	0.69	23.26	0.030	- -	-	0.0	0.0	0.5	-	0.044
ARM B	2.79	16.42	0.170	- -	-	0.0	0.2	3.0	-	0.073
ARM C	1.19	28.45	0.042	- -	-	0.0	0.0	0.6	-	0.037
08.00-08.15									
ARM A	0.82	23.17	0.036	- -	-	0.0	0.0	0.5	-	0.045
ARM B	3.33	16.35	0.203	- -	-	0.2	0.3	3.7	-	0.077
ARM C	1.42	28.45	0.050	- -	-	0.0	0.1	0.8	-	0.037
08.15-08.30									
ARM A	1.01	23.04	0.044	- -	-	0.0	0.0	0.7	-	0.045
ARM B	4.07	16.25	0.251	- -	-	0.3	0.3	4.9	-	0.082
ARM C	1.74	28.45	0.061	- -	-	0.1	0.1	1.0	-	0.037
08.30-08.45									
ARM A	1.01	23.04	0.044	- -	-	0.0	0.0	0.7	-	0.045
ARM B	4.07	16.25	0.251	- -	-	0.3	0.3	5.0	-	0.082
ARM C	1.74	28.45	0.061	- -	-	0.1	0.1	1.0	-	0.037
08.45-09.00									
ARM A	0.82	23.17	0.036	- -	-	0.0	0.0	0.6	-	0.045
ARM B	3.33	16.35	0.203	- -	-	0.3	0.3	3.9	-	0.077
ARM C	1.42	28.45	0.050	- -	-	0.1	0.1	0.8	-	0.037
09.00-09.15									
ARM A	0.69	23.26	0.030	- -	-	0.0	0.0	0.5	-	0.044
ARM B	2.79	16.42	0.170	- -	-	0.3	0.2	3.1	-	0.073
ARM C	1.19	28.45	0.042	- -	-	0.1	0.0	0.7	-	0.037

.QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

.QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.3
08.45	0.3
09.00	0.3
09.15	0.2

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH) (VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	75.7 50.5	3.4	0.04	3.4	0.04
B	305.6 203.7	23.7	0.08	23.7	0.08
C	130.8 87.2	4.8	0.04	4.8	0.04
ALL	512.0 341.4	31.9	0.06	31.9	0.06

T75

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

_____ A R C A D Y 6 _____

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 7.0 (FEBRUARY 2010)

_____

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770758
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RG40 3GA,UK

Run with file:-
"k:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\Site Access\
2019 Base + Development PM Peak.vai"
(drive-on-the-left) at 11:21:52 on Friday, 3 January 2014

.FILE PROPERTIES
****

RUN TITLE: Baker Road / Site Access Junction
LOCATION: Baker Road; Giltbrook
DATE: 03/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmnjh [NMM-05]
JOB NUMBER: CIV15094
STATUS: On-going
DESCRIPTION: Geometry based upon Drawing CIVNG06002

.INPUT DATA
****
ARM A - Baker Road West
ARM B - Site Access
ARM C - Baker Road South

.GEOMETRIC DATA

T5

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	5.00	5.00	0.00	12.00	30.00	38.0	0.583	23.726
ARM B	3.35	3.35	0.00	17.00	30.00	30.0	0.513	16.772
ARM C	4.30	6.60	10.00	18.00	30.00	28.0	0.660	28.448

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

Only sets included in the current run are shown
.SCALING FACTORS
.---------- T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
.LENGTH OF TIME PERIOD -(90) MINUTES
.LENGTH OF TIME SEGMENT - (15) MINUTES

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

.DEMAND SET TITLE: 2019 Base + Development Traffic PM Peak

T15

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	0.70	1.05	0.70	

I ARM B I	15.00 I	45.00 I	75.00 I	1.30 I	1.95 I	1.30 I
I ARM C I	15.00 I	45.00 I	75.00 I	3.08 I	4.61 I	3.08 I

DEMAND SET TITLE: 2019 Base + Development Traffic PM Peak

T33

TIME	FROM/T	ARM A	ARM B	ARM C
16.45 - 18.15		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
	ARM A	0.000 0.0 (0.0)	0.000 0.0 (0.0)	1.000 56.0 (0.0)
	ARM B	0.000 0.0 (0.0)	0.000 0.0 (0.0)	1.000 104.0 (0.0)
	ARM C	0.333 82.0 (0.0)	0.667 164.0 (0.0)	0.000 0.0 (0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
ARM A	0.70	22.53	0.031	- -	-	0.0	0.0	0.5	-	0.046
ARM B	1.30	16.41	0.080	- -	-	0.0	0.1	1.3	-	0.066
ARM C	3.09	28.45	0.109	- -	-	0.0	0.1	1.8	-	0.039
17.00-17.15									
ARM A	0.84	22.29	0.038	- -	-	0.0	0.0	0.6	-	0.047
ARM B	1.56	16.34	0.095	- -	-	0.1	0.1	1.6	-	0.068
ARM C	3.69	28.45	0.130	- -	-	0.1	0.1	2.2	-	0.040
17.15-17.30									
ARM A	1.03	21.97	0.047	- -	-	0.0	0.0	0.7	-	0.048
ARM B	1.91	16.24	0.117	- -	-	0.1	0.1	2.0	-	0.070
ARM C	4.51	28.45	0.159	- -	-	0.1	0.2	2.8	-	0.042
17.30-17.45									
ARM A	1.03	21.97	0.047	- -	-	0.0	0.0	0.7	-	0.048
ARM B	1.91	16.24	0.117	- -	-	0.1	0.1	2.0	-	0.070
ARM C	4.51	28.45	0.159	- -	-	0.2	0.2	2.8	-	0.042
17.45-18.00									
ARM A	0.84	22.29	0.038	- -	-	0.0	0.0	0.6	-	0.047
ARM B	1.56	16.34	0.095	- -	-	0.1	0.1	1.6	-	0.068
ARM C	3.69	28.45	0.130	- -	-	0.2	0.1	2.3	-	0.040
18.00-18.15									
ARM A	0.70	22.52	0.031	- -	-	0.0	0.0	0.5	-	0.046
ARM B	1.30	16.41	0.080	- -	-	0.1	0.1	1.3	-	0.066
ARM C	3.09	28.45	0.109	- -	-	0.1	0.1	1.8	-	0.039

.QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

.QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *		T75
	(VEH) (VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
A	77.1 51.4	3.6	0.05	3.6	0.05	
B	143.1 95.4	9.7	0.07	9.7	0.07	
C	338.6 225.7	13.7	0.04	13.7	0.04	
ALL	558.8 372.6	27.0	0.05	27.0	0.05	

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

M. Nottingham Road/ Baker Road: Capacity Assessments

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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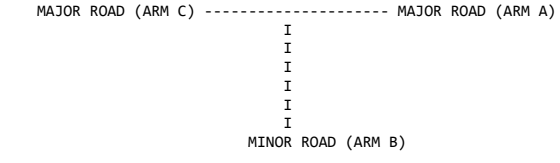
Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\
Nottingham Rd Baker Rd Existing layout 140102.vpi"
(drive-on-the-left) at 13:08:45 on Thursday, 2 January 2014

.RUN INFORMATION
****

RUN TITLE: 2013 AM Peak Nottingham Road/ Baker Road Existing Layout
LOCATION: Nottingham Road/Baker Road
DATE: 02/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Nottingham Road (West)
ARM B IS Baker Road
ARM C IS Nottingham Road (East)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 30.0 M.
- VISIBILITY TO RIGHT	(VB-A) 15.0 M.
- LANE 1 WIDTH	(WB-C) 4.52 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
729.77	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
569.96	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START TO FLOW STARTS RISE	NUMBER OF MINUTES FROM START TO TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START TO FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.36	9.54	6.36
ARM B	15.00	45.00	75.00	0.64	0.96	0.64
ARM C	15.00	45.00	75.00	5.70	8.55	5.70

.

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.020	0.980
		0.0	10.0	499.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.157	0.000	0.843
		8.0	0.0	43.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.961	0.039	0.000
		438.0	18.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
07.45-08.00									
B-AC	0.64	9.80	0.065		0.00	0.07	1.0		0.11
C-AB	0.37	12.97	0.029		0.00	0.04	0.6		0.08
C-A	5.35								
A-B	0.13								
A-C	6.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	0.76	9.43	0.081		0.07	0.09	1.3		0.12
C-AB	0.49	13.42	0.037		0.04	0.05	0.8		0.08
C-A	6.34								
A-B	0.15								
A-C	7.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	0.94	8.92	0.105		0.09	0.12	1.7		0.13
C-AB	0.73	14.27	0.051		0.05	0.08	1.2		0.07
C-A	7.63								
A-B	0.18								
A-C	9.16								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	0.94	8.92	0.105		0.12	0.12	1.7		0.13
C-AB	0.74	14.27	0.052		0.08	0.08	1.2		0.07
C-A	7.63								
A-B	0.18								
A-C	9.16								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	0.76	9.43	0.081		0.12	0.09	1.4		0.12
C-AB	0.49	13.43	0.037		0.08	0.05	0.8		0.08
C-A	6.34								
A-B	0.15								
A-C	7.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.64	9.80	0.065		0.09	0.07	1.1		0.11
C-AB	0.37	12.98	0.029		0.05	0.04	0.6		0.08
C-A	5.35								
A-B	0.13								
A-C	6.26								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1

08.45	0.1
09.00	0.1
09.15	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	70.2	46.8	8.2	0.12	8.2	0.12
C-AB	48.0	32.0	5.0	0.10	5.0	0.10
C-A	579.6	386.4				
A-B	13.8	9.2				
A-C	686.8	457.9				
ALL	1398.4	932.3	13.2	0.01	13.2	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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EMAIL: SoftwareBureau@trl.co.uk

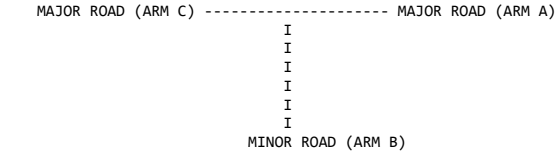
Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\
Nottingham Rd Baker Rd Existing layout PM Peak 140102.vpi"
(drive-on-the-left) at 13:17:47 on Thursday, 2 January 2014

.RUN INFORMATION

RUN TITLE: 2013 PM Peak Nottingham Road/ Baker Road Existing Layout PM Peak
LOCATION: Nottingham Road/Baker Road
DATE: 02/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Nottingham Road (West)
ARM B IS Baker Road
ARM C IS Nottingham Road (East)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 30.0 M.
- VISIBILITY TO RIGHT	(VB-A) 15.0 M.
- LANE 1 WIDTH	(WB-C) 4.52 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
729.77	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
569.96	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.76	8.64	5.76
ARM B	15.00	45.00	75.00	0.64	0.96	0.64
ARM C	15.00	45.00	75.00	8.41	12.62	8.41

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TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15				
	ARM A	0.000	0.033	0.967
		0.0	15.0	446.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.059	0.000	0.941
		3.0	0.0	48.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.911	0.089	0.000
		613.0	60.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS (PERCENTAGE OF H.V.S)
TURNING COUNTS (VEH/HR)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
16.45-17.00									
	B-AC	0.64	10.36	0.062	0.00	0.07	1.0		0.10
	C-AB	1.55	14.63	0.106	0.00	0.23	3.4		0.08
	C-A	6.90							
	A-B	0.19							
	A-C	5.60							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.76	10.03	0.076		0.07	0.08	1.2		0.11
C-AB	2.13	15.42	0.138		0.23	0.34	5.2		0.08
C-A	7.96								
A-B	0.22								
A-C	6.68								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.94	9.57	0.098		0.08	0.11	1.6		0.12
C-AB	3.28	16.67	0.197		0.34	0.56	8.5		0.07
C-A	9.07								
A-B	0.28								
A-C	8.18								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.94	9.57	0.098		0.11	0.11	1.6		0.12
C-AB	3.29	16.68	0.197		0.56	0.57	8.6		0.07
C-A	9.06								
A-B	0.28								
A-C	8.18								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.76	10.03	0.076		0.11	0.08	1.3		0.11
C-AB	2.13	15.43	0.138		0.57	0.36	5.4		0.08
C-A	7.95								
A-B	0.22								
A-C	6.68								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.64	10.35	0.062		0.08	0.07	1.0		0.10
C-AB	1.56	14.64	0.106		0.36	0.24	3.6		0.08
C-A	6.89								
A-B	0.19								
A-C	5.60								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.6 *

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  17.45           0.6    *
  18.00           0.4
  18.15           0.2
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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	70.2	46.8	7.6	0.11	7.6	0.11
C-AB	209.1	139.4	34.6	0.17	34.6	0.17
C-A	717.3	478.2				
A-B	20.6	13.8				
A-C	613.9	409.3				
ALL	1631.1	1087.4	42.2	0.03	42.2	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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EMAIL: SoftwareBureau@trl.co.uk

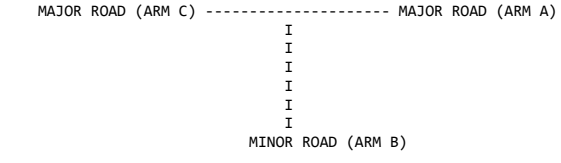
Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\
2019 AM Peak Nottingham Rd BaKer Rd Existing layout 140102.vpi"
(drive-on-the-left) at 14:14:27 on Thursday, 2 January 2014

.RUN INFORMATION
****

RUN TITLE: 2019 AM Peak Existing Layout
LOCATION: Nottingham Road/Baker Road
DATE: 02/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Nottingham Road (West)
ARM B IS Baker Road
ARM C IS Nottingham Road (East)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 30.0 M.
- VISIBILITY TO RIGHT	(VB-A) 15.0 M.
- LANE 1 WIDTH	(WB-C) 4.52 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
729.77	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
569.96	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.93	10.39	6.93
ARM B	15.00	45.00	75.00	0.70	1.05	0.70
ARM C	15.00	45.00	75.00	6.21	9.32	6.21

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TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15				
	ARM A	0.000	0.020	0.980
		0.0	11.0	543.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.161	0.000	0.839
		9.0	0.0	47.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.960	0.040	0.000
		477.0	20.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS (PERCENTAGE OF H.V.S)
TURNING COUNTS (VEH/HR)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
07.45-08.00									
B-AC	0.70	9.62	0.073		0.00	0.08	1.1		0.11
C-AB	0.43	13.18	0.033		0.00	0.04	0.6		0.08
C-A	5.80								
A-B	0.14								
A-C	6.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	0.84	9.21	0.091		0.08	0.10	1.5		0.12
C-AB	0.57	13.67	0.042		0.04	0.06	0.9		0.08
C-A	6.87								
A-B	0.16								
A-C	8.14								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.03	8.64	0.119		0.10	0.13	2.0		0.13
C-AB	0.88	14.61	0.060		0.06	0.10	1.5		0.07
C-A	8.24								
A-B	0.20								
A-C	9.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.03	8.64	0.119		0.13	0.13	2.0		0.13
C-AB	0.88	14.62	0.060		0.10	0.10	1.5		0.07
C-A	8.24								
A-B	0.20								
A-C	9.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	0.84	9.21	0.091		0.13	0.10	1.6		0.12
C-AB	0.58	13.67	0.042		0.10	0.06	0.9		0.08
C-A	6.87								
A-B	0.16								
A-C	8.14								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.70	9.62	0.073		0.10	0.08	1.2		0.11
C-AB	0.43	13.18	0.033		0.06	0.04	0.7		0.08
C-A	5.80								
A-B	0.14								
A-C	6.81								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1

08.45	0.1
09.00	0.1
09.15	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	77.1	51.4	9.3	0.12	9.3	0.12
C-AB	56.6	37.8	6.1	0.11	6.1	0.11
C-A	627.4	418.3				
A-B	15.1	10.1				
A-C	747.4	498.3				
ALL	1523.7	1015.8	15.4	0.01	15.4	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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TRL SOFTWARE BUREAU
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EMAIL: SoftwareBureau@trl.co.uk

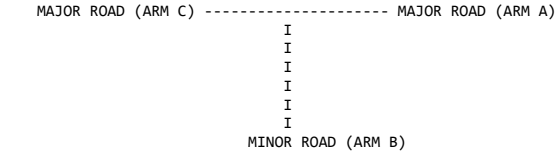
Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\
2019 PM Peak Nottingham Rd BaKer Rd Existing layout 140102.vpi"
(drive-on-the-left) at 14:11:23 on Thursday, 2 January 2014

.RUN INFORMATION

RUN TITLE: 2019 PM Peak Existing Layout
LOCATION: Nottingham Road/Baker Road
DATE: 02/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Nottingham Road (West)
ARM B IS Baker Road
ARM C IS Nottingham Road (East)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 30.0 M.
- VISIBILITY TO RIGHT	(VB-A) 15.0 M.
- LANE 1 WIDTH	(WB-C) 4.52 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
729.77	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
569.96	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.26	9.39	6.26
ARM B	15.00	45.00	75.00	0.69	1.03	0.69
ARM C	15.00	45.00	75.00	9.15	13.72	9.15

.

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.032	0.968
		0.0	16.0	485.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.055	0.000	0.945
		3.0	0.0	52.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.911	0.089	0.000
		667.0	65.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
16.45-17.00									
B-AC	0.69	10.24	0.067		0.00	0.07	1.0		0.10
C-AB	1.78	14.99	0.119		0.00	0.27	4.1		0.08
C-A	7.40								
A-B	0.20								
A-C	6.09								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.82	9.88	0.083		0.07	0.09	1.3		0.11
C-AB	2.56	15.97	0.161		0.27	0.42	6.4		0.07
C-A	8.40								
A-B	0.24								
A-C	7.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.01	9.38	0.108		0.09	0.12	1.8		0.12
C-AB	3.92	17.23	0.228		0.42	0.70	10.5		0.08
C-A	9.51								
A-B	0.29								
A-C	8.90								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.01	9.38	0.108		0.12	0.12	1.8		0.12
C-AB	3.93	17.24	0.228		0.70	0.70	10.7		0.08
C-A	9.50								
A-B	0.29								
A-C	8.90								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.82	9.88	0.083		0.12	0.09	1.4		0.11
C-AB	2.57	15.98	0.161		0.70	0.44	6.6		0.07
C-A	8.39								
A-B	0.24								
A-C	7.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.69	10.24	0.067		0.09	0.07	1.1		0.10
C-AB	1.80	15.00	0.120		0.44	0.29	4.3		0.08
C-A	7.39								
A-B	0.20								
A-C	6.09								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.1	
17.45	0.1	
18.00	0.1	
18.15	0.1	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.4	
17.30	0.7	*

17.45	0.7	*
18.00	0.4	
18.15	0.3	

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	75.7	50.5	8.4	0.11	8.4	0.11
C-AB	248.6	165.7	42.5	0.17	42.5	0.17
C-A	758.9	506.0				
A-B	22.0	14.7				
A-C	667.6	445.0				
ALL	1772.8	1181.9	51.0	0.03	51.0	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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RELEASE 3.0 (JUNE 2006)

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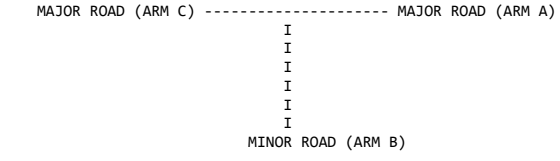
Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\
2019 AM Peak with Development Nottingham Rd Baker Rd Existing layout 140102.vpi"
(drive-on-the-left) at 17:20:48 on Thursday, 2 January 2014

.RUN INFORMATION

RUN TITLE: 2019 AM Peak With Development Existing Layout
LOCATION: Nottingham Road/Baker Road
DATE: 02/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Nottingham Road (West)
ARM B IS Baker Road
ARM C IS Nottingham Road (East)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 30.0 M.
- VISIBILITY TO RIGHT	(VB-A) 15.0 M.
- LANE 1 WIDTH	(WB-C) 4.52 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
729.77	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
569.96	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.21	10.82	7.21
ARM B	15.00	45.00	75.00	3.47	5.21	3.47
ARM C	15.00	45.00	75.00	6.71	10.07	6.71

.

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.059	0.941
		0.0	34.0	543.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.158	0.000	0.842
		44.0	0.0	234.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.888	0.112	0.000
		477.0	60.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
07.45-08.00									
B-AC	3.49	9.55	0.365		0.00	0.57	8.1		0.16
C-AB	1.36	13.24	0.103		0.00	0.21	3.1		0.08
C-A	5.38								
A-B	0.43								
A-C	6.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	4.17	9.12	0.457		0.57	0.82	11.8		0.20
C-AB	1.84	13.78	0.133		0.21	0.30	4.5		0.08
C-A	6.21								
A-B	0.51								
A-C	8.14								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	5.10	8.51	0.599		0.82	1.43	19.9		0.29
C-AB	2.72	14.63	0.186		0.30	0.48	7.2		0.08
C-A	7.13								
A-B	0.62								
A-C	9.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	5.10	8.51	0.599		1.43	1.46	21.7		0.29
C-AB	2.73	14.64	0.186		0.48	0.48	7.3		0.08
C-A	7.13								
A-B	0.62								
A-C	9.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	4.17	9.12	0.457		1.46	0.86	13.7		0.21
C-AB	1.84	13.79	0.134		0.48	0.31	4.7		0.08
C-A	6.20								
A-B	0.51								
A-C	8.14								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	3.49	9.54	0.365		0.86	0.59	9.1		0.17
C-AB	1.37	13.24	0.103		0.31	0.22	3.3		0.08
C-A	5.37								
A-B	0.43								
A-C	6.81								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	0.8	*
08.30	1.4	*
08.45	1.5	*
09.00	0.9	*
09.15	0.6	*

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.5

08.45	0.5
09.00	0.3
09.15	0.2

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	382.6	255.1	84.3	0.22	84.3	0.22
C-AB	177.8	118.5	30.0	0.17	30.0	0.17
C-A	561.3	374.2				
A-B	46.8	31.2				
A-C	747.4	498.3				
ALL	1916.0	1277.3	114.3	0.06	114.3	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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RELEASE 3.0 (JUNE 2006)

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EMAIL: SoftwareBureau@trl.co.uk

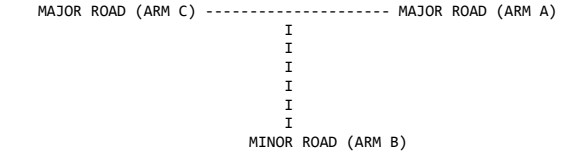
Run with file:-
"K:\Projects\CIV15094-100 Baker Road, Giltbrook\Calcs\Capacity Assessments\
2019 PM Peak with Development Nottingham Rd Baker Rd Existing layout 140102.vpi"
(drive-on-the-left) at 17:18:16 on Thursday, 2 January 2014

.RUN INFORMATION
****

RUN TITLE: 2019 PM Peak With Development Existing Layout
LOCATION: Nottingham Road/Baker Road
DATE: 02/01/14
CLIENT: Ray Valenti
ENUMERATOR: nmdrip [NMM-07]
JOB NUMBER: CIV15094
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Nottingham Road (West)
ARM B IS Baker Road
ARM C IS Nottingham Road (East)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 30.0 M.
- VISIBILITY TO RIGHT	(VB-A) 15.0 M.
- LANE 1 WIDTH	(WB-C) 4.52 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
729.77	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
569.96	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Nottingham Road/ Baker Road Existing Layout

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.68	10.01	6.68
ARM B	15.00	45.00	75.00	1.99	2.98	1.99
ARM C	15.00	45.00	75.00	10.79	16.18	10.79

.

TIME	FROM/TO	TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.092	0.908
		0.0	49.0	485.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.057	0.000	0.943
		9.0	0.0	150.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.773	0.227	0.000
		667.0	196.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Nottingham Road/ Baker Road Existing Layout
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
16.45-17.00									
	B-AC	2.00	10.10	0.198	0.00	0.24	3.5		0.12
	C-AB	5.51	14.99	0.368	0.00	0.98	14.4		0.10
	C-A	5.31							
	A-B	0.61							
	A-C	6.09							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	2.38	9.70	0.246		0.24	0.32	4.7		0.14
C-AB	7.89	15.95	0.494		0.98	1.70	25.6		0.12
C-A	5.05								
A-B	0.73								
A-C	7.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	2.92	9.12	0.320		0.32	0.46	6.7		0.16
C-AB	12.39	17.31	0.716		1.70	4.37	64.3		0.00
C-A	3.45								
A-B	0.90								
A-C	8.90								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	2.92	9.11	0.320		0.46	0.47	7.0		0.16
C-AB	12.56	17.40	0.722		4.37	4.64	72.2		0.00
C-A	3.28								
A-B	0.90								
A-C	8.90								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	2.38	9.69	0.246		0.47	0.33	5.1		0.14
C-AB	8.03	16.08	0.499		4.64	1.85	29.8		0.13
C-A	4.90								
A-B	0.73								
A-C	7.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	2.00	10.09	0.198		0.33	0.25	3.8		0.12
C-AB	5.58	15.04	0.371		1.85	1.04	15.8		0.11
C-A	5.25								
A-B	0.61								
A-C	6.09								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.2	
17.15	0.3	
17.30	0.5	
17.45	0.5	
18.00	0.3	
18.15	0.2	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.0	*
17.15	1.7	**
17.30	4.4	****

17.45	4.6	*****
18.00	1.8	**
18.15	1.0	*

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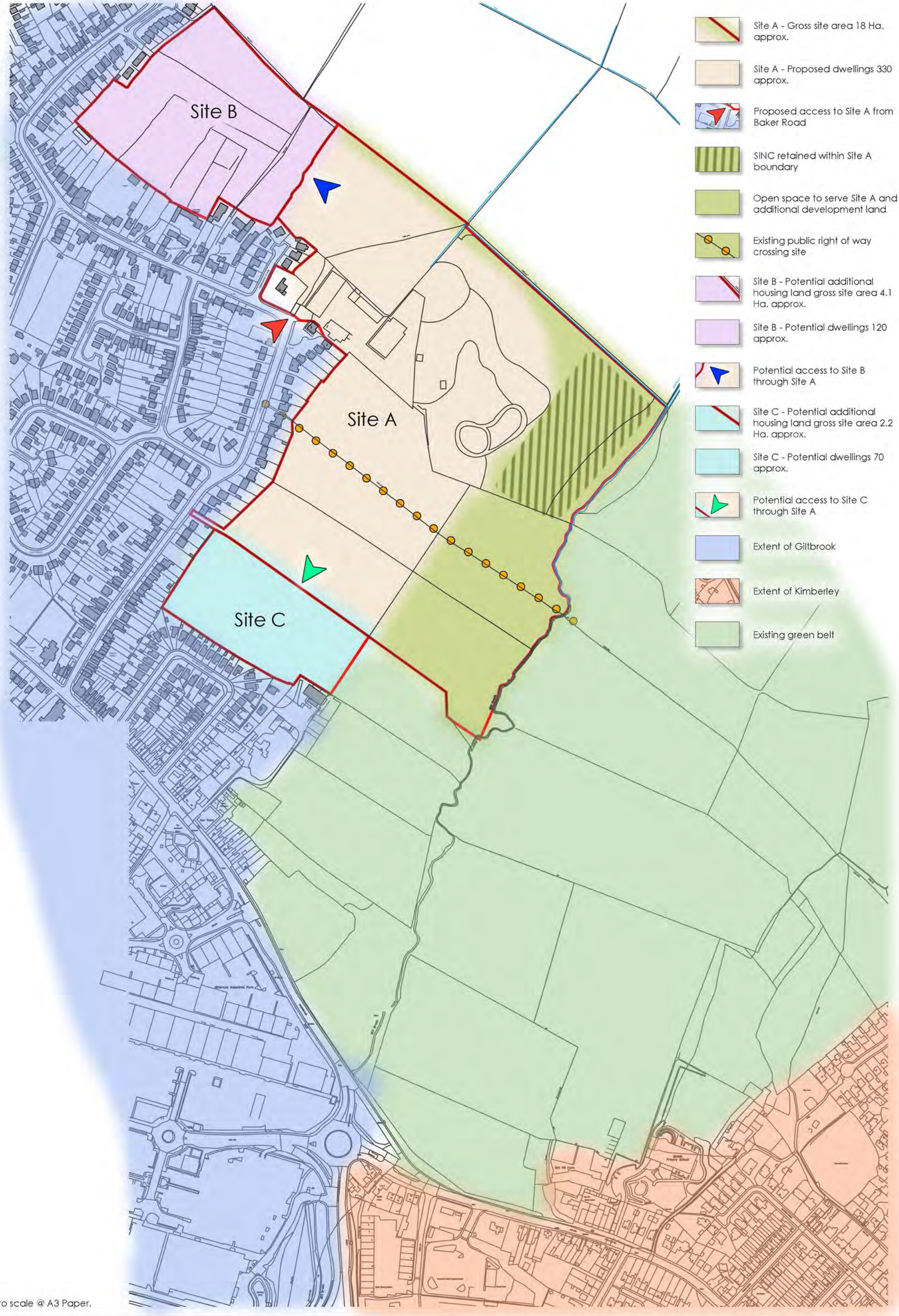
QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	218.9	145.9	30.9	0.14	30.9	0.14
C-AB	779.3	519.5	222.1	0.29	222.2	0.29
C-A	408.5	272.4				
A-B	67.4	45.0				
A-C	667.6	445.0				
ALL	2141.7	1427.8	253.0	0.12	253.0	0.12

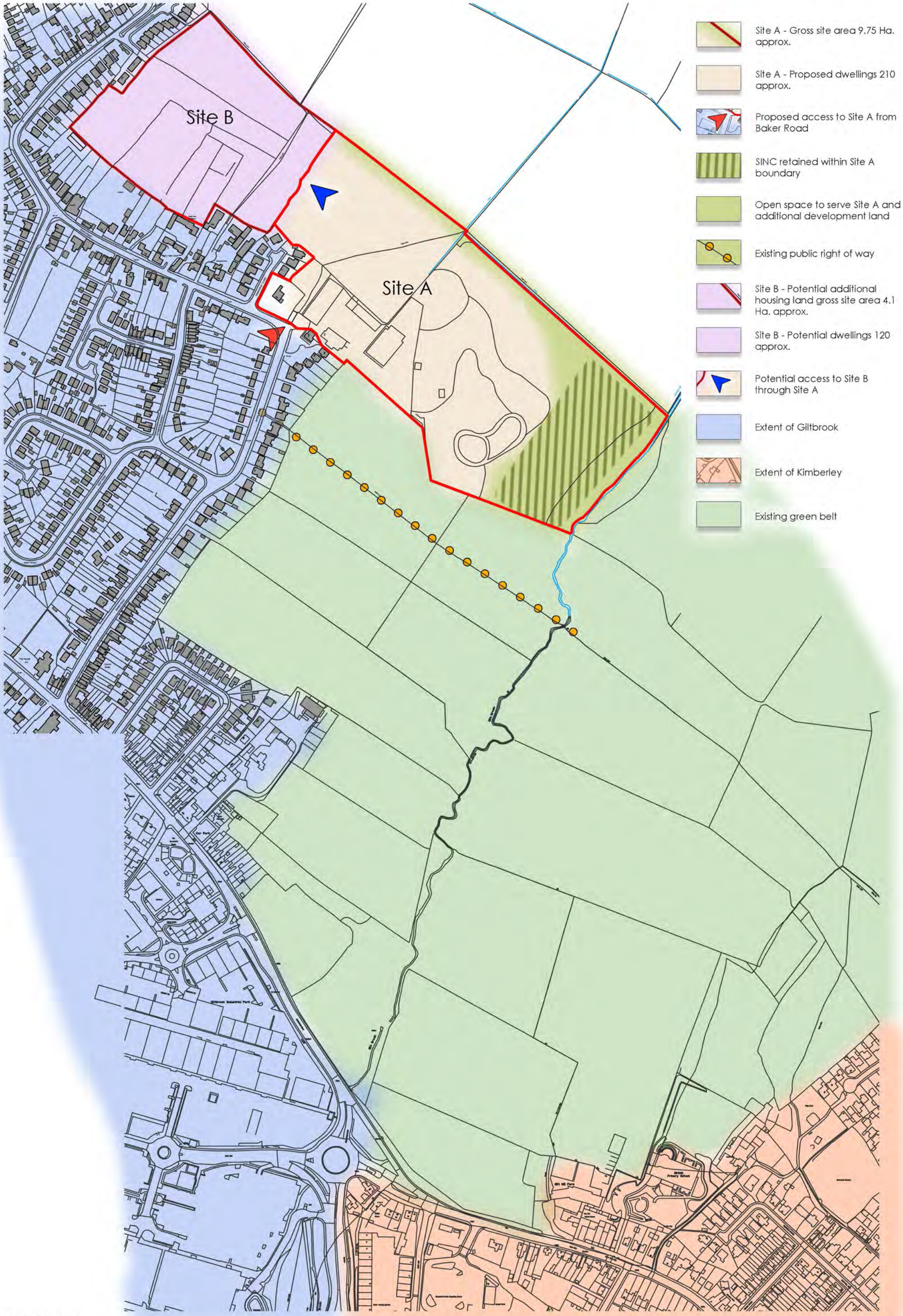
* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB



Not to scale @ A3 Paper.

Land off Baker Road, Giltbrook Master Plan Option 1 17-271-01 January 2017



Not to scale @ A3 Paper.

Land off Baker Road, Giltbrook Master Plan Option 2 17-271-02 January 2017

REPRESENTATION TO BROXTOWE BOROUGH COUNCIL'S

PUBLICATION VERSION OF THE PART 2 LOCAL PLAN

SUBMITTED ON BEHALF OF

TAYLOR & BURROWS PROPERTY

LAND OFF BAKER ROAD, GILTBROOK

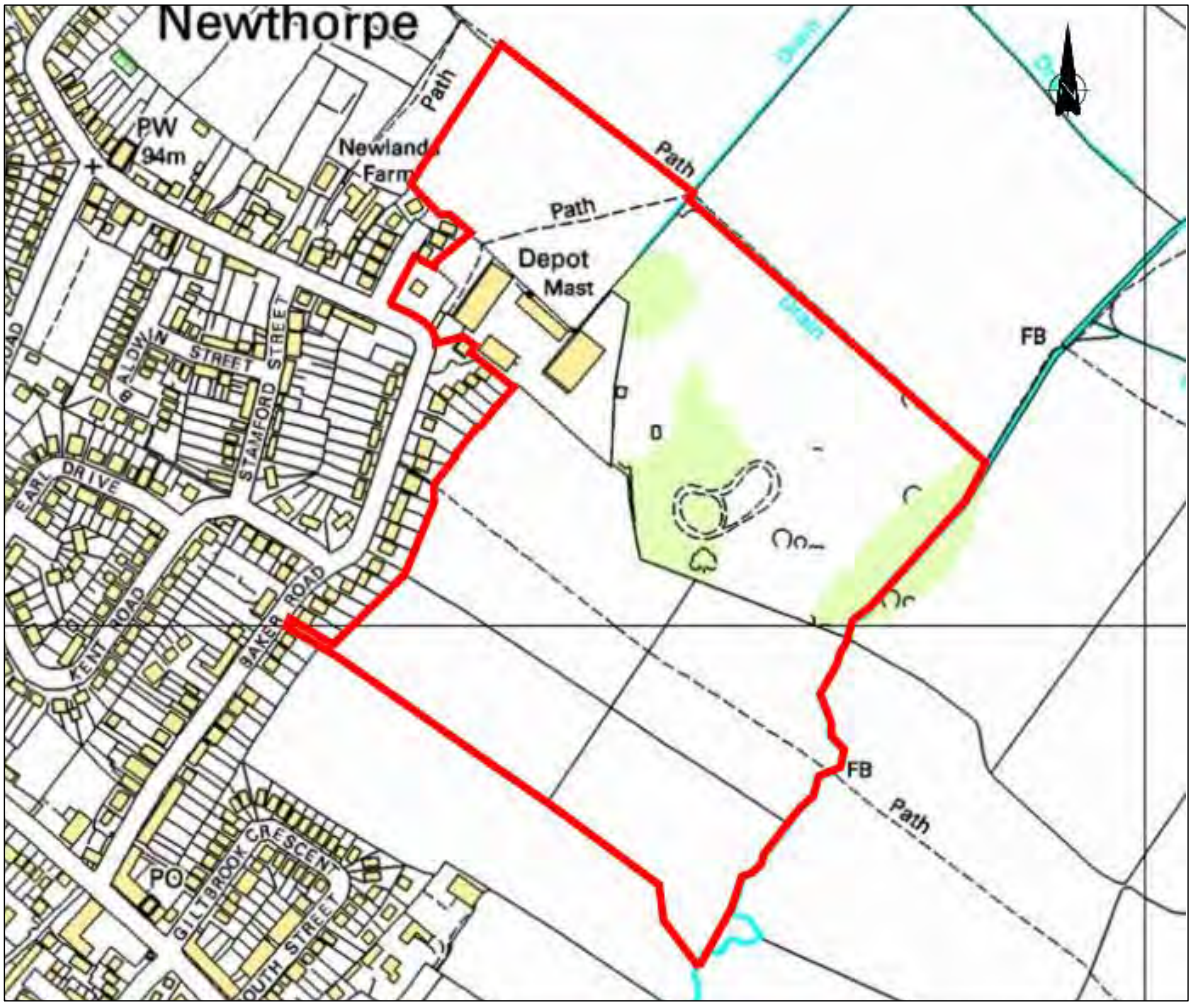
PREPARED BY

PHOENIX PLANNING (UK) LTD

CONTENTS

1. INTRODUCTION

The plan below identifies the site that is hereby presented as a new option for housing development within the Eastwood Area. The gross site area equates to 17.93ha and is located off Baker Road, Giltbrook. This land holding has been assessed and further technical assessments have been undertaken in order to present a more appropriate development proposal that could provide a deliverable option for housing growth for the Eastwood area and one that would be supported by Broxtowe Borough Council.



A key driver for the owners of the Wades Printers site in the formulation of a more appropriate option for housing growth is the provision of a large scale development site that will incorporate the redevelopment of the existing Wades Printers site and generate sufficient funding to secure new, modern premises to allow the existing business to grow and prosper.

The existing employment site equates to 2.7 acres and presently incorporates a number of single and two storey industrial buildings that are in partial occupation. The existing buildings are in a poor state of repair and do not meet the needs of a modern day business. They wish to relocate to new premises, within a more suitable location and with modern facilities that enables them to operate their business more effectively.

The owners of the Wade Printer site have undertaken viability work in order to assess whether developing the existing employment site in isolation for housing purposes would provide sufficient funding for their relocation. This area of the site is within the settlement boundary and therefore the principle of residential development within this location is appropriate. The site consists of a non-conforming use within an existing residential area and incorporates a number of daily HGV movements along Baker Road and therefore the redevelopment of this site for housing purposes would bring forward substantial benefits to the wider area.

However, it is considered that insufficient value is generated by the redevelopment of employment site in isolation to make it a viable for new businesses premises to be found. On this basis, it is imperative for a larger housing development to be brought forward which incorporates the adjacent landholdings in order to create a viable housing option and to enable Wade Printers to relocate to more suitable premises and ensure the business remain profitable.

In addition to the above, a further priority is to enable the reclamation of the former tip site and improve the ecological value and management of the SINC site which can be facilitated by the redevelopment of the wider area. The provision of useable open space for the wider area was also a key driver, as it is recognised that there is a deficiency of public open space in the local area.

A number of housing growth options have previously been presented to the Council which are identified as site 3 and 206 within the SHLAA. In order to provide a more robust and valid option for housing growth which will be supported, further technical assessment have been undertaken. Following the production of the technical assessments, two Masterplan options has been prepared for consideration.

The technical assessments that have been undertaken to date to inform a sustainable option for growth are:

- Detailed Topographical Survey

- Landscape Impact Assessment

- Drainage Assessment

- Transport Report

These assessments thereafter have been utilised to provide and inform the revised development boundaries and a detailed Masterplan that provides a clear and robust option for growth.

The details of the ‘New’ housing growth option for the Wades Printers site are provided below.

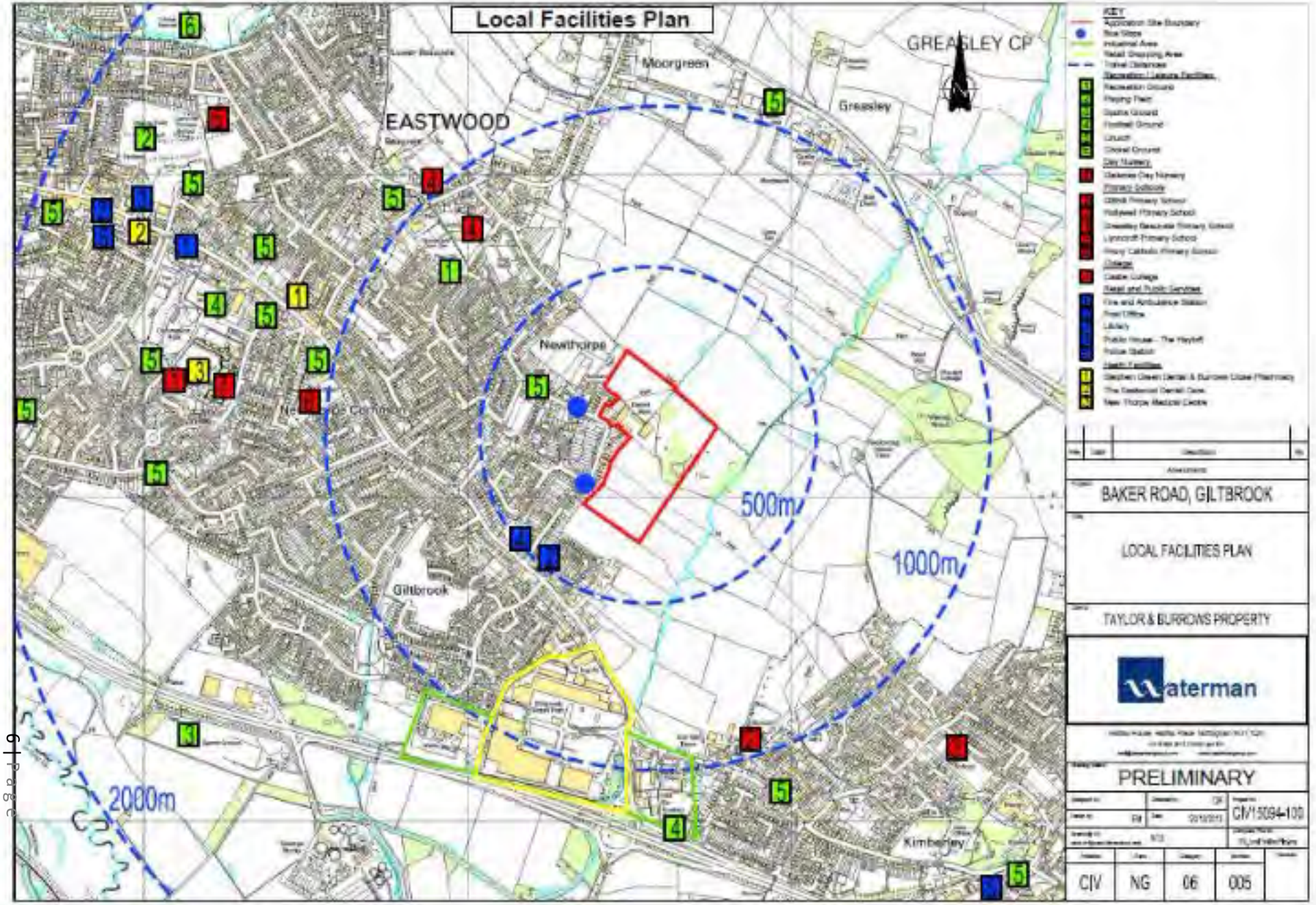
2. SITE ANALYSIS

a) WIDER CONTEXT

The site is located within and adjacent to the sustainable settlement of Eastwood and within the Ward of Greasley (Giltbrook and Newthorpe). Eastwood is situated some 12km the north west of Nottingham City and 6km north of the town of Ilkeston.

Eastwood is sustainably located and the Tribal Study identifies that the settlement has a 'high' potential for growth with existing and good potential for sustainable transport connections; sufficient infrastructure to support growth with growth potentially helping to sustain local infrastructure; potential for regeneration linked development; and a strong local employment market.

The Transport Report submitted for consideration, provided details of the sites accessibility in terms of access to key local facilities. This demonstrated that with regards to walkability of the site, the site was within walking distance of many of the key local facilities including the coop supermarket, other retail units, post office, public house, primary school, recreation ground and health facilities. The location of local facilities in the vicinity of the site as is provided on the plan presented below.


Local Facilities Plan
EASTWOOD
Moorgreen
Greasley
GREASLEY CP
Newthorpe
Giltbrook
500m
1000m
2000m
Kimberley
KEY
BAKER ROAD, GILTBROOK
LOCAL FACILITIES PLAN
TAYLOR & BURROWS PROPERTY
waterman
PRELIMINARY
CIV
NG
06
005

The site is within walking distance of a number of local convenience provisions including the Coop supermarket, Post Office, butchers and hotfood takeaways. Giltbrook Retail Park is located only 500m to the south of the site. Greasley Beauvale Primary School and Greasley Sports and Community Centre are within walking distance of the site to the north west, with Gilthill Primary being located to the east. As such the site is well connected and is therefore located within a sustainable location and is appropriate location for development.

Pedestrian facilities within the area of adequate and a number of public rights of way are also located within the vicinity of the site. Given the level of pedestrian infrastructure around the site, and links to areas within an acceptable walking distance, the site is located to encourage pedestrian journeys in place of car journeys to local facilities.

With regards to the key local facilities, the site is well served by the high frequency bus service with the nearest bus stop being located 75m to the west of the site on Main Street. This provides hourly daytime and weekend services which serves Eastwood, Beauvale, Moorgreen and Newthorpe. In addition, 550m to south west of the sites proposed access point is an additional bus stop which provides services to Nottingham, Eastwood and Ripley every 10 minutes. In addition there is an hourly service to Derby, Heanor, and Hucknall.

In conclusions to the above, it is identified that the site is located with suitable access to public transport, walking and cycling facilities and the potential exists for a number of trips to be made by these modes of transport. A number of key facilities are located within walking and cycling distance including post office, shops, public house, primary school, college, churches and a recreation ground.

b) IMMEDIATE CONTEXT

The area in which the site is set is a predominately residential area consisting of a mixture of housing styles, ages and sizes. The residential properties immediately adjoining the site, along Baker Road consist of predominantly detached, single storey bungalows and two storey dwellings. Further to the west on the opposite side of Baker Road are two storey, ex council housing, with a number of Victorian, detached property towards the junction with Main Street.

Dwellings along Baker Road

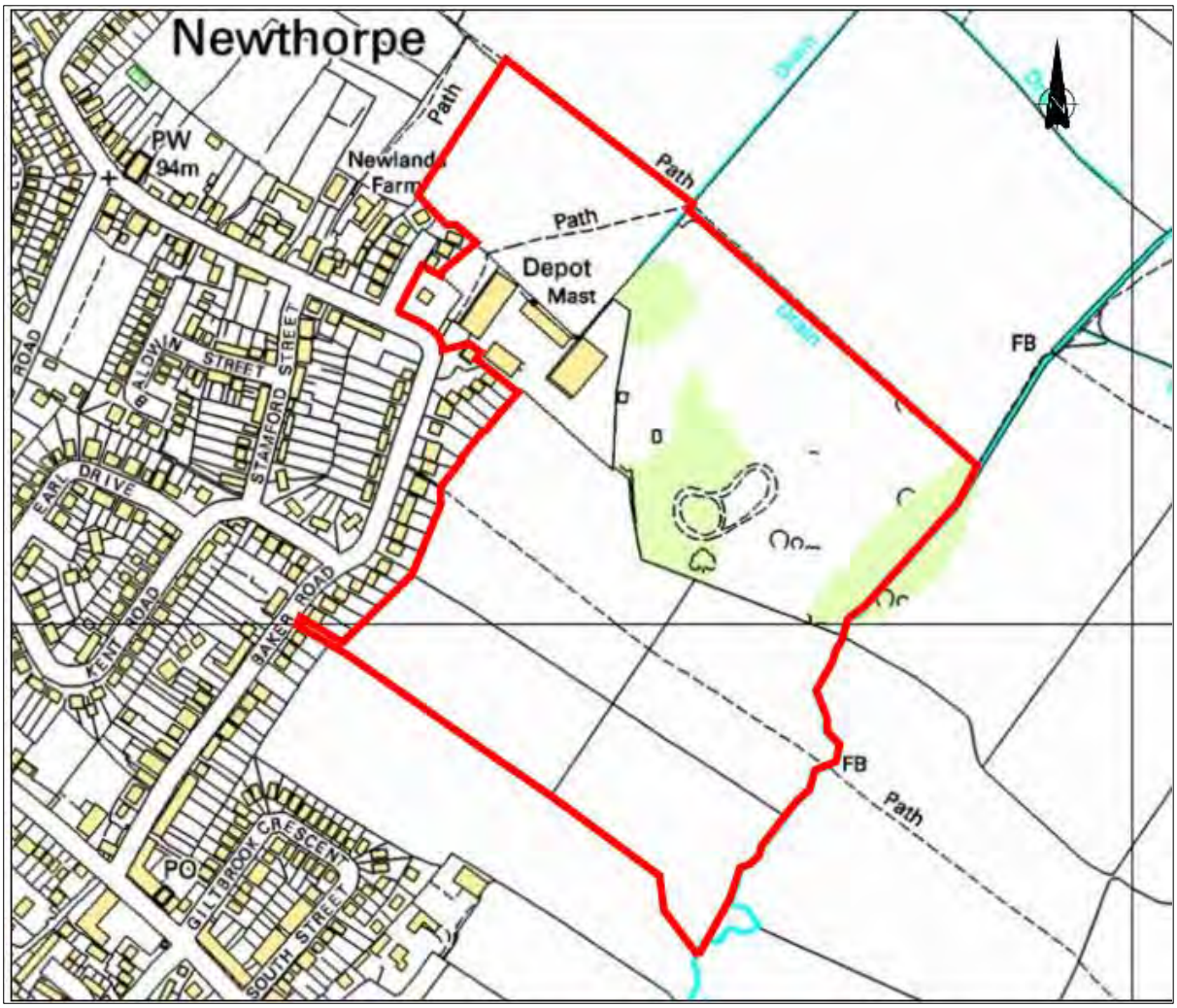
The properties along Main Street consist of a mixture of dwelling types including traditional, two storey detached and detached bungalows along Hemingway Close that adjoins the south western boundary of the site. To the west of the existing vehicular entrance to the employment site, along Main street are Barlow's Butchers and Foresters Arms Public House.

To the east and north of the site, are agricultural fields with the settlement of Kimberley some 550m to the east.

= The Site

c) SITES' KEY FEATURES

The whole site submitted for consideration extends to 17.93ha and incorporates a number of distinct areas including the Wades Printers employment site, the off-road biking area and two separate agricultural units to the south and additional agricultural land holdings to the north west. The current redline site plan which identifies the land that is hereby promoted for development is provided below.



Access to the existing employment site is gained off Baker Road, at the junction with Main Street. The employment area of the site is located within the settlement boundary and extends to 2.7 acres (1.1 hectares). This area of the site incorporates a number of single and two storey employment units. The remaining areas of the site are tarmaced and used as areas of hard standing and car parking.


Wade Printers site

The existing units within the employment site are utilised for a range of business uses including printing and associated office use, vehicle repair, storage depot, private hire taxi rank and so on.

The employment site slopes gradually in a west to east direction and there are a number of trees and the north-eastern and southern boundaries of the employment site. There are no additional notable features within the site.

To the north of the Wades Printer site and to the north of Main Street is 2.5ha of agricultural land. (This land slopes in a west to east direction and has limited notable features. This section of the site is bound to the north east by a post and rail fence with a public footpath beyond which forms part of the Robin Hood Way. The north western boundary is formed by a 5.5m high hedge which separates the site from the adjacent fields.

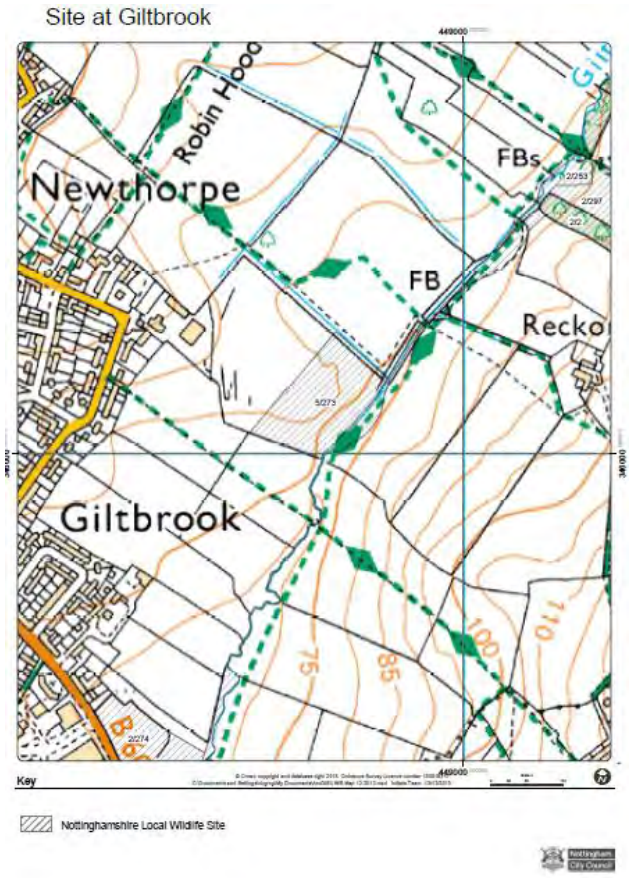
To the east of the employment site is the reclamation extending to 6ha site identified as the Former Tip Baker Road under policy E30 of the Adopted Local Plan. Policy E30 of the Adopted Local Plan identifies that the Council will encourage the reclamation of derelict land. It is understood that areas of the site were previously tipped in the 1830's with colliery shale and lied adjacent to the former Newthorpe Colliery.

This section of the site is presently utilised as a corporate event activity centre including off road vehicle events, archery/cross bow target shooting. The use of the site for off road biking and associated activities has over the years lead to the degradation of this site. The site is undulating and includes numerous bike tracks that have altered the levels of the land.


Within the site there are pockets of vegetation and groups of self-setting trees including some areas of scrubland. There are a number of mature trees within and on the boundary of this site that have been identified within the topographical survey. Within the south eastern corner of the site is a vegetated embankment and spoil heap.

Within the reclamation area of the site there are a number of structures including two shelters and a number of cabins and containers which are used as part of the Corporate Activity events.

Within the reclamation site used for the off road biking, is an area identified as a Site of Important Nature Conservation (SINC). The extent of the SINC is shown on the plan below, obtained from the Nottinghamshire Biological and Geological Records Centre.



Records show that the site was last surveyed in 2010 and at this time there were a mixture of woodland, marshland, neutral grassland, calcareous grassland and aquatic species that lead to the site being designated as a SINC. The original survey record identified that site has an old mine tip with scrub land and a variety of grassland types, meadow flora and a marsh. Also of importance is the scrubland at the eastern end along the Gilt Brook which supports some wooded species. The assessment also set out that the site is being used for go carts.

To the south of the Wade Printers site and the off road biking area is 8.4ha of agricultural land. This is bound by a mixture of 1.8m hedges, post and rail fencing, vegetation of varying heights and 1.6m fence panels. A 1.1m high post and rail fence bisects the site which runs alongside a drainage ditch.

A public footpath also bisects the site leading from Baker Road to the North West to the Gilt Brook to the south east.


Photos of the southern fields

3. PLANNING POLICY

With regards to the whole redline site area, details of the key constraints and designations are provided within the table below.

Listed building	No
Conservation Area	No
TPO	Non known
Public Rights of Way	Yes through and adjacent to the site
Green Belt	Yes
Landscape Designation	Non outside mature landscape area
Flood Risk	Part of the eastern area of the site is within 1 in 100 year + flood risk. The main development area is not located within Flood Zone 1
Contamination	Non known - Subject to detailed assessment
Agricultural land	Grade 3 and 4
Ecological Designations	SINC to the east of the site
Local Plan Designations	Employment site – Unallocated land within the urban boundary Off Road Biking Track – Partially a SINC, Derelict Land and Greenbelt Remaining Agricultural land- Green belt

In this regards, in addition to the National Planning Policy Framework, the following local planning policies have been taken into consideration in the preparation of the Masterplan.

Saved policies Broxtowe Adopted Local Plan 2004 (CHECK)

K5 The Environment (Green Belt)

E1 Good Design – Criteria relating to providing a high standard of architectural design; respect for the character of the setting of the proposed development; providing a high standard of landscaping; high standard of design of open spaces within the development; providing safe and convenient access for vehicles cyclists and pedestrians; and incorporating sustainable techniques to minimise the impact of surface water discharges were all considerations in the preparation of the Masterplan.

E2 Energy Efficient Design and Layout – The Masterplan incorporates energy-efficient design into the layout.

E8 Development in the Green Belt – The provision of appropriates uses within the retained areas of the green belt were given detailed consideration.

E16 Sites of Importance for Nature Conservation – The Masterplan seeks to provide appropriate measures to enable the improvement of the SINC Site.

E19 Other Nature Conservation Resources – The Masterplan through the provision of open spaces to the east of the site will seek to enhance the existing nature conservation resources and provide new resources.

E23 Greenwood Community Forest – Woodland planting will be provided where appropriate

E24 Trees, Hedges and Tree Preservation Orders – Development will protect important existing trees and hedges

E30 Derelict Land – The Masterplan will incorporate the reclamation of this allocated derelict site

H3 Housing Type and Size – The Masterplan will seek to ensure a variety of house types and sizes to cater for a range of housing requirements can be accommodated on the site during the detailed design stage

EM2 Protection of Employment Land and Premises – The suitability of redeveloping the existing employment is discussed below.

T9 Pedestrian Routes And Facilities - Provision will be made for the needs of pedestrians within new developments and in relation to links to adjacent areas and other forms of transport.

RC6 Open Space: Requirements For New Development- Provision is made for public open space and children's play areas in accordance with the standards. Local landscape, ecological and amenity features will be retained or enhanced through the provision of the open space and children's play areas.

RC14 Footpaths, Bridleways And Cycle Routes- The Masterplan will protect, maintain and where appropriate seek to extend the network of footpaths, bridleways and cycle routes within and adjacent to the development.

Adopted Greater Nottingham Aligned Core Strategy

Policy 1: Climate Change – The development will seek to deliver high levels of sustainability in order to mitigate against climate change by locating development within a sustainable location and incorporate sustainable design into the Masterplan including the provision of SUD's.

Policy 2: The Spatial Strategy – This policy provides guidance on housing requirements for Eastwood.

Policy 3: The Green Belt – Consideration is given below to the sites appropriateness for release from the green belt in terms of identifying the sites statutory purposes of the Green Belt, the establishment of a permanent boundary and creating defensible boundaries.

Policy 4: Employment Provision and Economic Development – Criterion h) of this policy relates to managing existing employment sites which is discussed in more detail below.

Policy 8: Housing Size, Mix and Choice – Creation of a mix of house types, tenures and size is to create mixed communities and consideration of accommodation for the elderly.

Policy 10: Design and Enhancing Local Identity – The Masterplan will take into consider the need to create a sense of place, and create attractive, safe, inclusive and healthy environments. Consideration to density, mix proportion, amenity and importantly the impact on important views and vistas, townscape, landscape and the potential to create views.

Policy 12: Local Services and Healthy Lifestyles – The creation of appropriate community space to serve the development and the wider area will be taken into consideration.

Policy 14: Managing Travel Demand – The consideration of the sustainability of the sites location to ensure that the site is accessible by walking, cycling and public transport.

Policy 16: Green Infrastructure, Parks and Open Space – The provision of new green infrastructure and ensure that landscape character is protected and enhanced.

Policy 17 Biodiversity – Creating a Masterplan that protects, restores and enhances the existing areas of biodiversity interest including the SINC and the swath of land adjacent to the Gilt Brook.

4. OPPORTUNITIES AND CONSTRAINTS

In assessing the site and formulating an appropriate Masterplan for the site, it was first important to consider the sites opportunities and constraints. A plan identifying the key opportunities and constraints is presented below and at Appendix 1b. Thereafter a table is presented which identifies the main opportunities and constraints to the development:

OPPORTUNITIES	CONSTRAINTS
Provision of approximately 330 dwellings to meet the need for Eastwood including housing suitable for the elderly	Existing Green Belt Designation
Redevelopment of previously developed site within urban boundary	Coalescence with Kimberley –Separation between Eastwood Kimberley needs to be retained and reinforced through provision of open space to the east.
Reclamation of contaminated land	SINC within the site - needs to be enhanced and protected
Removal of non-conforming use noise from off road biking and employment units	Flooding of Gilt Brook – Flood Zone 3
Improvements and management of SINC – The SINC is presently unmanaged and the redevelopment of this site can secure ecological improvements to the SINC and ensure the future long term management of this important site.	Contamination- Need to reclaim the site in accordance with a land contamination strategy.
Removal of HGV movements along Baker Road	Protection of existing trees – Tree survey required to ensure most important trees are retained within the development
Visual improvements by removal of industrial units within a residential area	Public Rights of Way – Retain and enhance existing footpaths
Enabling existing businesses to source modern premises to meet their needs and ensure future long terms viability	Protection of rural character of Robin Hood Way – Mitigate through zoning of development and planting/landscaping areas. Provide links to the footpath
Creation of a defendable boundary to the greenbelt	Respect the amenity of neighbouring residents
Development set back adjacent to open boundaries to minimise impact	Existing Drainage Ditches – Opportunity to provide a green corridor adjacent for bio diversity enhancement
Provision of high quality useable Park Land– Lack of locally accessible and useable public open space	
Opportunity to site local equipped area of play by existing public right of way	

OPPORTUNITIES	CONSTRAINTS
Provision of allotments to meet local need	
Opportunity to provide ecological enhancements within the areas of open space and along existing ditch	
Potential to create cycleway/footpath links to network	
Proposed surface water balancing area will provide an opportunity for ecological enhancements	
Provision of softer edge to settlement than presently exists	
Opportunity for outward looking development over the SINC and proposed areas of open space	
Potential for further development to west and south	

5. THE MASTER PLAN OPTION 1

Following a detailed assessment of the opportunities and constraints for the site, consideration of the findings of the Landscape Impact Assessment's Suggested Development Boundaries Plan, and an overview of the key planning policies, Vista Architecture and Urban Design Limited have produced an indicative Masterplan for the redevelopment of land off Baker Road, Giltbrook. This is presented below and attached at Appendix 1.

It is considered that the Masterplan overcomes the potential issues, namely the impact on the wider green belt purposes in terms of encroach, coalescence between Eastwood and Kimberly and urban sprawl. The Masterplan also identifies that an appropriately located, high quality residential development can be successfully accommodated on this site in order to meet the housing requirement for Eastwood as set out within the Core Strategy.

The gross site area equates to 17.93ha, with a development site area being 11.49 ha. The Masterplan proposes approximately 330 dwellings which is based upon a net density of 30 dwellings per hectare.

The key concepts at the heart of the proposed Masterplan that have been successfully achieved are:

- Maintaining the openness and prevent coalescence between Eastwood and Kimberley.
- Providing a stronger more defensible boundary to the green belt than presently exists in accordance with Policy 3 of the CS.
- Respecting the character and setting of Eastwood.
- Providing high quality landscaping.

- Consideration of the important views and vistas and creating a softer edge to the settlement boundary than presently exists.
- Protecting, restoring and enhancing the ecological value and biodiversity of the SINC and the land adjacent to Gilt Brook.
- The creation of a green corridor that provides a functional, useable area of green open space to the east for the benefit of the future residents and meets the current open space deficiency within the local community.
- Providing safe and convenient access for vehicles and pedestrians.

In addition to the above the Masterplan has sort to:

- Retain and protect important existing hedgerows and trees within the site
- Protect and enhance the footpath network through and adjacent to the site
- Retain the existing drainage ditches and incorporate a Sustainable Urban Drainage System's into the development.

Access to the site was informed by the Transport Report prepared by Waterman's and the main vehicular access is to be taken via the Baker Road/Main Street junction. This is to be provided either via a three armed roundabout or a priority T junction.

In terms of the key benefits of the Masterplan hereby presented, these include:

- Enabling the redevelopment of the Wade Printers employment site to providing sufficient value to enable the occupiers to secure alternative and more appropriate premises within the local area.
- Contributing to the regeneration aims of the Core Strategy by redeveloping a previously developed site and reclaiming derelict land.
- Removing HGV Movements along Baker Road
- Removing the off road biking uses from the site which presently impacts upon residential amenity and create degradation to the SINC.
- The redevelopment of derelict land as identified by policy E30 of the Adopted Local Plan.
- The provision of 330 homes to assist in meeting the housing needs for Eastwood.
- Provision of an element elderly persons housing if appropriate.
- 6.44ha of useable open space to meet a local deficiency incorporating natural and semi natural green space, allotments and a Local Equipped Area for Play.
- Providing two Local Areas for Play within the development site area and a central Village Green.
- Environmental improvements and future management plan for the SINC
- Retention and enhancement of existing footpath links through and adjacent to the site which improves connectivity.
- Potential to provide additional housing in the future to the west of the site/north of Main Street and to the south of the site/to the north of South Street

With regards to the SINC, the detailed plans for this element of the site will be developed within the next stages through a detailed ecological assessment and the formulation of an enhancement and management plan for the site future use. Furthermore, enhancements to the biodiversity of the

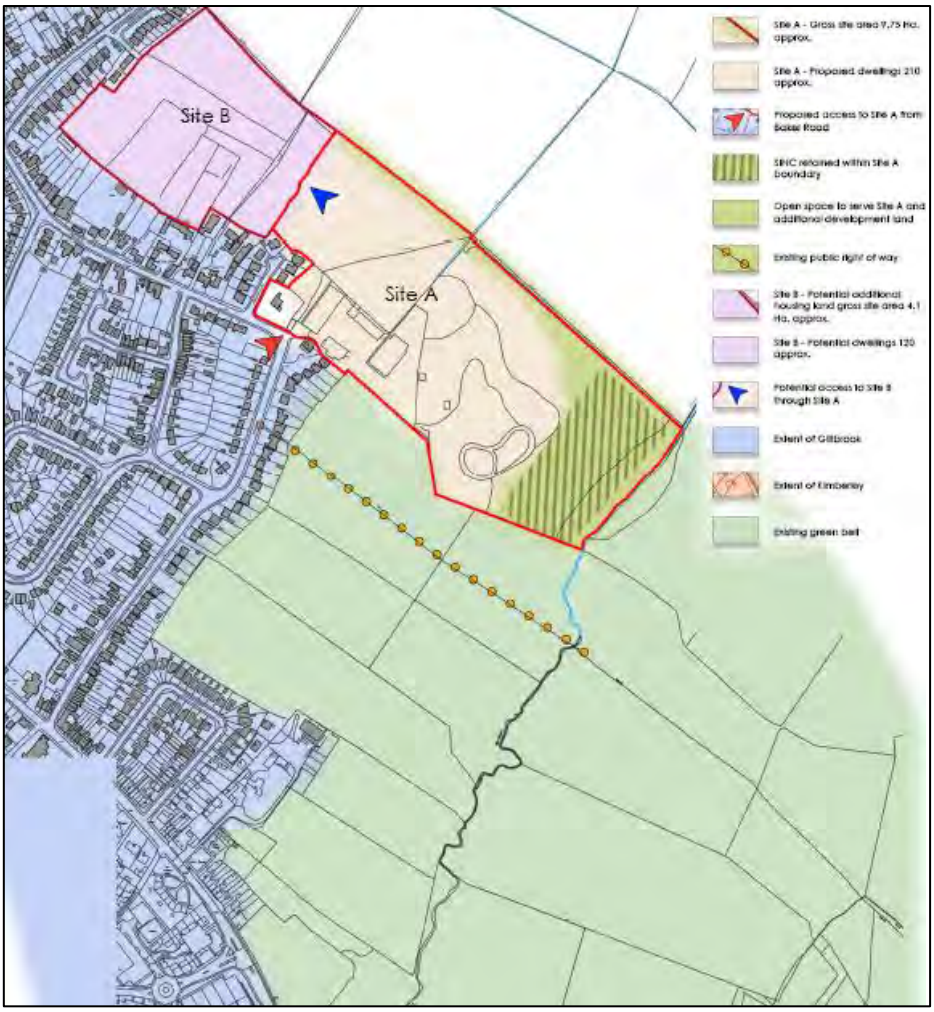
retained green wedge and detailed proposals for the design, layout and function of this area will be formulated during the next stage of the development proposals.

In terms of the Landscape Impact, which will be discussed in more detail below, the proposals offers the opportunity for residential development within acceptable levels of landscape and visual impact, with some visual and landscape benefits, the retention of the green gap between Kimberley and Giltbrook, the formation of new logical and defensible Green Belt boundaries and without pushing development further into the open countryside than adjacent development already does.

It is considered that the development proposed makes the best and most effective use of this highly sustainable site, protects and maintains important Green Belt land whilst providing much needed housing and public open space for the wider area.

6. THE MASTER PLAN OPTION 2

An Alternative Option 2 excludes land to the south of the existing employment and concentrates development to the north and away from the settlement of Kimberley.



This site extends to 9.75ha with a potential of an additional 4.1ha which incorporates land not within our clients control. These two parcels would provide between 210-330 dwellings.

The key concepts at the heart of the proposed Masterplan that have been successfully achieved are:

- Maintaining the openness and prevent coalescence between Eastwood and Kimberley.
- Respecting the character and setting of Eastwood.
- Providing high quality landscaping.
- Consideration of the important views and vistas and creating a softer edge to the settlement boundary than presently exists.
- Protecting, restoring and enhancing the ecological value and biodiversity of the SINC and the land adjacent to Gilt Brook.
- Providing safe and convenient access for vehicles and pedestrians.

Access to the site will be as per the Transport Report prepared by Waterman's and the main vehicular access is to be taken via the Baker Road/Main Street junction. This is to be provided either via a three armed roundabout or a priority T junction.

In terms of the key benefits of the Masterplan hereby presented, these include:

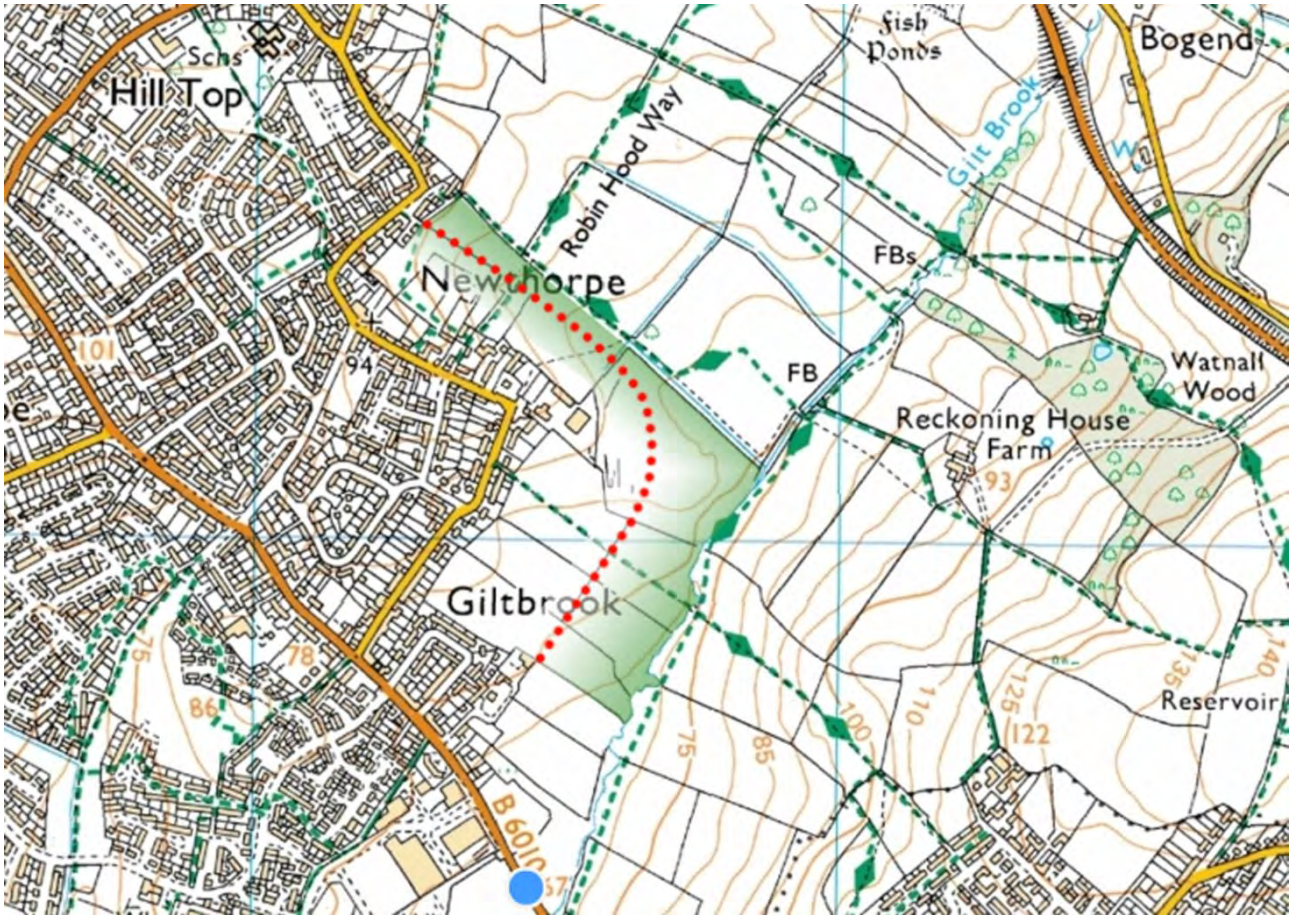
- Enabling the redevelopment of the Wade Printers employment site to providing sufficient value to enable the occupiers to secure alternative and more appropriate premises within the local area.
- Contributing to the regeneration aims of the Core Strategy by redeveloping a previously developed site and reclaiming derelict land.
- Removing HGV Movements along Baker Road
- Removing the off road biking uses from the site which presently impacts upon residential amenity and create degradation to the SINC.
- The redevelopment of derelict land as identified by policy E30 of the Adopted Local Plan.
- The provision of 220 homes to assist in meeting the housing needs for Eastwood.
- Provision of an element elderly persons housing if appropriate.
- Environmental improvements and future management plan for the SINC
- Potential to provide additional housing in the future to the west of the site/north of Main Street

OTHER MATERIAL PLANNING CONSIDERATIONS

7. LANDSCAPE IMPACT

Prior to the formulation of the Master Plan, a Landscape and Visual Appraisal was undertaken by PDP Associates Limited in order to consider the landscape and visual impacts of the development.

This exercise provided an initial assessment of the most suitable development boundaries. The suggested development boundaries were provided on a suggested zoning plan as shown below which informed the site boundaries on the Masterplan.



The Landscape and Visual Appraisal identified the following:

- Direct views of the site are limited to a relatively small area including existing residential development to the south and west. To the east views are curtailed by the houses along Millfield Road. To the north, views towards the site are widely available but views are limited to fleeting views where topography and vegetation allow. From the footpath adjacent to the site, views will be available.

- The site is judged to be if medium sensitivity, due to its urban fringe; its location within the green belt and its role separating Giltbrook and Kimberley; its lack of intrinsic landscape

value or obvious qualities and the existing use of part of the site including recreation and business.

- Table 4 (below) of the LVA identified the significance of the landscape impacts of the development on selected viewpoints.

Viewpoint(s)	Location	Receptors	Landscape sensitivity	Magnitude of landscape effects	Significance of effects
1, 2 & 3	Baker Road to the west of the site	Residential, general public	Low	Low negative	Negligible/minor
4	Public footpath within site	General public, recreational users	Medium	High negative	Moderate
5	Nottingham Road	General public	Very low	Negligible	Negligible
6	Giltbrook Crescent	Residential, general public	Very low	Negligible	Negligible
7 & 8	Robin Hood Way	General public, recreational users, residential, tourists	Medium	Low negative	Minor
9	Public footpath to north east of Giltbrook	Recreational users, tourists	Medium	Negligible	Negligible/minor
10	Greasley Castle (remains of)	Recreational, tourists	Medium	Negligible	Negligible/minor
11	Greasley Church	General public	Medium	Negligible	Negligible/minor
12 & 13	Moorgreen, Giltbrook	Recreational, residential, general public	Low	Negligible	Negligible

Table 4 – Significance of landscape impacts on selected viewpoints

- The LVA concludes that the site offers an opportunity for residential development within acceptable levels of both landscape and visual impact.

- The area does have a general medium landscape sensitivity due to a combination of its location within the Nottinghamshire Green Belt and its general association with DH Lawrence.

- The land does have a function in preventing visual coalescence between Giltbrook and Kimberley. However, development around Giltbrook Crescent and South Street already exists beyond the boundaries of Baker Road and the proposed layout reflects this and does not encroach beyond this established line.

- The Giltbrook Watercourse provides a logical, defensible and tangible boundary. The proposal offers a significant offset to this watercourse in form of open space.

- Not only does this retains a substantial green gap but also offers an opportunity to improve the biodiversity of the area, reflecting the character and quality of the adjacent SINC site.

- When viewed from Kimberley, a significant undeveloped gap will remain and the current stark boundary between the houses along Baker Road and the land to their east will be replaced by a softer interface.

- Removal of the existing commercial buildings will bring benefits beyond the visual amenity. No coalescence is caused by development in this direction and whilst there is a dense footpath network in between Giltbrook and Greasley, the area is one of urban fringe already

and the character of those close to the proposed northern boundary will not change significantly.

- From the more sensitive areas to the north, which do possess true open countryside characteristics, the site is largely screened by existing vegetation and/or landform. Where visible, it strongly associates with the existing adjacent residential development and a combination of distance and angle of view will further mitigate any visibility. Sensitive landscape treatment of the northern boundary will provide further mitigation completely in keeping with the landscape character of the area.

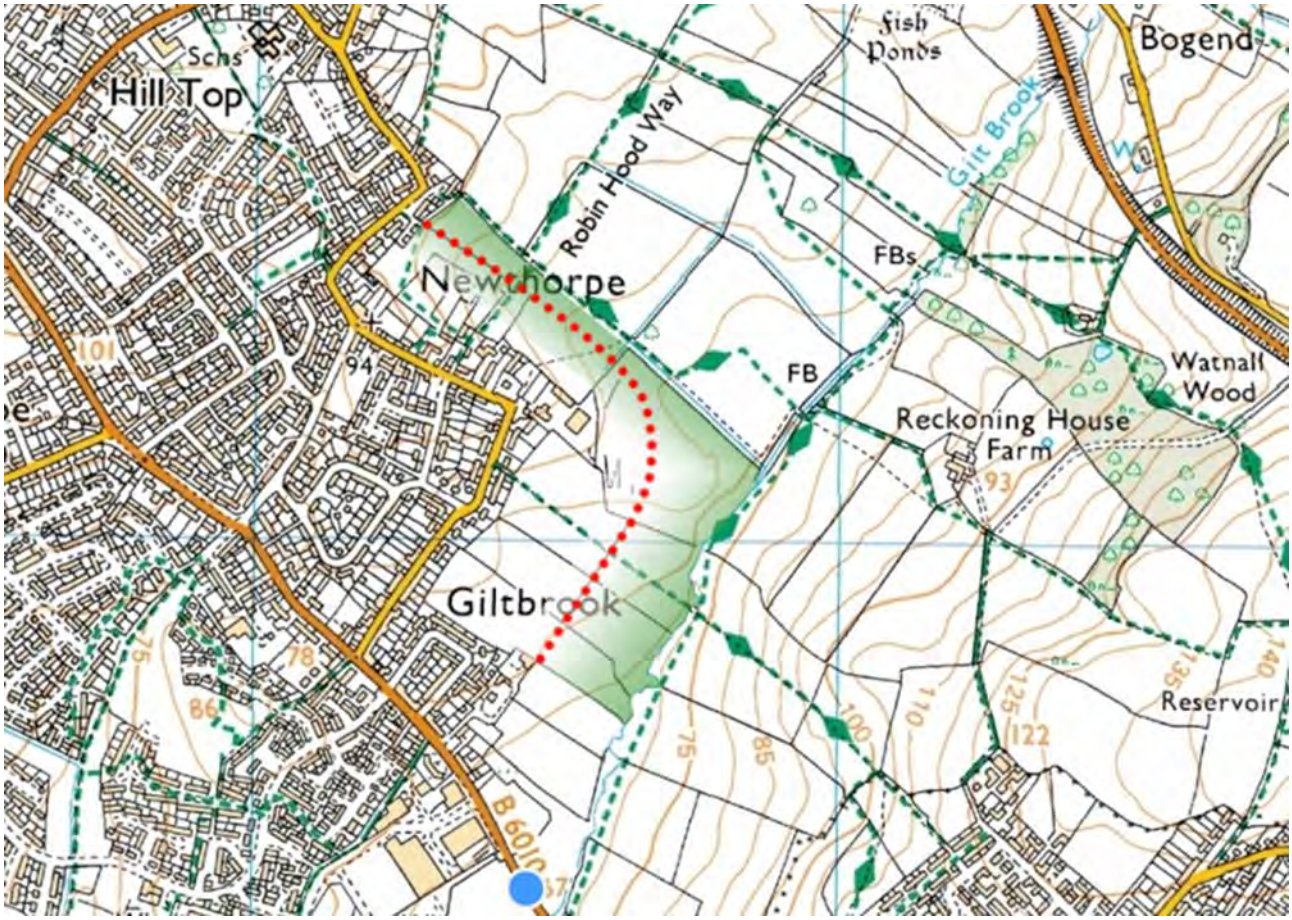
- In summary, the proposals offer the opportunity for residential development within acceptable levels of landscape and visual impact, with some visual and landscape benefits, the retention of the green gap between Kimberley and Giltbrook, the formation of new logical and defensible Green Belt boundaries and without pushing development further into the open countryside than adjacent development already does.

8. IMPACT ON THE GREEN BELT

With the exception of the employment site, the remainder of the site hereby promoted for residential development is located within the Greenbelt as identified within Adopted Local Plan.

The SHLAA Assessment for sites H3 and H206 states that Local Plan Review 2003 Inspector considered that the sites value to Green Belt purposes outweighs any benefits to its development and considered that development should involve substantial encroachment into the countryside and would constitute urban sprawl. It is however understood that the site promoted previously for housing through the 2004 Local Plan Review incorporated a much larger area than now proposed. The previous scheme extended eastwards to the Gilt Brook and included a vehicular access onto Nottingham Road. It is understood that the option now presented for consideration has never been promoted as a housing option and provide a more sensitive option for growth.

The Masterplan hereby presented for consideration has taken these previous conclusions and provides a scheme that minimises encroachment and urban sprawl and provides a logical extension to the urban boundary and a more robust defensible boundary, as can be seen below.



In terms of the site that is now promoted for residential development and its importance in terms of its greenbelt designation, the National Planning Policy Framework (NPPF), at paragraph 79, identifies that the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The essential characteristics of Green Belts are their openness and permanence.

The five purposes of the Green Belt are listed in the NPPF (paragraph 80). The five purposes are listed below with an assessment as to how the proposed development site would conform to the five purposes of the Green Belt:

1. *to check the unrestricted sprawl of large built-up areas* – The Masterplan provides a new defensible boundary that can be permanently maintained. The Masterplan also softens the developments existing edge.

2. *to prevent neighbouring towns merging into one another* – A small projection in line with the existing dwelling on South Street would naturally round off settlement boundary and would not lead to coalescence. The Masterplan provides a strong, permanent and a defensible boundary through the creation of a park between the newly created development boundary and the Gilt Brook.

3. *to assist in safeguarding the countryside from encroachment;* As above, the creation of the swath of parkland, contains the development, provides a defensible boundary and ensures that the development does not lead to encroachment.

4. *to preserve the setting and special character of historic towns;-* Avoids more sensitive sites that positively contribute towards the historical setting and special character of Eastwood and the D H Lawrence connection.

5. *to assist in urban regeneration, by encouraging the recycling of derelict and other urban land* – The fifth purpose of Greenbelt is to support urban regeneration. The development of this site facilitates the redevelopment of previously developed land within the urban boundary and provides reclamation of the former pit site within the Green Belt.

Para 81 of the NPPF states that local planning authorities should plan positively to enhance the beneficial use of the greenbelt use of the Green Belt, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or improve damaged and derelict land.

It is considered that the development proposal hereby submitted for consideration meets in full the principles of para 81 of the NPPF insofar that:

a) The Masterplan provides enhancements to the beneficial use of the retained Green Belt land which is proposed to be provided as a parkland. This will open up this site for use by the public and provide opportunities for recreation;

b) The proposal will enhance the landscape by providing a defensible boundary to the green belt that do not presently exist.

c) The proposal will provide visual enhancements by softening the existing hard edge to the settlement boundary;

d) The development will improve damaged and derelict land including the reclamation of this former tip site; and

e) The development will significantly enhance biodiversity and ecological benefits to the SINC and adjacent land.

It terms of the proposals compliance with Green Belt policy and the purposes of including land within the Green Belt therefore, it is trusted that the proposed Masterplan is supported.

9. SUSTAINABLE DEVELOPMENT

Paragraph 14 of the NPPF states:

"At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision taking."

The NPPF aims to provide a definition of sustainable development and it sets out that there are three dimensions to sustainable development which are economic, social and environmentally. In order for a development to be classified as a sustainable development all three dimensions must be met.

With regards to Local Planning Policies, the Greater Nottingham Core Strategy provides a number of key policies with regards to this issue of providing sustainable forms of development including Policy 1: Climate Change and Policy 14: Managing Travel Demand.

Policy 1 states that all development proposals will be expected to deliver high levels of sustainability in order to mitigate against and adapt to climate change, and to contribute to national and local targets on reducing carbon emissions and energy use.

Furthermore, Policy 14 of the Core Strategy identifies that the need to travel, especially by private car, will be reduced by securing developments of appropriate scale in the most accessible locations. The priority for new development is in firstly selecting sites already accessible by walking, cycling and public transport.

As set out above, Eastwood is identified as being sustainably located within the Tribal Study 2010 This Study identifies that the settlement has a 'high' potential for growth with existing and good potential for sustainable transport connections; sufficient infrastructure to support growth with growth potentially helping to sustain local infrastructure; potential for regeneration linked development; and a strong local employment market

The site is located within a sustainable area and has good walkable and cycling links to many of the important, key local facilities. Para 38 of the NPPF sets out that:

"Where practical, particularly within large scale developments, key facilities such as primary schools and local shops should be located within walking distance of most properties."

The site is within walking/cycling distance of facilities within Eastwood and Giltbrook including primary schools, post office, shops, public house, churches, recreation space etc. In this regards a large proportion of journeys to these facilities could be made via sustainable modes of transport.

In terms of educational facilities, Greasley Beauvale Primary School is located within 1km to the north west of the site and can easily be accessed on foot or by cycling. Gilthill Primary School is located within 1km to the south east of the site and can be easily accessed on foot, using the public rights of way network or Nottingham Road. In terms of the Eastwood Comprehensive School this is accessible via the high frequency bus services or via cycle.

With regards to, there are numerous medical facilities available within Eastwood town centre which is 2km from the site and is accessible via the high frequency bus services

The site is located within close proximity of the existing public transport network providing high frequencies services into Nottingham City Centre and also providing additional regular services into the main towns and Eastwood, Heanor, Ripley and Hucknall and also hourly services to Derby City Centre.

With regards to accessibility to employment, there are a range of local employment opportunities within Eastwood, Giltbrook and Kimberley which was be accessed by walking, cycling or public transport. In additional, Nottingham City Centre is located 12km to the east of the site and is accessible via the high frequency bus services.

In addition to the above, the Transport Report identifies a number of measures that can be implemented as part of the development proposal to encourage residents to travel by sustainable modes of transport. These include:

- Pedestrian links to be provided to Baker Road.
- Retain existing public footpath from Baker Road through to Kimberley.
- All pedestrian facilities within the site to be a minimum width of 2m, adequately surfaced and lit.
- All footways open and subject to appropriate levels of natural surveillance.
- Information on bus services provided to all residents via New Household Sustainable Travel Packs including vouchers for 2 free bus passes (3months) per household, details of local facilities etc.

Due to the site's sustainable location, developing housing within this location would make the most appropriate use of this site which will reduce the need to travel and minimise carbon emissions.

In terms of the environmental aspects of the NPPF's sustainable development definition, the main development site area is not located within the flood plain and sustainable drainage methods would be employed. Furthermore, significant ecological enhancements will be proposed particularly with regards to enhancements to the SINC and its long term, future maintenance will be secured.

It is envisaged that the proposed dwellings will be constructed to a high standard utilising environmentally friendly construction methods and materials where appropriate. It is considered allowing the allocation of this site for housing will enable the provision for much needed dwellings for the Borough, which are environmentally sustainable and makes the best and most effective use of this site.

10. EMPLOYMENT ISSUES

Para 5.6.1 of the Sites Allocation Issues and Option paper states there are a number of existing employment allocations within Eastwood that may be appropriate to consider reallocation to residential uses in order to minimise the need to make allocations for housing outside of the settlement limits.

Policy 2 of the Publications version of the Core Strategy states that the Council will appropriately manage existing employment sites and allocations to cater for the full range of employment uses by:

ii) retaining good quality employment sites (including strategic employment areas) that are an important source of jobs, and sites that support less-skilled jobs in and near deprived areas, or have the potential to provide start up or grow-on space.

It is considered that the Wade Printers site is not a 'good quality employment site' and therefore the development of this site for residential use would not be contrary to Policy 2 of the Core Strategy.

The existing employment site is owned by Wade Print and Paper Ltd. The estate comprises of four principal buildings divided into 14 units. Wades and Ultrachem occupy 72% of the floor space. All units, with the exception of the Wades units are let on a short term basis with the tenants holding over from expired leases.

As set out above existing premises are nearing obsolescence and do not meet the current business needs of the main occupier of this site which is Wade Printers. The majority of the buildings are more than 50 years old and their economic life is limited. The future repair and maintenance costs will be an important consideration in the ongoing performance of the asset in its existing form.

Having regard to the location, age and marketability of the estate, rental growth is likely to be slow or stagnant during the foreseeable future and this will act as a deterrent towards ongoing investment in repairs and refurbishments.

Wades Printers Agent Ray Valenti Property Consultants Ltd who has over 35 years' experience in property development, states that he has significant cause for concern about the lettability of the estate in its present form over the next 10-15years. This concern is particularly relevant in the case of the two largest units of 9,676sqft and 11,400sqft which are both too large to appeal to a wide market in this location.

Furthermore, the Agent confirms that the estate occupies a relatively poor location and this consideration particularly applies to the two large units. The site is also located within a primarily residential area and access from Nottingham Road via Baker Road for large HGV's is relatively poor and this will serve as a deterrent to future occupiers.

A key driver for the formulation of a larger development proposal which incorporates the existing employment site is to provide a scheme that generates sufficient value to enable Wades Printers to source alternative, modern and more appropriately located premises elsewhere and enable the business to grow and prosper.

Wade Printers business and its operation have changed significantly in recent years as a result of the IT revolution. They need to relocate into a building of significantly different design and size in order to cater for their changing business model. This is likely to be in the vicinity of the existing property.

Additionally their pension fund would wish to re-invest the proceeds from any disposal into another property or properties in order to replace the income lost as a result of the disposal of their existing site. Accordingly it is anticipated that they will look to acquire an alternative property or properties within the reasonably close vicinity of Baker Road for occupation not only by their own business but also by those of their present tenants as may wish to be relocated.

It is considered that the existing Wade Printers site is suitable for redevelopment for residential purposes, the owners of the land will seek to secure alternative premises for all of the existing occupiers of the land to ensure that the businesses continue to operate within the local area and retain the current levels of employment.

Taking all of the above into consideration, the proposals hereby presented complies with Policy 2 of the Core Strategy.

11. HIGHWAY CONSIDERATIONS

In order to inform the Masterplan and ensure that the site could be appropriately accessed, Waterman Transport & Development were instructed to prepare a Transport Assessment.

This Report was prepared to provide NCC and Broxtowe Borough Council with the necessary level of detail to demonstrate that there are no transport related reasons which would prevent this site being allocated for residential development within the Sites Allocations DPD.

The Report demonstrated that the site can be accessed safely and sustainably, whilst assessing the transport impacts the proposal would have on the existing network and identifying how such impacts could be mitigated.

The site is accessed at the junction with Baker Road and Main Street. Baker Road/Main Street is a residential road providing access to parts of the wider Newthorpe area, north of Nottingham Road. Baker Road is of a viable road width along its length, and within the vicinity of the site is an 8.1m wide single carriageway road, while Main Street is a 6.3m wide single carriageway road.

Baker Road/Main Street is subject to a 30mph speed limit and has 2m wide footways along both sides for its entire length.

Although the Transport Report does not constitute a full Transport Appraisal, consideration was given to the scale of the proposed development, the characteristics of the surrounding highway network and the requirements for identifying that the surrounding networks are appropriate to confirm that the allocation of this site for housing is acceptable.

In this regards the report provides details of the two site access options and an assessment of the Baker Road/Nottingham Road junction.

A classified traffic count and queue length survey was undertaken of the Baker Road/Nottingham Road junction and in order to provide a robust assessment it was assumed that all development traffic would travel south from the site to the Baker Road/Nottingham Road junction.

An initial analysis of the recorded personal injury accident data in the vicinity of the site has also been undertaken. This demonstrated that there are no junctions within the vicinity that has an average accident rate of over 3 accidents per year. The Report concluded that it is considered that the additional trips generated by the proposed development would not have a detrimental impact upon highway safety in the vicinity of the proposed development.

The Transport Report has provided two site access options on the assumption that the site could accommodate approximately 330 dwellings.

Access would be gained from Baker Road and the two access options are to provide either:

- An alteration of Baker Road/Main Street to a priority ‘T’ junction; or
- The provision of a three armed roundabout junction at Baker Road/Main Street/Site Access

The priority junction option for the site access is shown within Appendix G of the Transport Report. This access has been designed to the standards for a major residential access road as defined by 6C's Design Guide which includes a 6m Radii, 2m footways; and 6.75m carriageways.

The roundabout access option for the site is shown at Appendix H and includes a small three-arm roundabout with a central overrun area, in order for necessary vehicle turning movements whilst constraining vehicle speeds. The site access from this roundabout has been designed to the standards for a major residential access road, as defined within 6C's Design Guide and includes 2m footways and 6.75m wide carriageway

Both options would provide the appropriate visibility.

These options has been assessed using PICADY and the results demonstrate that the proposed site access solutions would operate comfortably within capacity in both the morning and evening peak hours and there would be no significant queuing at the new proposed junction. It has therefore been demonstrated that both site access junction options would provide satisfactory access in terms of both layout and design.

In terms of the Nottingham Road/Baker Road junction, the Capacity Assessment results demonstrate that the junction operates well within capacity during the morning and evening peak hours. The queue surveys identified very little queuing at the junction. The Transport Report demonstrates that the junction would continue to operate well within capacity with the additional traffic and with a degree of spare capacity.

In this regards, the submitted Transport Report has clearly demonstrated that a safe and appropriate access can be provided to serve the development as proposed.

12. DRAINAGE

In order to inform the production of the Masterplan, Armstrong Stokes and Clayton Limited prepared at Drainage Assessment in order to consider the drainage implications of the site, whilst also making comment on flood risk issues.

Based upon the topography of the site, it is clear that the site falls within the Greenfield catchment of the Gilt Brook Watercourse located to the east. An assessment of the Greenfield runoff from the whole site has been undertaken.

The Sustainability Assessment identifies that 22.27% (4.06ha) of site in Flood Zone 3, 23.92% (4.36ha) of site in Flood Zone 2. The nearest potential source of flooding is the Gilt Brook with areas of the immediately adjacent land being located within Flood Zone 3. The majority of the site however is within Flood Zone 1.

There is evidence to suggest that portions of the site are susceptible to overland surface water flooding which is likely to be caused by saturations of the natural formation following prolonged periods of rainfall. This can be mitigated within the detailed design stage. There is no evidence of flooding of the existing sewers.

With regards to foul sewerage, this would need to include a pumped outfall to the existing public sewers on Baker Road/Main Road. The capacity of the foul sewers needs to be assessed at the detailed design stage.

With regards to surface water drainage, the Assessment identifies that the soil maybe of limited permeability and thus restricting or prohibiting the use of infiltration SUDS techniques. Based upon this and with a consideration of reducing pre development run off, the proposed surface water strategy is based on a Greenfield equivalent discharge to the watercourse. The remaining flows will be attenuated on site for the 100 year return period plus a 30% allowance for climate change.

Attenuation maybe necessary due to the ground conditions, in terms of restructuring surface water runoff from the proposed development. Due to the large areas of open space a balancing pond is proposed, possibly supported by suitably located swales.

With a restricted discharge to the watercourse, a balancing pond should be located to consider the sites topography and allows for surface water flows from the whole development to pass through it.

Design details of the pond are provided within the report.

APPENDIX 1

MASTERPLAN OPTION 1 AND 2

&

OPPORTUNITIES & CONSTRAINTS PLAN

PREPARED BY VISTA ARCHITECTURE & URBAN DESIGN

APPENDIX 2

TOPOGRAPHICAL SURVEY

APPENDIX 3

DRAINAGE ASSESSMENT

PREPARED BY

ARMSTRONG STOKES & CLAYTON LIMITED

APPENDIX 4

TRANSPORT REPORT

PREPARED BY

WATERMAN GROUP PLC

APPENDIX 5

LANDSCAPE IMPACT ASSESSMENT

PREPARED BY

PDP ASSOCIATES

Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	TAYLOR & BURROWS PROPERTY

Your Details

Title	[redacted]
Name	[redacted]
Organisation (if responding on behalf of the organisation)	Phoenix Planning (UK) Limited
Address	[redacted]
Postcode	[redacted]
Tel. Number	[redacted]
E-mail address	[redacted]

Comments should be received by 5.00pm on Friday 3rd November 2017

If you wish to comment on several policies, paragraphs, or sites, please use a separate form for each representation.

If you would like to be contacted by the Planning Policy Team regarding future consultations.

Please tick here √

Please help us save money and the environment by providing an e-mail address that correspondence can be sent to: As above

For more information including an **online response** form please visit:

www.broxtowe.gov.uk/part2localplan

Data Protection - The comment(s) you submit on the Local Development Framework (LDF) will be used in the plan process and may be in use for the lifetime of the LDF in accordance with the Data Protection Act 1998. The information will be analysed and the Council will consider issues raised. Please note that comments cannot be treated as confidential and will be made available for public inspection. All representations can be viewed at the Council Offices.

Please return completed forms to:

Planning Policy, Legal and Planning Services, Foster Avenue, Beeston, Nottingham NG9 1AB

For more information: Tel: 0115 917 3452, 3448, 3468 or 3015 E-mail: policy@broxtowe.gov.uk

Question 1: What does your comment relate to? Please specify exactly

Document	Policy number	Page number	Policy text/ Paragraph number
Part 2 Local Plan	**Policy 1**: Flood Risk		
	Policy 2: Site Allocations		
	Policy 3: Main Built up Area Site Allocations		
	Policy 4: Awsworth Site Allocation		
	Policy 5: Brinsley Site Allocation	Page53-58	All of policy 5
	Policy 6: Eastwood Site Allocation		
	Policy 7: Kimberley Site Allocations		
	Policy 8: Development in the Green Belt		
	Policy 9: Retention of good quality existing employment sites		
	Policy 10: Town Centre and District Centre Uses		
	Policy 11: The Square, Beeston		
	Policy 12: Edge-of-Centre A1 Retail in Eastwood		
	Policy 13: Proposals for main town centre uses in edge-of-centre and out-of-centre locations		
	Policy 14: Centre of Neighbourhood Importance (Chilwell Road / High Road)		
	Policy 15: Housing size, mix and choice		
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	Policy 17: Place-making, design and amenity		
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	Policy 19: Pollution, Hazardous Substances and Ground Conditions		
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	Policy 23: Proposals affecting designated and non-designated heritage assets		
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	Policy 30: Landscape		
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	Policy 32: Developer Contributions		
Policies Map			
Sustainability Appraisal			
Other (e.g. omission, evidence document etc.)			

Question 2: What is the issue with the Local Plan?

Please use a separate sheet of paper if required. Please use one form per representation.

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		Yes	No
2.1	Legally compliant		
2.2	Compliant with the duty to co-operate		
2.3	Sound		X

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered '**No' to 2.3** above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	X
It is not effective	X
It is not positively prepared	
It is not consistent with national policy	X

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

The Local Plan allocates 1 site within Brinsley notably the 110 dwellings at Land East of Church Lane, Brinsley. Objection is raised to the proposed allocation on the following grounds:

- Sustainability – Brinsley has limited facilities and limited connections to the public transport network. It is considered that there are alternative more sustainable housing options available within Eastwood, notably the Wade Printers site.

- The SA identifies that the site is poorly related to strategic road network.

- Flooding from Brinsley Brook is a constraint to the development

- High visual impact and loss of a green belt site

- This is a low market area and question is raised with regards to the deliverability of this site within the plan period.

Because of the above concerns, it is considered that in this regard the Plan fails the tests of soundness in that ;

1. Positively Prepared: To meet the test the plan must be able to show it is based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, in a manner consistent with achieving sustainable development. This site raises concerns over its sustainability and deliverability in a manner which fails this test.

2. Justified: The site highlighted above is not justified as an allocation given the concerns that are raised.

3. Effective: Because of the issues raised above, it is not considered that the proposal will not make an effective contribution to delivering sustainable development for the district and deliver the growth required.

4. Consistent with national policy: sustainability is seen as the golden thread running through the NPPF. The significant concerns over the sustainability of this site undermines the Plans credentials in this respect.

Question 4: Modifications sought

Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible. Continue on an extra sheet if necessary.
The site should not be allocated for the reasons given above. It is considered that additional housing should be released within Eastwood in order to provide a plan that is more in compliance with the Adopted Core Strategy and to ensure that sufficient developable and deliverable sites are allocated to meet the full housing needs for the plan period.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

Question 5: Public Examination Attendance

If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	
Yes, I wish to participate at the public examination	√
No, I do not wish to participate at the public examination	
If you wish to participate at the public examination, please outline why you consider this to be necessary	
Whilst the discussion of this particular site may not be necessary, the wider consideration of the basis of how sites have been selected and excluded, is fundamental to the soundness of the Plan, which requires challenge and debate. .	

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	TAYLOR & BURROWS PROPERTY

Your Details

Title	[redacted]
Name	[redacted]
Organisation (if responding on behalf of the organisation)	Phoenix Planning (UK) Limited
Address	[redacted]
Postcode	[redacted]
Tel. Number	[redacted]
E-mail address	[redacted]

Comments should be received by 5.00pm on Friday 3rd November 2017

If you wish to comment on several policies, paragraphs, or sites, please use a separate form for each representation.

If you would like to be contacted by the Planning Policy Team regarding future consultations.

Please tick here √

Please help us save money and the environment by providing an e-mail address that correspondence can be sent to: As above

For more information including an **online response** form please visit:

www.broxtowe.gov.uk/part2localplan

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Planning Policy, Legal and Planning Services, Foster Avenue, Beeston, Nottingham NG9 1AB

For more information: Tel: 0115 917 3452, 3448, 3468 or 3015 E-mail: policy@broxtowe.gov.uk

Question 1: What does your comment relate to? Please specify exactly

Document	Policy number	Page number	Policy text/ Paragraph number
Part 2 Local Plan	**Policy 1**: Flood Risk		
	Policy 2: Site Allocations		
	Policy 3: Main Built up Area Site Allocations		
	Policy 4: Awsworth Site Allocation		
	Policy 5: Brinsley Site Allocation		
	Policy 6: Eastwood Site Allocation	Page 59-64	Policy 6 as a whole
	Policy 7: Kimberley Site Allocations		
	Policy 8: Development in the Green Belt		
	Policy 9: Retention of good quality existing employment sites		
	Policy 10: Town Centre and District Centre Uses		
	Policy 11: The Square, Beeston		
	Policy 12: Edge-of-Centre A1 Retail in Eastwood		
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Sustainability Appraisal			
Other (e.g. omission, evidence document etc.)			

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Question 2: What is the issue with the Local Plan?

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		**Yes**	**No**
2.1	Legally compliant		
2.2	Compliant with the duty to co-operate		
2.3	Sound		X

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered '**No' to 2.3** above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	X
It is not effective	X
It is not positively prepared	X
It is not consistent with national policy	X

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

The Adopted Core Strategy 2014 identified a requirement of up to 1250 dwellings to be provided within Eastwood. The Housing Trajectory at Page 75 of the Local Plan identifies 795 dwellings within the SHLAA plus the proposed allocation of 200 dwellings. The Local Plan Part 2 therefore provides 455 less dwellings than was identified within the Core Strategy. This is a substantial variation, providing for around only 63% of that envisaged within the Core Strategy.

The Plan seeks to reduce the housing requirement as set out within the Adopted Core Strategy for Eastwood and allocate more housing within and adjoining the main urban area. Objection is raised towards this approach. It is considered essential that Eastwood maintains a continual supply of housing and ensure that viable sites are released that can provide appropriate market and affordable housing to meet the needs of the area. Eastwood is a highly sustainable location which requires growth in order to sustain and improve local facilities including a struggling town centre. The release of appropriate green field sites to meet the needs identified within the Adopted Core Strategy will bring forward much needed housing for Eastwood and enable the provision of contributions towards local infrastructure.

It is noted that Eastwood is classified as a low market area which reduces viability and the opportunities for securing appropriate S106 contributions. However, sites such as the Wades Printers site, are located within a higher market area than the remainder of Eastwood and as will be demonstrated within our submission, the Wade printers site can bring forward substantial local community benefits including the provision of a significant area of public open space.

Walker Street Allocation

The Part 2 Local Plan only identifies 1 housing allocation for Eastwood which is identified as the Walker Street site which proposes 200 homes and 30 extra care units. Map 24 in Local Plan is flawed as there is no key identifying the development zonings within the site. It is assumed however that the red annotation relates to housing land.

Concern is raised with regards to the deliverability of this site within the plan period. Part of the site includes the existing Lynncroft Primary School. Although development has commenced on the replacement school, it is understood that this development will need to be completed prior to the release of the site for housing. The site does not presently have a residential consent and therefore an application will also need to be submitted and approved. The Housing Trajectory expects this site to complete all 200 dwellings within the 1st 5 years. The Trajectory identifies that the site will expect a completion rate of 50 dwellings per annum over a 4 year period. It is considered that, firstly it is very unlikely that the development of housing on the site will start so quickly and secondly that such a rate of completion is overly ambitious within this location and does not reflect market signals.

Furthermore, it is considered that the site will bring forward limited S106 contribution by the residential development due to viability considerations. The Site Selection Document identifies that the site has infrastructure delivery issues and is unlikely to be able to viably provide any affordable housing. It is considered that there are alternative sites within Eastwood that could provide for a full suite of S106 provisions and bring forward more substantial benefits to the wider area.

Strategic Housing Land Availability Assessment

The latest Strategic Housing Land Availability Assessment identifies the sites within Eastwood that are considered to be deliverable and developable. It is noted that the SHLAA identifies sites that can provide up to 760 dwellings within Eastwood. Concerns are raised with regards to the deliverability of a number of the identified sites and our comments on the individual sites are provided below.

SITE	*NUMBER OF DWELLING*	*ISSUES*
Hilltop House Nottingham Road Eastwood	10	It is understood that the site is presently being considered for uses other than residential. No planning application has been submitted to redevelop this site. It is understood that the site has been for on the market for a number of years. The asking price for the property may preclude the viable redevelopment of this site for housing. There is insufficient progress to conclude that this site will be delivered for housing.
Dovecote Bar and Grill 29 Beauvale Newthorpe	6	The anticipated land value may preclude this site from being viably redeveloped for housing. This site does not have planning consent and therefore there has been insufficient progress to conclude that this will be delivered for housing
Beamlight Newmanleys Road Eastwood	150	Although this site has an approval, this site is likely to be affected by possible gassing from the nearby tip. Issues in this regard remain outstanding. This will affect the deliverability of the site and question is therefore raised as to whether the site can accommodate 150 dwellings.

95 South Street Eastwood	1	Consent lapsed in 2013 and has not been renewed. This site therefore should be excluded with SHLAA.

In terms of discounting the sites where planning consent has expired, the National Planning Practice Guidance regarding Assessment of land availability clearly sets out what types of sites and sources of data should be used. This identifies that those sites where planning applications have been withdrawn or refused can be taken into consideration. Whilst it may be reasonable to consider sites where permissions have lapsed, this should be on the basis of some sort of evidence as to why it lapsed and why it is felt that it may now be deliverable. This is not clear from the council's evidence base.
Also, where applications are for single plots, it is considered that these are essentially windfall and there is therefore a degree of double counting if the Council also want to claim a windfall allowance for such sites.

It is clear that there are issues with a number of the sites within Eastwood and other areas within Broxtowe that may affect the deliverability of the housing requirement within the plan period. In this regards, it is considered necessary to release additional land within Eastwood in order to ensure that the housing requirement is met in full. The soundness and deliverability of the plan is therefore called into question.

Because of the above concerns, it is considered that in this regard the Plan fails the tests of soundness in that ;

1. Positively Prepared: To meet the test the plan must be able to show it is based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, in a manner consistent with achieving sustainable development. This councils approach to Eastwood raises concerns over its sustainability and deliverability in a manner which fails this test.

2. Justified: As highlighted above, the approach that has been taken is not only not justified, but is at odds with the Core strategy on which the plan is supposed to be based.

3. Effective: Because of the issues raised above, it is not considered that the Plans approach will make an effective contribution to delivering sustainable development for the district and deliver the growth required.

4. Consistent with national policy: The approach taken here is not considered to be sustainable and therefore the proposals are contrary to the golden thread running through the NPPF. The significant concerns over the sustainability of the approach being taken to this area undermines the Plans credentials in this respect.

Question 4: Modifications sought

Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible. Continue on an extra sheet if necessary.

My client considers that additional sites should be released within the Eastwood in order to ensure an appropriate and continual supply of housing for both Eastwood and Broxtowe as a whole.

Alternative Housing Allocation - Land off Baker Road, Giltbrook

Wade Printers are a successful local employer who operate their printing business from the Wade Printers site identified as SHLAA site no 3. The site, although presently partially occupied for employment use, consists of existing industrial buildings that are in a poor state of repair and do not meet the needs of a modern-day business. The occupiers need to relocate to new premises, within a more suitable location and with modern facilities to enables them to operate their business more effectively and retain local employment.

The site is currently an eyesore within a pleasant residential area and the site consists of a non-conforming uses within an existing residential area, incorporating several daily HGV movements along Baker Road. Therefore, the redevelopment of this site for housing purposes would bring forward substantial benefits to the wider area. It is important to note however that the owners of the Wade Printer site have undertaken viability work in order to assess whether developing the existing employment site in isolation for housing purposes would provide sufficient funding for their relocation to more suitable premises. However, unfortunately it is considered that insufficient value is generated by the redevelopment of employment site in isolation to make it a viable for new businesses premises to be found. On this basis, it is imperative for a larger housing development to be brought forward which incorporates the adjacent landholdings in order to create a viable housing option that will enable Wade Printers to relocate to more suitable premises, ensuring the business remains profitable and local employment is retained.

Without the release of additional land for housing purposes, the site will remain within its current use and remain an eyesore within the locality. Wades Printers have over the last few years considered how the existing brownfield site along with elements of the less sensitive greenbelt land can be bought forward for residential development whilst retaining the important gap between Giltbrook and Kimberley.

It should be noted that although part of the site is located within the greenbelt, a further priority is to enable the reclamation of the former tip site and improve the ecological value and management of the SINC site which can be facilitated by the redevelopment of the wider area. To the east of the employment site is the reclamation site extending to 6ha site identified as the Former Tip Baker Road under policy E30 of the Adopted Local Plan. Policy E30 of the Adopted Local Plan identifies that the Council will encourage the reclamation of derelict land. It is understood that areas of the site were previously tipped in the 1830's with colliery shale and lied adjacent to the former Newthorpe Colliery. This section of the site is presently utilised as a corporate event activity centre including off road vehicle events, archery/cross bow target shooting. The use of the site for off road biking and associated activities has over the years lead to the degradation of this site. The redevelopment of the site therefore will bring forward environmental and visual benefits.

It should be noted that detailed proposals has been submitted to the Planning Department in relation to the potential of this site including Masterplans, Transport Assessments, Landscape Appraisals, Drainage Appraisals and a detailed Planning Statement, that highlights the material planning considerations of this development site. There are two masterplans outlining the basics of our proposal and providing two potential development options that have been presented to Broxtowe Borough Council for consideration.

Option 1 incorporates the redevelopment of the Wade Printers industrial site along with land to the north and south for housing purposes. This masterplan proposes the provision of a significant area of public open space which could provide a defensible boundary within the green belt and provide much need open space for the locality. Also attached is a more detailed constraints and opportunities plan for this option which provides more detail.

Option 2 excludes land to the south of the existing employment and concentrates development to the north and away from the settlement of Kimberley. This would remove completely any issue with regards to coalescence between Giltbrook and Kimberley although a reduced area of public open space could be provided.

The SA assessment provides an unjustified rejection of our proposals and does not fully consider the scheme that has been put forward and the benefits that it could bring. The full details of the suitability, deliverability and sustainability of our client's site are provided in our detailed submission paper attached as an appendix to this objection. However, in brief the main opportunities the site offers:

1. It provides for a mix of brownfield and greenfield land
2. Encourage the reclamation of derelict land
3. It allows for the relocation and growth of a local business which will allow for the retention and possible growth in local employment
4. It would allow for the removal of HGV's related to the business from a residential area and bring an end to the motor cycling on adjacent land that can generate nuisance
5. It would provide the Borough and/or the Parish Council, a significant, long term and controllable area of natural open space, forming a strong Green Belt boundary to the south of the town, and adding much needed publicly accessible open space to the settlement.
6. Whilst the site is partially part of the Green Belt, these proposals seek only to round the town off without further extending it to the south eastwards towards Kimberley, or north eastwards towards Greasley.
7. This option will not decrease the gap between Eastwood and Kimberly and will provide a strong defensible boundary that could be transferred to the Council and therefore provide public control over the land to ensure that it is defensible in perpetuity.

We realise that developing land within the Green Belt does rightly raise concerns, but we recognise that the Council has limited options. It is considered that our proposal provides a more sustainable and environmentally sensitive option for fulfilling the housing needs for Eastwood as identified by the Core Strategy, than any other reasonable alternative site within Eastwood and those allocated within Bramcote and Stapleford.

Our proposal does not impact on the role of the Green Belt and provides significant economic, social and environmental benefits to the area. The area of Green Belt taken is marginal and appears more as part of the natural shape of the town than as 'open countryside'.

It is considered that our proposal provides a sustainable and environmentally sensitive option for fulfilling the housing needs for Eastwood as identified by the Core Strategy.

Our clients very much want to work with the Council in terms of realising the potential of this site and bringing forward the housing Eastwood needs. Our concern is that the current approach the Council is taking, is not considering the broader picture and the important role our site could play as a sustainable extension to Eastwood.

We strongly believe in the positive benefits our site can bring and will seek to bring it forward.

It is considered that the Local Plan should be amended and the Wade Printers site be allocated for housing purposes.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

Question 5: Public Examination Attendance

If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	
Yes, I wish to participate at the public examination	√
No, I do not wish to participate at the public examination	
If you wish to participate at the public examination, please outline why you consider this to be necessary	

The issues raised within this objection, the variation from the Aligned Core strategy and the approach taken to the development of Eastwood are considered to be crucial elements that must be fully considered if a sound local plan is to be achieved. Considering the merits of other sites is also necessary if the Council are to be encouraged into taking a new proactive approach to planning to meet their needs.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	TAYLOR & BURROWS PROPERTY

Your Details

Title	[redacted]
Name	[redacted]
Organisation (if responding on behalf of the organisation)	Phoenix Planning (UK) Limited
Address	[redacted]
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If you would like to be contacted by the Planning Policy Team regarding future consultations.

Please tick here √

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Policies Map			
Sustainability Appraisal			

Question 2: What is the issue with the Local Plan?

Please use a separate sheet of paper if required. Please use one form per representation.

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		Yes	No
2.1	Legally compliant		
2.2	Compliant with the duty to co-operate		
2.3	Sound		X

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered '**No' to 2.3** above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	X
It is not effective	X
It is not positively prepared	X
It is not consistent with national policy	X

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

Policy 7 identifies a number of sites proposed to be allocated for housing purposes within the Kimberley area. Concerns are raised with regards to the deliverability of a number of these sites within the plan period. The table below identifies my clients concerns and key constraints on each of the sites which may affect deliverability.

SITE	*NO. OF DWELLINGS*	*ISSUES*
Land South of Kimberley including Kimberley Depot	***105 dwellings***	- ***Landscape impact on the Babbington/Swingate/Verge Wood Mature Landscape Area*** - ***Noise impact from A610- SA identifies that a potential buffer is within third party ownership*** - ***Contamination from tip site. Ground surveys should be required to prove the site is developable.*** - ***Question whether the site will remain viable.***
Land south of Eastwood Road, Kimberley	***40 dwellings***	***Allocated in 2004 Local Plan and hasn't come forward to date. Deliverability of this site is questionable.***
Eastwood Road Builders Yard, Kimberley	***22 dwellings***	***Allocated in 2004 Local Plan and hasn't come forward to date. Deliverability of this site is questionable.***

It is clear that there are significant issues with a number of the sites that may affect deliverability within the plan period. In this regard, it is considered necessary to release additional land within the Borough in order to ensure that the housing requirement is met in full.

Because of the above concerns, it is considered that in this regard the Plan fails the tests of soundness in that ;

1. Positively Prepared: To meet the test the plan must be able to show it is based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, in a manner consistent with achieving sustainable development. These sites raises concerns over the deliverability of the approach. Given that sites first allocated 13 years ago have still not progressed, despite a consistent failure to achieve the forecast development rates, suggests that the Council is still following a failed approach, rather than seeking a positive approach to delivery of sites.

2. Justified: The sites highlighted above are not justified as allocations given the concerns that are raised and their previous failure to attract market interest.

3. Effective: Because of the issues raised above, it is not considered that the proposals will make an effective contribution to delivering sustainable development for the district and deliver the growth required.

4. Consistent with national policy: Deliverability is clearly a crucial issue within the NPPF (Para 47 and footnote 11, Para 49). The significant concerns over the deliverability of the above sites undermines the Plans credentials in this respect.

Question 4: Modifications sought

Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible. Continue on an extra sheet if necessary.

It is accepted that it may be difficult to identify sufficient suitable sites within Kimberley to meet the target. However, looking at the wider area, greater provision within Eastwood (similar to the Core Strategy target) would enable the growth asperations for the wider area to be met.

It is considered that additional housing should be released within Eastwood in order to provide a plan that is more in compliance with the Adopted Core Strategy and to ensure that sufficient developable and deliverable sites are allocated to meet the full housing needs for the plan period.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

Question 5: Public Examination Attendance

If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	
Yes, I wish to participate at the public examination	√

No, I do not wish to participate at the public examination	

If you wish to participate at the public examination, please outline why you consider this to be necessary

The Council should take a fresh look at potential new sites where deliverability has not already failed and consider sites that do not have the deliverability and viability issues that some of the current sites face.

It is considered that additional housing should be released within Eastwood in order to provide a plan that is more in compliance with the Adopted Core Strategy and to ensure that sufficient developable and deliverable sites are allocated to meet the full housing needs for the plan period. It should focus on the more marketable areas of Eastwood and support this areas growth and regeneration in a more positive fashion.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	TAYLOR & BURROWS PROPERTY

Your Details

Title	[redacted]
Name	[redacted]
Organisation (if responding on behalf of the organisation)	Phoenix Planning (UK) Limited
Address	[redacted]
Postcode	[redacted]
Tel. Number	[redacted]
E-mail address	[redacted]

Comments should be received by 5.00pm on Friday 3rd November 2017

If you wish to comment on several policies, paragraphs, or sites, please use a separate form for each representation.

If you would like to be contacted by the Planning Policy Team regarding future consultations.

Please tick here √

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	Policy 31: Biodiversity Assets		
	Policy 32: Developer Contributions		
Policies Map			
Sustainability Appraisal			
Other (e.g. omission, evidence document etc.)	SHLAA		

Question 2: What is the issue with the Local Plan?

Please use a separate sheet of paper if required. Please use one form per representation.

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		Yes	No
2.1	Legally compliant		
2.2	Compliant with the duty to co-operate		
2.3	Sound		X

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered '**No' to 2.3** above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	X
It is not effective	X
It is not positively prepared	
It is not consistent with national policy	X

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

The SHLAA should have been updated prior to the publication of the local plan as many of the assumptions made are inaccurate or not up to date. The tables for the deliverable and developable sites for each of the settlement areas provides a 0-5 year period from 2013-2018. The 5 year land supply within the report however appears to represent the 5 year period from 2017-2022. This is confusing.

The SHLAA identifies that the Council do not presently have a 5 year land supply when calculating the supply on either the Liverpool or Sedgefield Method. However, it is considered a number of the site included within the 5 year land supply may not come forward within the 0-5 year period and therefore should be removed from the 5 year land supply calculation.

For example it is considered that the following sites should be removed:

SITE	NO. OF DWELLINGS	REASON FOR REMOVAL
Walker Street	30 dwellings	The site does not have an implementable consent and therefore should be removed from the 0-5 year supply.
Beamlight, New Manleys Road	150 dwellings	Although an outline application was approved in 2015, no reserved matters application has been submitted to date and this approval is to expire in May 2018.It is understood that there are significant contamination issues with this site which are yet to be resolved and may impact upon deliverability. In light of the outstanding uncertainty, it is considered that this should not be included within the 0-5 year housing supply period.

		Even if included, it is unlikely that development could commence for at least another year, so the contribution should be reduced accordingly.
Totals	180	

If the above sites were removed from the 5-year land supply the following would consist of the Councils 5 year land supply:

Liverpool Approach
((2333/2931)x5) = **3.9 years**

Sedgefield Approach
((2333/3452)x5) = **3.3 years**

Question 4: Modifications sought

Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible. Continue on an extra sheet if necessary.

The SHLAA is one of the most important parts of the evidence base. It should provide the foundation to the site allocations and the land supply position as a whole. It should be what justifies that the Plan can be delivered and will be effective in providing for developable land over the Plan period.

As this and other objections will show, there is considerable concern that the SHLAA reflects the situation as the Council would like to see it viewed in terms of site delivery, rather than as it will be. Therefore, the Plan fails the tests of soundness as:

1. Positively Prepared: To meet the test the plan must be able to show it is based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, in a manner consistent with achieving sustainable development. The sites selected, and the many previously permitted, do not show a positive approach to achieve the delivery claimed within the next 5years let alone the immense step change that the Trajectory in Table 4 is suggesting will occur. The Council appear to be relying on sites that have failed in the past which indicates that the Plan is not Positively prepared.

2. Justified: The sites highlighted within the SHLAA are not fully evaluated and the belief that they will deliver in the manner suggested is not justified.

3. Effective: The fact that the issues raised above, that sites will not deliver as forecast, means that the Plan will fail to be effective and deliver the growth required.

4. Consistent with national policy: NPPF para 159 requires Councils to prepare a Strategic Housing Land Availability Assessment to establish **realistic assumptions** about the availability, suitability and the likely economic viability of land to meet the identified need for housing over the plan period. It is not considered that the SHLAA relied on meets these requirements for the reasons set out.

The Council should provide and update the Strategic Housing Land Availability Assessment and amend the 5 year land supply to ensure realistic assumptions about the deliverability of sites within the Plan period and especially within the 0-5 year period.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

Question 5: Public Examination Attendance

If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	
Yes, I wish to participate at the public examination	√
No, I do not wish to participate at the public examination	
If you wish to participate at the public examination, please outline why you consider this to be necessary	
The SHLAA is the main building block for the whole of the residential part of the Plan. This is a matter that needs to be fully discussed and understood by all interested parties as it impacts upon the basic soundness of the plan.	

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	TAYLOR & BURROWS PROPERTY

Your Details

Title	[redacted]
Name	[redacted]
Organisation (if responding on behalf of the organisation)	Phoenix Planning (UK) Limited
Address	[redacted]
Postcode	[redacted]
Tel. Number	[redacted]
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Please tick here √

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	Policy 31: Biodiversity Assets		
	Policy 32: Developer Contributions		
Policies Map			
Sustainability Appraisal			
Other (e.g. omission, evidence document etc.)	The Evidence base, in particular the Strategic Housing Market Assessment (SHMA)		

Question 2: What is the issue with the Local Plan?

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		Yes	No
2.1	Legally compliant		
2.2	Compliant with the duty to co-operate		
2.3	Sound		X

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered '**No' to 2.3** above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	X
It is not effective	X
It is not positively prepared	X
It is not consistent with national policy	X

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

Table 1 part ii, highlights that in relation to determining housing needs, the Council has based its position on a document (*Comparison of the Household Projections Underlying the Greater Nottingham Core Strategies and the CLG 2012-Based Household Projections, January 2016*), which essentially relates back to 2008 data, which was the basis for the Aligned Core Strategy.

That paper states that its purpose was to compare the household projections underlying the Core Strategies covering Greater Nottingham (the Nottingham Core Housing Market Area) with (at that time), the latest 2012-based CLG Household Projections.

Whilst it concluded that at that time there was a good match between the Core Strategies' projections and the 2012-based projections, it goes on to accept:
"This paper cannot be regarded as a substitute for a full Strategic Housing Market Assessment, but gives a good indication that the Core Strategies continue to provide for the full objectively assessed housing need of the area."

Given that the original assessment on which this was based, pre-dates the NPPF, this is not surprising.

Section 6 of the NPPF on Housing says at para 47, that
"To boost significantly the supply of housing, local planning authorities should:
● *use their evidence base to ensure that their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area".*

This cannot be achieved by relying on what is essentially an out of date sensitivity test on an even more out of date SHMA.

At Para 158 on using a proportionate evidence base the NPPF states:
"Each local planning authority should ensure that the Local Plan is based on adequate, up-to-date and relevant evidence about the economic, social and environmental characteristics and prospects of the area.."

At para 159 it carries on to say:
"*Local planning authorities should have a clear understanding of housing needs in their area. They should:*
● *prepare a Strategic Housing Market Assessment to assess their full housing needs, working with neighbouring authorities where housing market areas cross administrative boundaries."*

Unfortunately, the Council have ignored the clear indications given in the 2016 paper on which they rely, that it is not a substitute for a full Strategic Housing Market Assessment, which they should have carried out at that time. Instead they are still intending to Plan for housing requirements to 2028, based on, essentially, a 2008 Household projection data set.

It is important to note that the date of the paper on which they depend was January 2016. This pre-dates the 2014 Sub National Population projections (SNPP) which were published in May 2016 & the Sub National House Hold projections (SNHP) which were released in July 2016, and which make up the most up to date and relevant data base.

Therefore, it is considered that the Plan is not sound as it fails to meet the following tests in an acceptable manner.

1. Positively Prepared: Relying on old data sets, and not addressing potential changes since 2008, despite their own guidance advising them to do so, shows that the plan is not being positively prepared with a willingness to adopt to the potential of changes in the housing requirements.
2. Justified: The lack of a new SHMA means that the evidence base for the housing figures being relied upon lacks justification.
3. Effective: It is difficult to see how, when a Plan is based on out of date evidence, anyone can consider to what degree it will or will not be effective. Not knowing whether the housing requirement is accurate or not means that the Plan cannot be properly considered or monitored and therefore its effectiveness cannot be proven.
4. Consistent with national policy: In relation to this issue, as set out above, the lack of an up to date SHMA, means that the plan is not in compliance with the NPPF.

Question 4: Modifications sought

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The Plan should be withdrawn and a new SHMA completed to define an up to date OAN, for the plan to be based on. However, given the Governments September 2017 consultation on Housing (Planning for the right homes in the right places), and their undertaking to require a new approach to housing numbers in the spring of 2018, it is reasonable to suggest that the Plan be withdrawn to await the governments confirmation of a new approach.

It is accepted that the current consultation figure from CLG (360), would seem to confirm the figures that the Council are using. However, they are based only on a consultation, do not follow current guidance and the relationships and requirements across the SHMA are also not recognised at present, leaving any future situation uncertain. On this basis the plan should not proceed.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

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If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	
Yes, I wish to participate at the public examination	√
No, I do not wish to participate at the public examination	

If you wish to participate at the public examination, please outline why you consider this to be necessary

This is a crucial issue that goes to the very heart of the Plan and its soundness. It is a matter that needs to be fully discussed and understood by all interested parties.

I would further suggest that it needs to be evaluated as part of a pre-hearing session, before proceeding with a full examination.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

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'Legally Compliant':

If your response relates to **the way in which the plan has been prepared,** then this is likely to relate to whether it or not it is '**Legally Compliant'**. To be 'Legally Compliant', the Local Plan has to be prepared in accordance within the 'Duty to Cooperate' and legal and procedural requirements. These are set out by legislation in the Town and Country Planning (Local Planning) (England) Regulations 2012 (as amended). If you think that we have not met the legal requirement in the preparation of the Local Plan, please use the response form to tell us what we have not done or what we have done incorrectly.

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'Sound'

If your response is about the **content** of the Local Plan and the strategy it adopts, then it is likely to relate to whether or not the Local Plan is '**Sound**'.

To meet the 'Test of Soundness', the independent Planning Inspector is required to consider whether or not our Local Plan is '**justified', 'effective',** has been '**positively prepared',** and is '**consistent with national policy'**. You may wish to consider the following before making a representation on the 'Soundness' of our Local Plan:

- **'Justified':** This means that the Local Plan is based upon a robust and credible evidence base. If you think that the evidence doesn't support the choice made in our Local Plan, or there are realistic alternatives, then your comments may relate to whether or not it is 'justified'.
- **'Effective':** This means that the Local Plan will deliver what it sets out to. If you think that what we are proposing in the Local Plan is not deliverable, then your comments may relate to whether or not our Local Plan is 'effective'.
- **'Positively Prepared':** This means the Local Plan should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development.
- **'Consistent with National Policy':** Do you consider that our Local Plan accords with the National Planning Policy Framework (NPPF) and other policies, or includes clear and convincing reasons for doing something different?

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Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	TAYLOR & BURROWS PROPERTY

Your Details

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Name	[redacted]
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Policies Map			
Sustainability Appraisal			
Other (e.g. omission, evidence document etc.)	The Plan as a whole.		

Question 2: What is the issue with the Local Plan?

Please use a separate sheet of paper if required. Please use one form per representation.

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		Yes	No
2.1	Legally compliant		
2.2	Compliant with the duty to co-operate		
2.3	Sound		X

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered '**No' to 2.3** above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	X
It is not effective	X
It is not positively prepared	X
It is not consistent with national policy	X

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

The Council's own LDS suggests that it will be adopted in Autumn of 2018.
Therefore, based on their claims, the first full year of the Plan will be the period 2019/2020, and the last year of the Plan based on their own trajectory and claims is 2027/2028.

This gives a plan life of only 9 years, even when assuming no slippage between now and the proposed date of adoption, despite the unknown implications of this consultation, amendments proposed to the NPPF and a new method of calculating housing need to be defined in the spring, and the uncertainties of the examination. Any delay through any of these issues or the need to carry out further consultation will further exacerbate the short comings of the plan.

At Para 157 the NPPF states
" Crucially, Local Plans should:….
● *be drawn up over an appropriate time scale, preferably a 15-year time horizon, take account of longer term requirements, and be kept up to date;*

At Para 47 in relation to the requirement to boost significantly the supply of housing, the NPPF states that local planning authorities should:…
● identify and update annually a supply of specific deliverable sites sufficient to provide five years worth of housing against their housing requirements …
● identify a supply of specific, developable sites or broad locations for growth, for years 6-10 and, where possible, for years 11-15

The advice from the governments Local Plan Experts Group , at S38 states :

"Importantly, however, we particularly recommend that local plans must generate the confidence that they are planning sustainability over the full local plan period (at least 15 years)."

In general; it is assumed that the plan should be for a minimum of 10 years, and these issues have been important considerations at both the Rushcliffe and the earlier Ashfield local plan examinations.

The shortness of the plan gives rise to the following failings in terms of the tests of soundness:
1. Positively Prepared: the short life of the Plan brings into question whether it is a positive strategy for the future. It appears that the Council have sought to develop a short-term plan in order to avoid challenging decisions over greenbelt release that the area requires. It appears more of a strategy to avoid difficult allocations by limiting the forward vision of the document, than a strategy which seeks to meet objectively assessed development and infrastructure requirements.
2. Justified: Developing a Plan for only 9 years cannot be justified as most appropriate strategy, given Government guidance and advice and the need to provide a long-term Plan for the area.
3. Effective: given the limited lifetime of the Plan, it fails to be effective in providing for the long-term future of the Borough.
4. Consistent with national policy: In relation to this issue, as set out above, having a Plan that only provides for the next 9 years is contrary to national policy.

Question 4: Modifications sought

Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible. Continue on an extra sheet if necessary.
The Plan needs to be withdrawn and reconsidered to ensure that it will give as a minimum a 10 year development period, and preferably provide a clear vision for 15 years post adoption. I would suggest that the Council should consider amending the plan to have an end date of 2033/35, and plan for the necessary housing, employment and infrastructure requirements on that basis.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

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Yes, I wish to participate at the public examination	√
No, I do not wish to participate at the public examination	
If you wish to participate at the public examination, please outline why you consider this to be necessary	

This is a crucial issue that goes to the very heart of the Plan and its soundness. It is a matter that needs to be fully discussed and understood by all interested parties.

I would further suggest that it needs to be evaluated as part of a Pre hearing session, before proceeding with a full examination.

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

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'Legally Compliant':

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'Sound'

If your response is about the **content** of the Local Plan and the strategy it adopts, then it is likely to relate to whether or not the Local Plan is '**Sound**'.

To meet the 'Test of Soundness', the independent Planning Inspector is required to consider whether or not our Local Plan is '**justified', 'effective',** has been '**positively prepared',** and is '**consistent with national policy'**. You may wish to consider the following before making a representation on the 'Soundness' of our Local Plan:

- **'Justified':** This means that the Local Plan is based upon a robust and credible evidence base. If you think that the evidence doesn't support the choice made in our Local Plan, or there are realistic alternatives, then your comments may relate to whether or not it is 'justified'.
- **'Effective':** This means that the Local Plan will deliver what it sets out to. If you think that what we are proposing in the Local Plan is not deliverable, then your comments may relate to whether or not our Local Plan is 'effective'.
- **'Positively Prepared':** This means the Local Plan should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development.
- **'Consistent with National Policy':** Do you consider that our Local Plan accords with the National Planning Policy Framework (NPPF) and other policies, or includes clear and convincing reasons for doing something different?

For further guidance or assistance, please contact the **Planning Policy Team** on **0115 917 3452** or by emailing **policy@broxtowe.gov.uk**.

[redacted]

From: Daniel Sellers [redacted]
Sent: 30 October 2017 16:39
To: Policy
Subject: Dan Sellers 2017-10-30

Dear relevant department,

Local Plan feedback

I fully support the **New Local Plan** consultation document.
I feel it is important that Brownfield sites are redeveloped (such as the barracks in the Chilwell / Attenborough area, the former Boots factory & cement works in Beeston) and also that Listed Buildings are used & maintained to stop them becoming derelict.
It is also important that the proposed development to the east of Toton railway yard maintains the green gap between the railway line and Toton village.
With regard to the Bennerley opencast site, as this is in the Green Belt I feel it should be remediated and retained to green land with restoration of the disused railway viaduct.
I would support residential conversion of the disused farm buildings opposite Trowell Church, between the A6007 and the railway line.
Finally, good to see that work on the residential conversion / development at Kimberley Brewery has now started.

Regards,
Dan.

Broxtowe Part 2 Local Plan

Broxtowe Borough COUNCIL

Agent

Please provide your client's name	

Your Details

Title	Mr	Mrs	Miss	Ms	Other:
Name	KENNETH PAGE				
Organisation (if responding on behalf of the organisation)					
Address	[redacted]				
Postcode	[redacted]				
Tel. Number					
E-mail address					

Comments should be received by 5.00pm on Friday 3rd November 2017

If you wish to comment on several policies, paragraphs, or sites, please use a separate form for each representation.

If you would like to be contacted by the Planning Policy Team regarding future consultations.

Please tick here ☐

Please help us save money and the environment by providing an e-mail address that correspondence can be sent to: _____

For more information including an **online response** form please visit:

www.broxtowe.gov.uk/part2localplan

Data Protection - The comment(s) you submit on the Local Development Framework (LDF) will be used in the plan process and may be in use for the lifetime of the LDF in accordance with the Data Protection Act 1998. The information will be analysed and the Council will consider issues raised. Please note that comments cannot be treated as confidential and will be made available for public inspection. All representations can be viewed at the Council Offices.

Please return completed forms to:

Planning Policy, Legal and Planning Services, Foster Avenue, Beeston, Nottingham NG9 1AB

For more information: Tel: 0115 917 3452, 3448, 3468 or 3015 E-mail: policy@broxtowe.gov.uk

Question 1: What does your comment relate to? Please specify exactly

Document	Policy number	Page number	Policy text/ Paragraph number
Part 2 Local Plan	**Policy 1**: Flood Risk		
	Policy 2: Site Allocations		
	Policy 3: Main Built up Area Site Allocations		
	Policy 4: Awsworth Site Allocation		
	Policy 5: Brinsley Site Allocation		
	Policy 6: Eastwood Site Allocation		
	Policy 7: Kimberley Site Allocations		
	Policy 8: Development in the Green Belt		
	Policy 9: Retention of good quality existing employment sites		
	Policy 10: Town Centre and District Centre Uses		
	Policy 11: The Square, Beeston		
	Policy 12: Edge-of-Centre A1 Retail in Eastwood		
	Policy 13: Proposals for main town centre uses in edge-of-centre and out-of-centre locations		
	Policy 14: Centre of Neighbourhood Importance (Chilwell Road / High Road)		
	Policy 15: Housing size, mix and choice		
	Policy 16: Gypsies and Travellers		
	Policy 17: Place-making, design and amenity		
	Policy 18: Shopfronts, signage and security measures		
	Policy 19: Pollution, Hazardous Substances and Ground Conditions		
	Policy 20: Air Quality		
	Policy 21: Unstable land		
	Policy 22: Minerals		
	Policy 23: Proposals affecting designated and non-designated heritage assets		
	Policy 24: The health impacts of development		
	Policy 25: Culture, Tourism and Sport		
	Policy 26: Travel Plans		
	Policy 27: Local Green Space		
	Policy 28: Green Infrastructure Assets		
	Policy 29: Cemetery Extensions		
	Policy 30: Landscape		
	Policy 31: Biodiversity Assets		
	Policy 32: Developer Contributions		
Policies Map			
Sustainability Appraisal			
Other (e.g. omission, evidence document etc.)			

Question 2: What is the issue with the Local Plan?

Do you consider this paragraph or policy of the Local Plan to be: *(please refer to the guidance note at for an explanation of these terms)*		Yes	No
2.1	Legally compliant	✓	
2.2	Compliant with the duty to co-operate	✓	
2.3	Sound	✓	

Question 3: Why is the Local Plan unsound? Please **only** answer this question if you answered 'No' to 2.3 above

If you think this paragraph or policy of the Plan is not sound, is this because:	
It is not justified	
It is not effective	
It is not positively prepared	
It is not consistent with national policy	

Your comments

Please give details of why you consider this part of the Local Plan is not legally compliant, is unsound or does not comply with the duty to co-operate. Alternatively, if you wish to support any of these aspects please provide details. Please be as precise as possible. Continue on an extra sheet if necessary.

Question 4: Modifications sought

Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound. You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible. Continue on an extra sheet if necessary.

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage. **After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.**

Guidance Note:

Please complete a **separate form** for **each representation** you wish to make.

'Legally Compliant':

If your response relates to **the way in which the plan has been prepared,** then this is likely to relate to whether it or not it is '**Legally Compliant**'. To be 'Legally Compliant', the Local Plan has to be prepared in accordance within the 'Duty to Cooperate' and legal and procedural requirements. These are set out by legislation in the Town and Country Planning (Local Planning) (England) Regulations 2012 (as amended). If you think that we have not met the legal requirement in the preparation of the Local Plan, please use the response form to tell us what we have not done or what we have done incorrectly.

'Compliant with the Duty to Co-operate':

If your response relates to **the way in which we have worked with other authorities** then this is likely to relate to the '**Duty to Co-operate**'.

The 'Duty to Co-operate' places a legal duty on Local Planning Authorities, County Councils and certain public bodies to engage constructively, actively, and on an on-going basis, to maximise the effectiveness of Local Plan preparation in the context of strategic cross-boundary matters. The 'Duty to Co-operate' is not a duty to agree. However, Local Planning Authorities should make every effort to secure the necessary co-operation on strategic cross-boundary matters before they submit their Local Plan for examination.

'Sound'

If your response is about the **content** of the Local Plan and the strategy it adopts, then it is likely to relate to whether or not the Local Plan is '**Sound**'.

To meet the 'Test of Soundness', the independent Planning Inspector is required to consider whether or not our Local Plan is **'justified', 'effective',** has been **'positively prepared',** and is **'consistent with national policy'**. You may wish to consider the following before making a representation on the 'Soundness' of our Local Plan:

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For further guidance or assistance, please contact the **Planning Policy Team** on **0115 917 3452** or by emailing **policy@broxtowe.gov.uk**.

Question 5: Public Examination Attendance

If your representation is seeking a modification, do you consider it necessary to participate at the public examination?	
Yes, I wish to participate at the public examination	
No, I do not wish to participate at the public examination	✓

If you wish to participate at the public examination, please outline why you consider this to be necessary

Please note the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

Broxtowe Borough Council

Part 2 Local Plan (Publication Version)
Written Representations

On behalf of Philip Turton

November 2017

Quality Control

Project No.	P&DG/13.039			
Title	Part 2 Local Plan (Publication Version)			
Location	Broxtowe Borough Council			
File reference	13.039/Representations			
Issue	Date	Prepared By	Reviewed By	Authorised by
1	2nd November 2017	AG	BW	BW

Contents

1 Introduction and Executive Summary

1.1 This statement of written representations is made on behalf of our client Philip Turton in response to Broxtowe Borough Council's consultation on the proposed Part 2 Local Plan (Publication Version).

1.2 We welcome the opportunity to respond to this stage of consultation on the Local Plan and recognise the critical importance of establishing an appropriate, legally compliant and sound policy framework for Broxtowe at this point of Local Plan process. As such our comments are structured around relevant policy areas and focus on relative soundness and legal compliance of the emerging Local Plan document.

1.3 These representations have direct regard to land south of 121 Kimberley Road, Nuthall which is identified as site number 218 in the most recent 2015/16 SHLAA document where the site is considered both developable and deliverable.

1.4 We make these representations in the context of seeking to work with the Council both now and in the future to ensure that an effective and deliverable plan for Broxtowe is achieved.

1.5 In summary, we find a large number of the proposed modifications sound and warrant our support. However, we hold concerns around the proposed housing supply trajectory, particularly in relation to the Kimberley (including Nuthall) area. In its current form the housing supply will likely raise questions of soundness during the emerging Local Plan public examination. Therefore, we consider further resolution is needed to diversify and enhance the range of specifically deliverable, allocated sites in order to enhance the housing land supply across Broxtowe and in Kimberley.

2 Policy 2: Site Allocations

2.1 In principle Policy 2: Site Allocations is considered **sound** as it directly supports the provision of new homes against the identified need for 6,150 new dwellings in Broxtowe over the life of the Local Plan. The allocation of sites is absolutely critical in the adoption of a plan-led approach in line with paragraph 196 of the National Planning Policy Framework ('NPPF'). This is particularly whereby the designation of land for development through Local Plans provides significantly enhanced land owner and developer confidence in bringing forward sites for development.

2.2 As such the Part 2 Local Plan should be seen as a critical tool in supporting market confidence in housing delivery and, in turn, boosting the number of sustainable new homes delivered.

3 Policy 7: Kimberley Site Allocations

3.1 Kimberley (including Nuthall) is designated as a key settlement and therefore identified as suitable for growth in the 2014 Aligned Core Strategy. Therefore, Kimberley is allocated a distributed target to deliver 600 dwellings as a part of Broxtowe's spatial hierarchy. The prompt delivery of these 600 dwellings will be critical in addressing the overall need for housing in Broxtowe.

3.2 The need for all forms of new housing across the country is well documented and is supported in the 2012 National Planning Policy Framework ('NPPF'). It indicates that providing the housing supply to meet the needs of current and future generations is a key aspect of sustainable development and the plan making process.

3.3 In light of this housing need, the identified supply of housing in Kimberley is considered **unsound** on the basis that it is not justified on current evidence and fails to be effective in the positive delivery of new homes. In particular the proposed housing trajectory for Kimberley represents an over reliance on SHLAA sites which, although reflecting an indicative trajectory of housing supply, do not offer the same level of specificity and deliverability as site allocations. We refer also in this instance to Table 4: Housing Trajectory on p.75 of the Part 2 Local Plan.

3.4 The Part 2 Local Plan is required to act as the delivery tool for Broxtowe's adopted spatial growth strategy and as such site allocations form an essential part of this. However, only three housing sites are allocated in the Kimberley area delivering a total of 167 dwellings. This reflects a modest 27% contribution to the 600 dwellings required in Kimberley. Notwithstanding wider site allocations across Broxtowe a robust housing supply is still required for the Kimberley area. This is to allow identified local housing need to be properly addressed and in the interests of delivering fully the adopted spatial strategy.

3.5 Further site allocations through the Part 2 Local Plan will provide significantly enhanced land owner and developer confidence in bringing sites to market and subsequently developed. This in turn will enhance the provision of new dwellings and boost the supply of much needed housing. Site allocations also reduce the level of more speculative development proposals and work in the interests of pursuing a robust, plan-led approach to the housing delivery. In the absence of this approach site delivery is liable

of becoming more *ad hoc* in nature, which then presents the risks of ongoing shortfalls in the delivery of new dwellings.

3.6 The current deficit in housing land and delivery shortfall across Broxtowe only makes this context more pressing. This is highlighted in the most recent SHLAA document which states that the Council can only evidence 3.6 years' worth of housing land supply for the period April 2017 and March 2022. In addition, and to be factored into the five-year housing land supply position, is the current delivery shortfall of 956 dwellings. In order to enhance housing delivery and boost the supply of both housing and associated land we consider it critical for the Council to pro-actively make further allocations. Also, the housing land supply needs to be refined in order to reflect a wider range of achievable, sustainable and deliverable sites. As such, providing more market flexibility and choice.

3.7 We note in paragraph 7.2 that '*it is considered that there are exceptional circumstances* [in Kimberley] *required to amended the boundary of the Green Belt to allow residential development*.' Whilst this conclusion is considered acceptable in principle in the interest of enhancing housing delivery we also draw attention to sites such as our client's. The site to the south of 121 Kimberley Road, Nuthall is within the existing urban area and is identified as suitable, deliverable and available within the life of the Part 2 Local Plan. As such it is a sequentially beneficial and sustainable site. This is particularly important in the context of high local land restraint where 65% of Broxtowe is designated as Green Belt land.

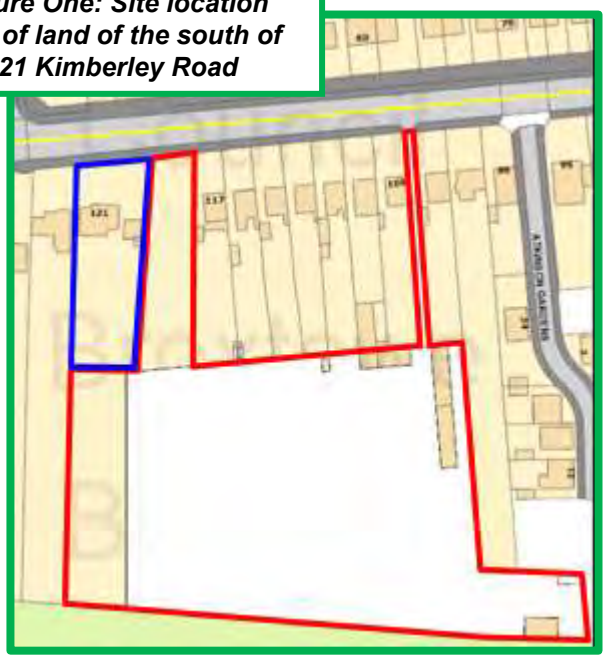
3.8 Although we support the identification of the land in the SHLAA as a part of the housing trajectory for Kimberley, we also consider that the additional allocation of this site would contribute to a more robust housing supply. As such enhancing the reasoned justification and effectiveness of the emerging Part 2 Local Plan, which will be critical in assuring soundness at examination.

3.9 Our client is willing landowner, and there is active developer interest in bring the site forward. There are no significant physical or policy constraints to its development. The site measures 0.9 hectares and is considered suitable for up to 30 dwellings, as such it would be similar in scale to the Policy 7.3 'Eastwood Road Builders Yard' allocation for 22 dwellings.

3.10 The site comprises vacant and underutilized land. As such its development is wholly consistent with the regeneration and urban concentration aims of the adopted policy framework and allocation would subsequently reduce pressure on speculative Green Belt or greenfield development in the Kimberley area.

3.11 The site is outlined in Figure One below:

Figure One: Site location plan of land of the south of 121 Kimberley Road



4 Conclusion

4.1 As outlined within this statement we consider that there are areas of the emerging Part 2 Local Plan that contain a number of sound proposals that warrant our support.

4.2 However, we reserve concerns over the proposed housing trajectory position for the Kimberley area and the need to meet the locally designated housing target in light of its status as a key settlement in the Borough. This statement has outlined why the current housing trajectory for Kimberley, in its current form, is unsound. Given the degree of non-compliance with the tests of soundness contained in the NPPF we consider that the Part 2 Local Plan should be modified to address the matters raised prior to adoption. This should include an enhancement to the range and choice of sustainable site allocations included as a part of the housing trajectory.

Planning and Design Group (UK) Limited
5 St John's Lane
London
EC1M 4BH

tel 020 7549 2858

www.panddg.co.uk

[redacted]

From: Simon Barton [redacted]
Sent: 03 November 2017 13:06
To: Policy; [redacted]; Saunders, Steffan
Subject: Part 2 Representation, Local Plan Publication version

Dear Steffan,

On behalf of Bartons plc we would comment as follows:

That we are content on our reading of the Local Plan Part 2 document that we can be optimistic that our land in the Borough will be brought forward, hopefully very soon indeed, into beneficial residential led mixed development. And that if for any reason that was not the case, that the argument that has been made for many years now that our Chilwell site could be used for any number of beneficial still holds, including that currently envisaged, and that it does not seem to be unnecessarily artificially constrained by any site specific policy in this document.

If the Council were to become in receipt of representations by others during this consultation, we would like to be made aware so we can defend our and the Council's position. The purpose of this contact is therefore primarily to show that we remain fully engaged in bringing our assembled site forward to the most beneficial uses as soon as that is possible, but hopefully in the use of the current planning application we have all worked so hard on in the last few years.

Yours,

Simon Barton Managing Director Bartons plc

Ministry of Defence

Defence Infrastructure Organisation

Safeguarding Department
Statutory & Offshore

[redacted]

www.mod.uk/DIO

Planning Policy
Broxtowe Borough Council Offices
Foster Avenue
Beeston
NG9 1AB

31 October 2017

Dear Sir/Madam

Broxtowe Borough Part 2 Local Plan –Site allocations

The Ministry of Defence (MOD) has not been consulted on the above consultation. This office received notification through the tool Devplan.

The MODs principle concern relates to ensuring that tall structures especially tall buildings do not cause an obstruction to air traffic movements at MOD aerodromes or compromise the operation of air navigational transmitter/receiver facilities located in the area.

As you will be aware air traffic approaches and technical installations at MOD aerodromes are protected with statutory safeguarding zones which identify height consultation zones in the area surrounding MOD aerodromes relative to topography and distance from the site (s).

The aerodromes are also protected with statutory birdstrike safeguarding consultation zones. Therefore, DIO Safeguarding is concerned with the development of open water bodies, the creation of wetland habitat, refuse and landfill sites. These types of development have the potential to attract large flocking bird species hazardous to aviation safety.

The MOD statutory safeguarding zones for the Borough of Broxtowe are for the main operational base RAF Syerston.

On reading the Broxtowe Local Plan Part 2 Site Allocations section, I can confirm the MOD has no objection to proposals for future development within the Borough of Broxtowe, but would wish to be consulted upon any relevant planning applications in accordance with the procedures set out under Town and Country Planning (Safeguarding Aerodromes, Technical Sites and Military Explosive Storage Sites) Direction 2002.

Please note the above comments are purely related to the DIO Statutory Safeguarding interests. I trust this adequately explains our position on this matter.

Yours sincerely

[redacted]

[redacted]
[redacted]