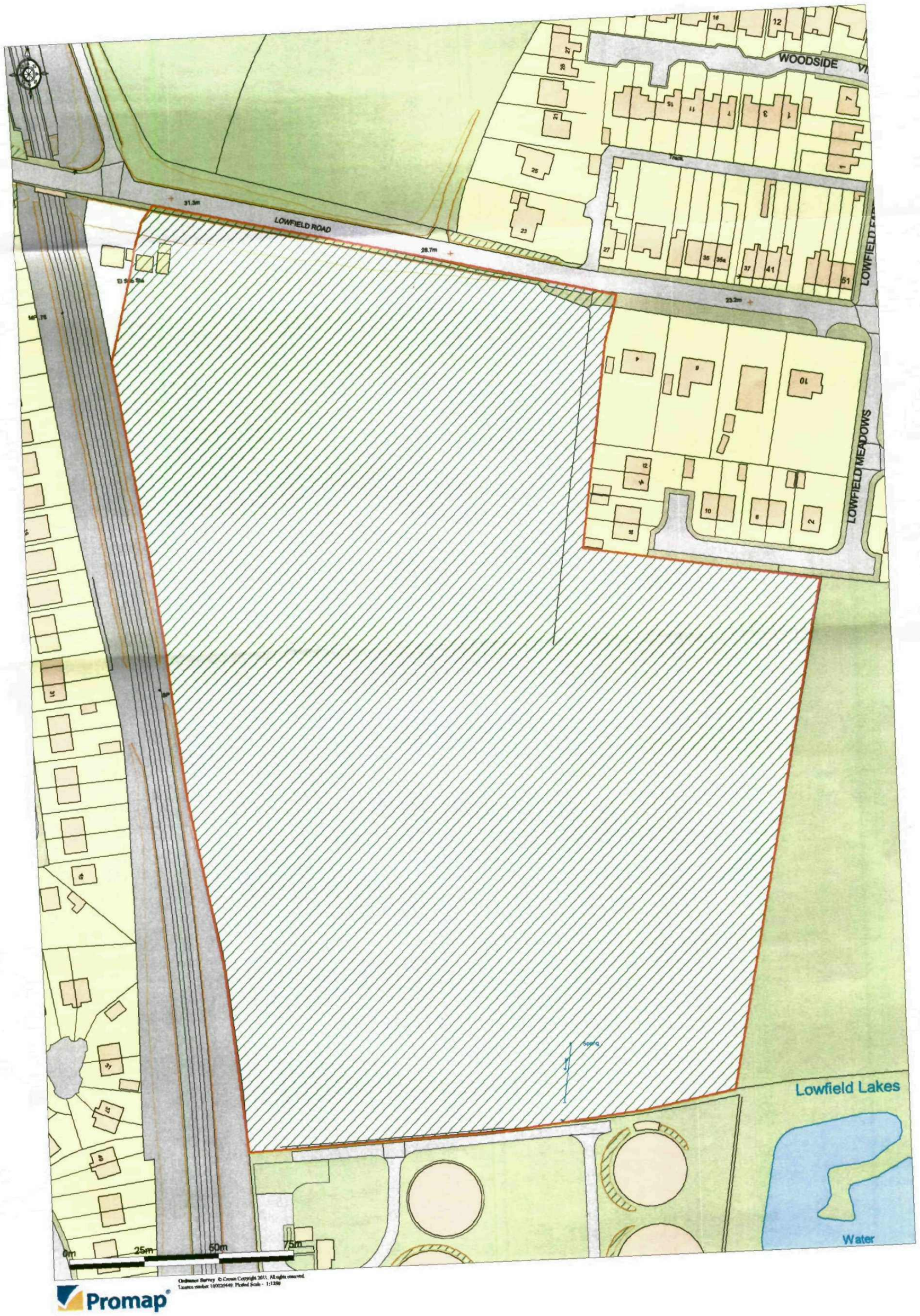
Bolton upon Dearne, Lowfield Road

LOCATION PLAN SCALE 1:1250.



DESIGN and ACCESS STATEMENT

Full Planning Application for residential development

Land off Lowfield Road
Bolton upon Dearne

On behalf of
Gleeson Homes and Regeneration
6 Europa Court
Sheffield Business Park
Sheffield
S9 1XE

Prepared by
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July 2011

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homes by gleeson

Forward

This Design and Access Statement has been prepared to support a Full Planning Application on behalf of Gleeson Homes and Regeneration to Barnsley Metropolitan Borough Council for the erection of 60 no. houses on land off Lowfield Road Bolton upon Dearne.

The various required components of a Design and Access Statement: Use, Layout and Scale, Amount, Appearance, Landscape and Access are provided as individual sections with reference also made to Planning Policy and considerations that have informed the design process where appropriate.

We trust that this document will be useful in describing the design, planning and development principles for the proposals. However, do not hesitate to contact RW Design or Gleeson Homes and Regeneration at the addresses given on the front cover of this document if you require any further information.



Contents

- Development Overview
- Site description and Context
- Policy
- Use
- Layout and Scale
- Density/ Amount
- Appearance
- Landscape
- Access
- External Environment
- Conclusion



Development Overview

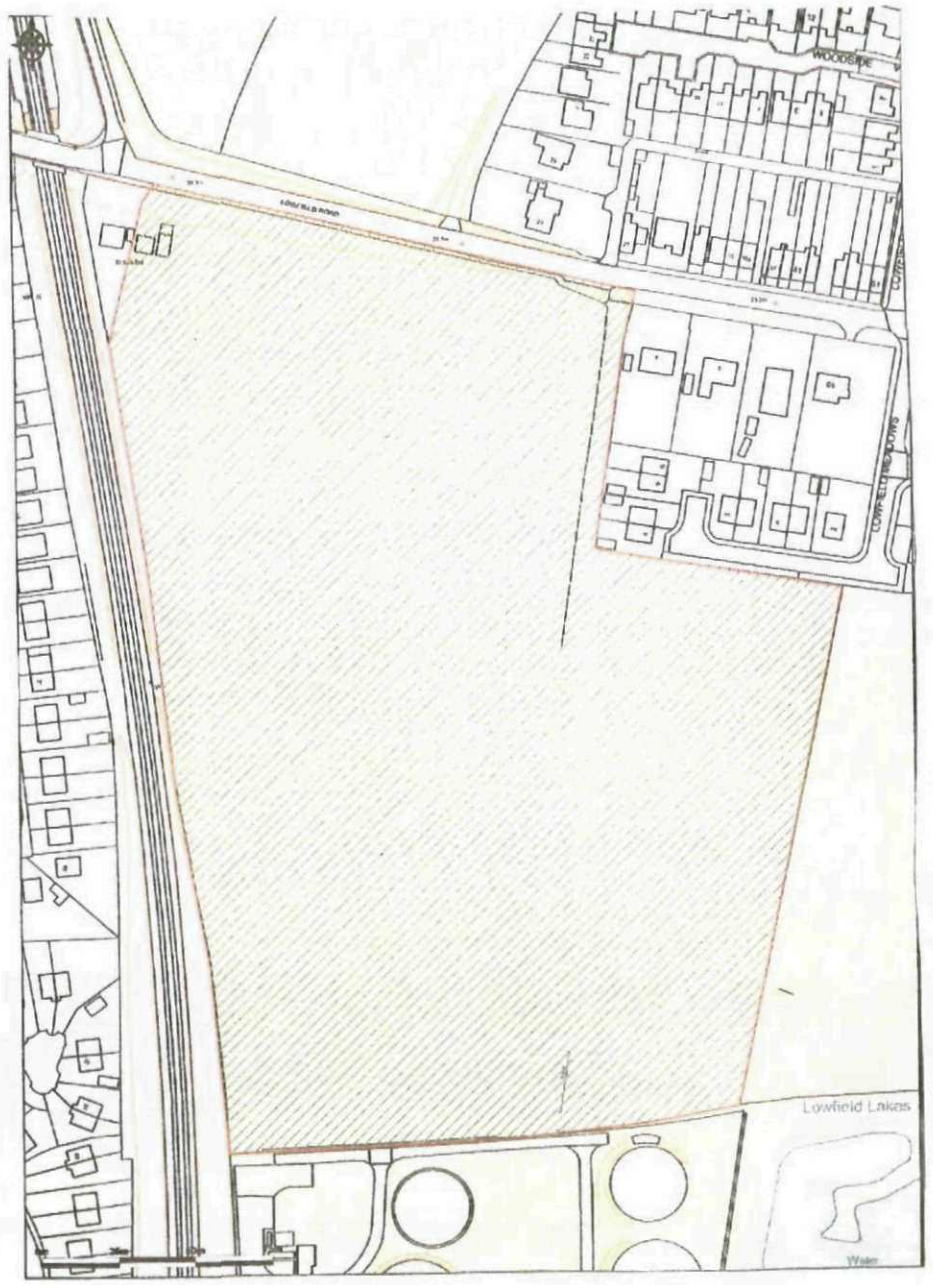
As stated in the forward to this document the proposals are for the creation of 60 new dwellings on land at Lowfield Road, Bolton upon Dearne.

The principle of residential development on the site has been established by the grant of Outline Planning Permission reference 2008/1599 in February 2009. This extant approval is for 50 houses. However, more recent research into market needs in the current economic climate indicates that slightly higher density scheme with a greater range of accommodation would be more appropriate.

The site was formally used for industrial purposes. The industrial buildings which occupied the site had become dilapidated and have been demolished. At present the site is vacant and presents a visually detracting feature to this predominantly residential area and is an inefficient use of land resource at a time when new housing is in short supply.

This proposal seeks a more appropriate and beneficial use for the site and will create a residential development that provides a range of dwelling types and sizes to suit local needs. The external appearance of the buildings blends seamlessly with the surrounding context to provide an attractive residential area which is visually cohesive.

Redevelopment of the site will bring a number of environmental and visual amenity benefits. Furthermore, the additional housing will underpin existing services and facilities and help attract new ones to the local area. The development is designed to meet Sustainable Development code level 3. In addition, 9 of the proposed dwellings are to be "affordable" and will meet the needs of people being priced out of the housing market.



Site Description and Context

The application site is located on the south-eastern boundary of Bolton upon Dearne and within 800m of the local centre. There are a number of other local shops within 400m of the site. Bolton upon Dearne is approximately 10.5 miles south east of Barnsley Town Centre and 7.4 miles north-east of Rotherham Town Centre.

The gross application site area is 5.38 ha, however this includes 3.74ha of land retained and for open space, leaving a net developable area of 1.64ha.

The original factory unit was built in the 1960's for the purpose of clothing manufacture. It was not a suitable building for more modern industry due to the very restricted headroom and could not be accessed by mechanical handling plant. The remaining land within the associated curtilage was undeveloped and has not been maintained for some time. There were some areas of fly tipping primarily associated with the former use of the factory.

The factory units were vandalised repeatedly despite constant site security and eventually all the buildings that once occupied the site were demolished.
Access to the site is currently taken directly from Lowfield Road which forms the northern boundary. The main Leeds to Sheffield railway line forms the western boundary, whilst open land bounds the eastern side of the site. There is a sewage works on the southern boundary.

The Lowfield Mews housing development is situated above the north-eastern edge of the site and consequently consideration has been given with respect to potential overlooking.

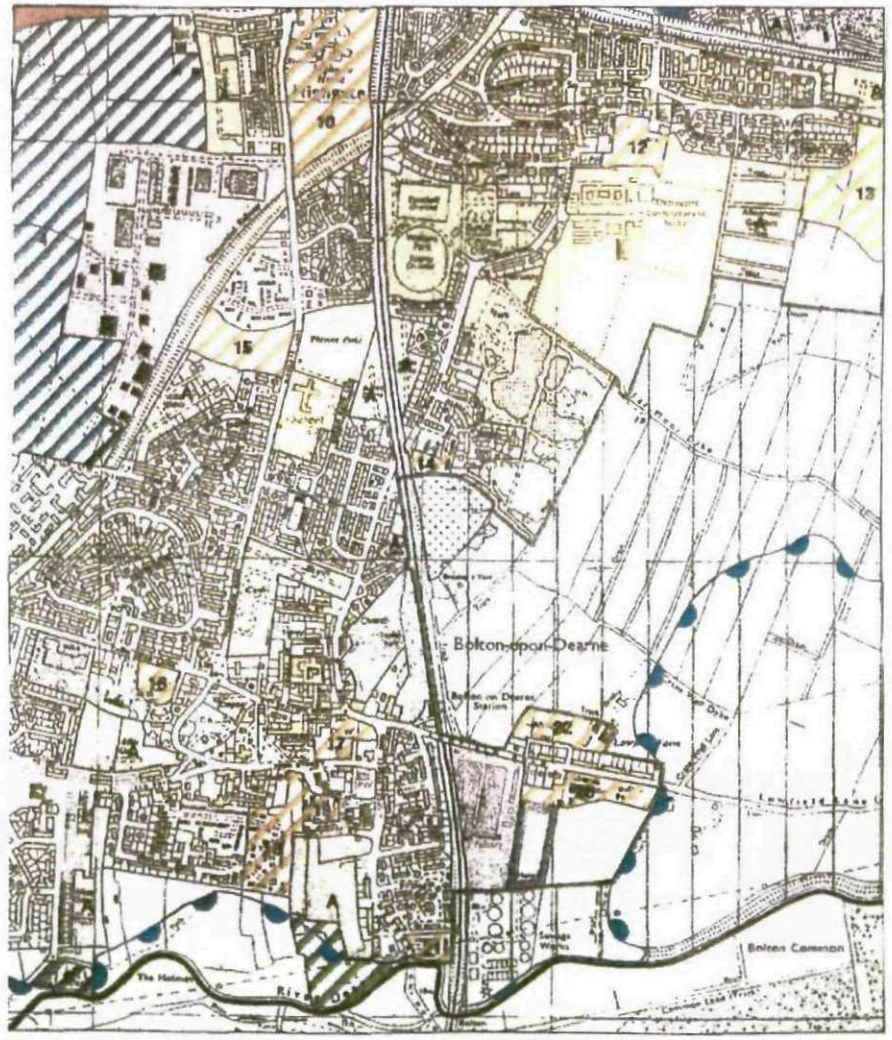
Policy

Section 38 (6) of the Planning and Compulsory Purchase Act directs Local Planning Authorities to make their determinations in accordance with the Local Development Plan and National Policies as follows:

National Policies

- PPS1 - Delivering Sustainable Development
- PPS Planning and Climate Change- Supplement to PPS 1
- PPS3 - Housing
- PPS9 - Biodiversity & Geological Conservation
- PPG 13 - Transport
- PPS23 - Planning & Pollution Control
- PPG 24 - Planning & Noise
- PPS 25 - Development & Flood Risk

In addition to the above, prior to the submission of the Planning application Gleeson Homes sought advice from Barnsley MBC and a comprehensive list of the policies and Guidance pertinent to the site was provided. The submitted scheme takes account of the relevant policies and guidance.



Use

General Use

In terms of land use, agricultural land bounds the site to the north and the east and a sewage works is situated to the south. There are existing residential developments to the west and north-east of the site.

In close proximity to the site there is a railway station served by the Wakefield line offering services to Sheffield, Rotherham, Wakefield and Leeds. There is also a regular bus service to Barnsley and Thurnscoe.

The application site is strategically located with good access to local amenities and to a variety of modes of transport other than the private car, i.e. bus and rail.

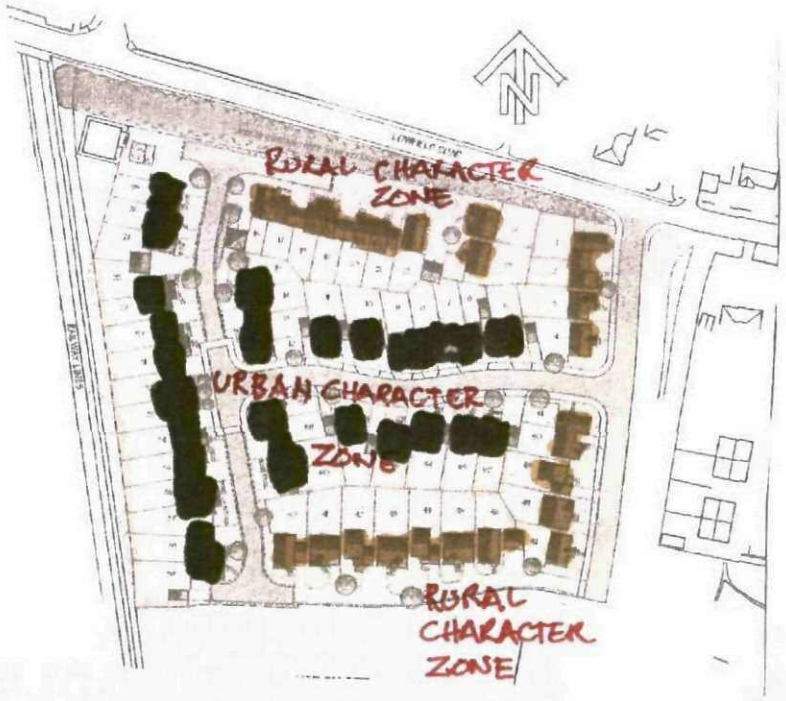
There is easy road access to the B6098, the main route through the settlement connecting to Goldthorpe. The B6098 provides access north to the A635 to Barnsley and Doncaster. To the south the B6098 also provides access to the A6023 to Mexborough to the east and west to the M1 via the A6195.

Social Use

The site is predominantly surrounded by residential development. The redevelopment of the site will provide wider housing opportunities and choice in a sustainable location. In addition the proposal will not lead to any conflict in terms of land use.

Economic Use

Given that all of the buildings on the site have now been demolished following the closure of the factory, the development of the site will not result in the loss of any existing jobs. The most viable alternative use is residential. The development of new dwellings in this locality will provide economic benefit to the surrounding area through increased use of local facilities and services.



Layout and Scale

Layout and Scale are the principle characteristics of a development establishing the underlying structure of form, the siting and massing of buildings and the placement and extent of spaces and routes.

During the outline planning process several draft layouts were produced. From the alternatives a preferred scheme emerged and this has formed the basis for the scheme now proposed.

Overall, the layout and design approach used for the site will result in a form of development not only appropriate given the sites location and context, but also appropriate for the site due to its shape and relationships to other uses.

The layout now proposed has ensured that appropriate relationships exist between the proposed dwellings and existing adjacent properties. Distances between proposed dwellings meet required standards and where possible existing boundary treatment is to be retained and enhanced.

New dwellings have been orientated to ensure an appropriate relationship to Lowfield Road and also the existing properties to the east. Houses proposed to the west of the site will be set back from the boundary to allow an adequate buffer zone to be created between the adjoining railway line.

The houses to the eastern boundary are fronting the internal access road which is set back from the boundary to preserve the existing planting that provides a suitable transition and screen between the existing residential units and the new development.



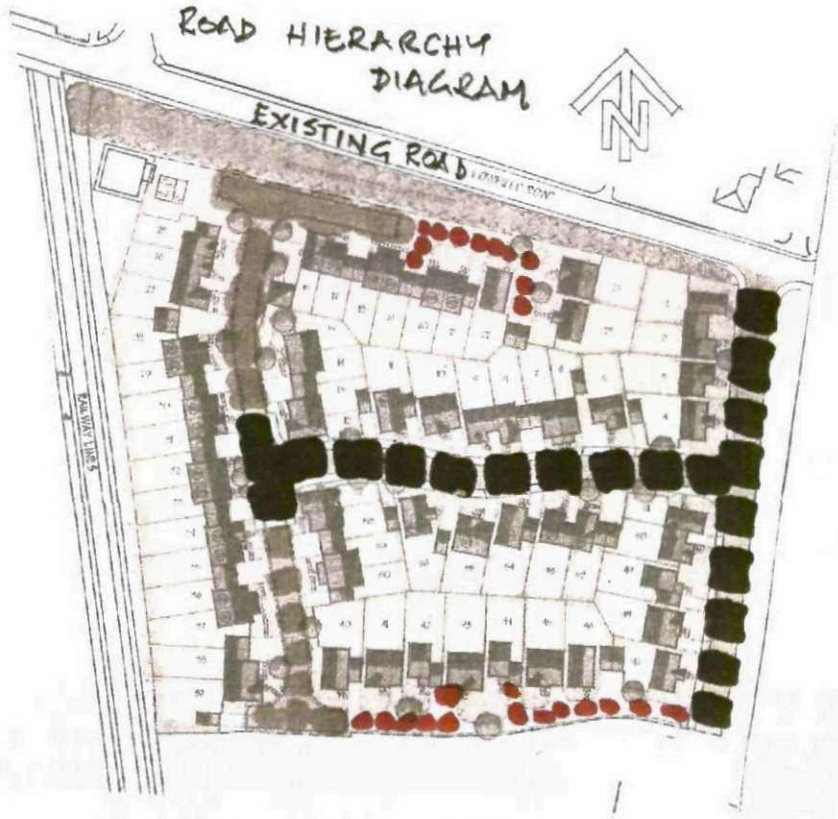
From the new access road a central spine road provides access to the main part of the new development area, this in turn leads to two short mews culs-de-sac to provide pedestrian and vehicular access to the remainder of the site, thus deterring extraneous through traffic.

All the new houses will front onto and overlook the public realm. This feature of the layout is seen as particularly important in designing out crime.

When formulating the proposed layout various other factors were considered in addition to designing out crime, such as parking. Through the particular configuration of the site layout we have been able to create a distinctive residential scheme which allows all the properties to have parking spaces within their curtilage. As a general rule, car spaces have been located to the side of properties rather than the front, so as not to dominate the street scene

Each corner incorporates feature buildings and all the houses are two storeys reflecting the predominant storey heights within the immediate area. Some single and 1½ storey forms have been included adding variety and interest to the streetscape and upper level edge.

The style and design chosen for the site allows for the creation of a varied townscape in this predominantly residential area which will result in the provision of good mix of accommodation to suit local needs. The proposed houses will also be in keeping with the general character and appearance of the locality.



Density/Amount

The developable area of the site is 1.64ha and 60 houses are proposed.
This equates to an efficient land use density of 36.60 dwellings per hectare.
The accommodation incorporates 2, 3 & 4 bedroom houses as detailed in the schedule below.

Code	Type	Number
201	2 bed semi det/terr	**10**
202	2 bed semi det	**10**
301	3 bed semi det	**11**
302	3 bed semi det	**4**
304	3 bed detached	**3**
307	3 bed detached	**2**
309	3 bed semi det/terr	**4**
401	4 bed detached	**5**
403	4 bed detached	**3**
404	4 bed detached	**1**
405	4 bed detached	**7**
	TOTAL	**60**

This schedule includes the following affordable units
4no. 2 bedroom house - social rented
1no. 2 bedroom house – intermediate
3no. 3 bedroom house – social rented
1no. 3 bedroom house - intermediate

Appearance



The scheme has been designed to take full account of its context and views in and out of the site from the transport corridor of Lowfield Road both from vehicles and by pedestrians and those afforded from immediately adjoining vantage points.

As noted in the introduction this development was conceived to provide a number of dwelling sizes and forms to accommodate local needs. The proposal includes a mix of house types throughout the development with a series of eaves and ridge heights to provide a varied and attractive street scene creating a sense of place. This varied townscape is illustrated by the street scenes that have been submitted as part of the planning application.

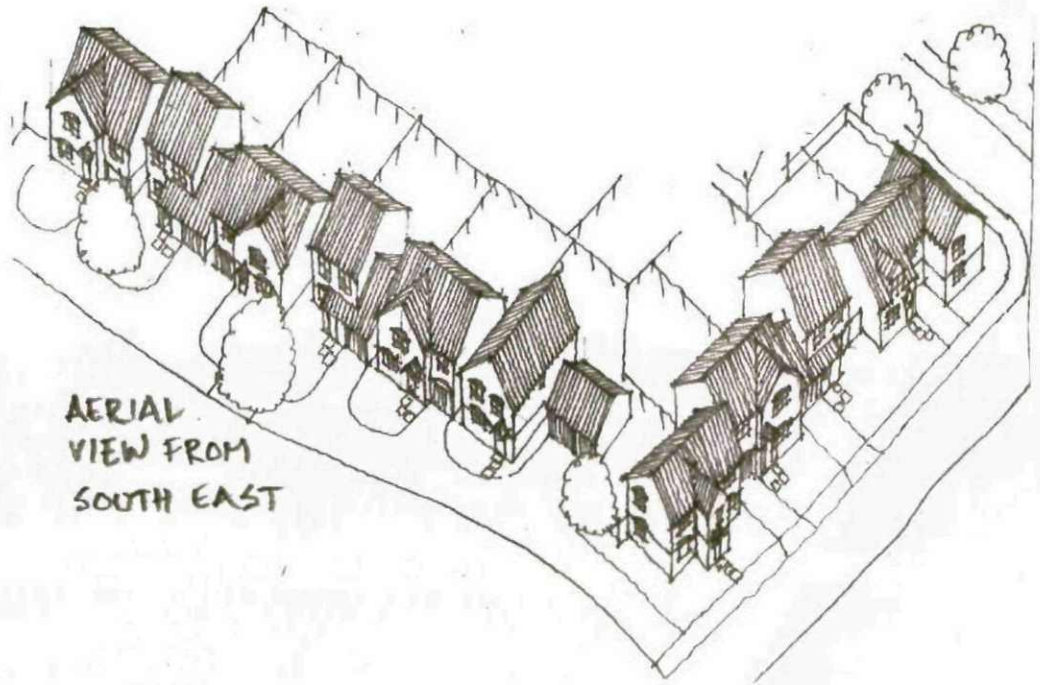
In providing a range of property formats it was considered vital to retain a degree of consistency of materials and some key design details to ensure that the new streetscape has visual cohesion and a distinct identifiable character.

In establishing the concept for this proposal, however, the fundamental design rationale was to produce a suite of dwelling styles that compliment traditional local buildings and maintain a cohesive appearance.

To achieve this objective, a palette of local building components was defined which reflected, but did not replicate, the colouration and construction methodologies of neighbouring residential areas.

Within this context two distinct aesthetic styles have emerged. The detailing of the elevations of the houses on the external edges of the site will be rural in character with exposed rafter feet at the eaves, cottage windows, curved brick arches, contrasting brick band courses and dual pitch entrance door canopies.

RURAL CHARACTER ZONE



AERIAL VIEW FROM SOUTH EAST



Houses in the middle of the site will be more urban in appearance and here the detailing will include brick corbelling to the eaves, plain casement windows, flat lintels, contrasting brick plinths and mono-pitch canopies to the entrance doors.

The natural choice for external elevations of the properties in this location was buff and red brick. Traditional materials and construction techniques will be integral to the design of properties. This has been the result of a conscious desire to ensure that whilst development compliments local residential form it creates and maintains a unique identity to foster a sense of place.

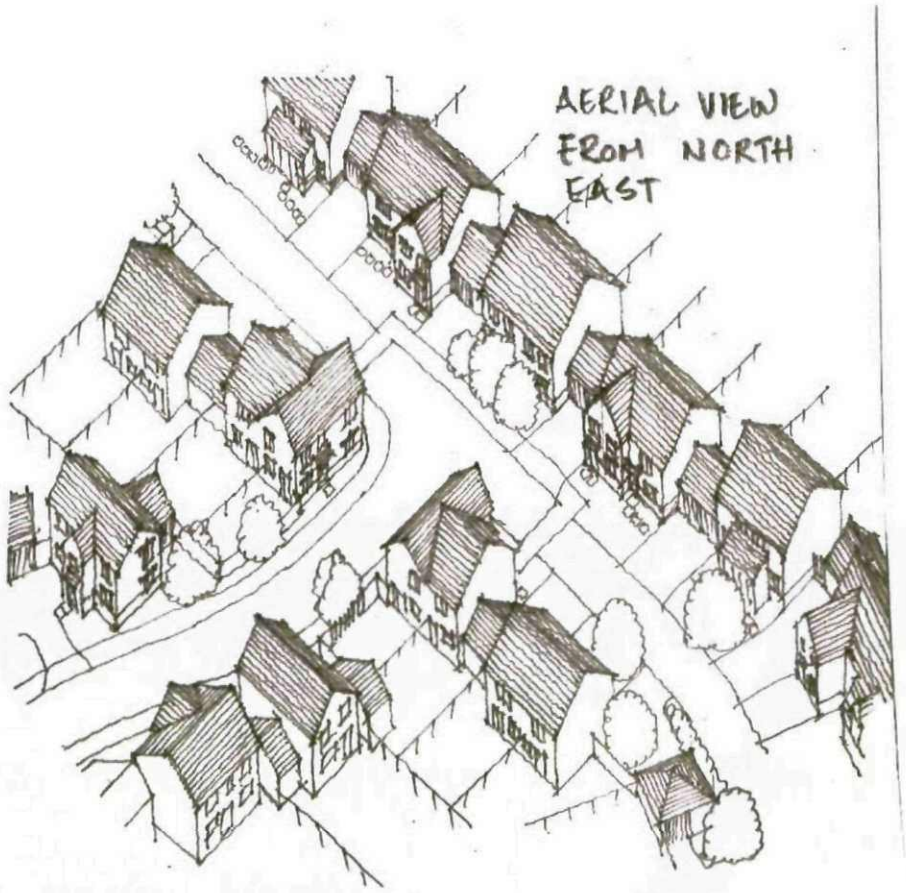
Where the development site adjoins the sewage works a large buffer zone of open space is to be provided and is the subject of a Section 106 agreement. This buffer zone will mitigate any potential problems of odour. Houses adjacent to the railway line will incorporate noise mitigation measures as detailed in the report submitted with the application.

Sufficient distances are maintained between existing and proposed dwellings so as to protect the residential amenity of existing and future residents in terms of overlooking, overshadowing and dominance. Existing boundary treatment will also be retained where possible, particularly to the north-eastern boundary with existing properties. Sufficient distances are also proposed to the railway line and Lowfield Road to protect the amenity of future residents.

Parking spaces and/or garages are all provided within the cartilage of each dwelling in the interest of security and convenience. The use of communal parking courts has been avoided. They are an unsightly magnet for anti-social behaviour.

Garages have been sited behind the main building line to avoid the domination of the street scene by garage doors and parked vehicles.

URBAN CHARACTER ZONE



Access

Access, in the context of a Design and Access Statement relates to access to and within the site by pedestrians, cyclists and vehicles.

This section is therefore intended to expand both on the principles and approaches to access at a more detailed level from a pedestrian and vehicular perspective and although separated out for the purposes of this report access has been considered as a set of interconnected, rather than conflicting ideals.

The Pedestrian Perspective

We recognise that ease of access to all areas of the development must be a fundamental design consideration. Inclusive access has been seen as a start point if the development is to be successful in the long term.

Whether derived from disability, as a result of illness or injury, ease of movement cannot be assumed to be the case for all users at all times. This is particularly so in residential settings where the likelihood is that the site be used regularly by people moving, walking or carrying goods between vehicles and their houses. If a development has been designed to meet the needs of the mobility impaired it can meet the needs of all. Consequently all the properties will be constructed to the current Building Regulations, ensuring adequate door widths and level thresholds and each incorporates paved access to the rear of the dwelling.

The site is well located with access by foot for local services, amenities and public transport.

Landscape

There is an existing embankment between the site and Lowfield Road but the remainder of the site is flat and featureless.

Apart from some planting on the boundaries there are no landscape elements that are worthy of retention.

Entirely private gardens are a psychologically defining characteristic of a home and consequently all dwellings have front and rear gardens.

Within the front gardens the proposed landscaping treatment is relatively simple, easily maintained and comprise a predominantly lawned area with vehicular driveways, paving to the pedestrian entrances and some tree planting to add variety and interest to the spaces created.

Rear gardens are markedly larger than those at the front. Planting is not proposed to rear gardens, but they will be fenced and have patios.

This approach has been taken to encourage the personalisation of private space as it has been noted that where planting schemes have been implemented as part of the development process they are rarely amended or added to by occupiers and lead more often to conformity than interest.

A landscaped buffer planting strip is to be planted along the boundary with the sewage treatment works.

The Vehicular Perspective

The principal access to the site is off Lowfield Road as an alteration to the existing access. This provides a safe and suitable link to the existing road network. Access will be from a priority junction with 2.4m x 90m visibility splays.
The internal road layout has been designed for slow speeds, making the road more suitable for non-motorised traffic and pedestrians.
Each house includes car parking within its own plot.

Overall the proposed access to the site and internal layout are acceptable and will not have any significant detrimental effect on highway or pedestrian safety.

External Environment

The accompanying transport assessment to this proposal provides detail of the access implications of the site in respect to both private vehicles and sustainable transport means.

The enclosed Travel Plan also further highlights the sustainable means of transport.

This in itself creates a perfect highways access environment for all the properties and provides adequate on plot parking.

Refuse

There is provision for each property to incorporate 'in curtilage' bin and recycling storage and all to have access to the rear for ease of movement on collection day

Conclusion

In developing this proposal the applicant has sought to create an attractive, safe, secure, sustainable housing scheme for which is affordable to local residents and, most importantly, deliverable.

The report details the justification and design evolution of the scheme, the precedents and principles which led the scheme as well as the basis on which the proposal was developed.

The evolution of the design process has been shown, taking into account the site context, planning policy and recommendations of the Council and the submitted design provides a response to the site context that conforms to relevant policies.

- The site was originally developed in the 1960s and the factory buildings demolished in 2007. The location is not suited to modern industrial processes and previous planning conditions have restricted the site's use.
- The site was previously developed and is in a sustainable location.
- The proposed scheme enhances the character and appearance of the area.
- The proposal will result in highway improvements providing safer vehicular and pedestrian access for neighbouring properties.
- The scheme represents an appropriate form of development at an acceptable density given the context and site location.

- The layout is acceptable in terms of the access, the relationships proposed to neighbouring land uses, the heights of the buildings as proposed and the level of open space provision.

- The layout and design approach utilised for the site is wholly appropriate.

- It is considered that the proposed development fully accords with national, regional and local policy and guidance and as such is acceptable.

- The proposed residential development will result in a number of environmental and visual amenity benefits.

- Additional housing will help to underpin existing services and facilities and help to attract new ones to the local area.

We trust that Barnsley Metropolitan Council will support the planning application.

Richard Ward Design
On behalf of
Gleeson Homes and Regeneration

gleeson



SECURED BY DESIGN COMPLIANCE STATEMENT 2011

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2. Tenure

3. Neighbourhood Watch

4. Security Considerations and Crime Statistics

5. Design and Layout of Housing Developments

6. Physical Security

7. Case Study

8. Conclusions

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1. Introduction

This document has been prepared by Gleeson Homes to demonstrate its commitment to enhancing the security of its homes and developments and willingness to comply with Secured by Design requirements. In producing this document, Gleeson has consulted with its customers and architectural liaison officers. Reference is also made to the Secured by Design publication 'New Homes 2010'.

Gleeson has a wealth of experience in creating safe neighbourhoods in areas of social and economical deprivation and know that achieving security through design is much more than a series of standard details and security recommendations, it is also about creating an environment that promotes good social behaviour and encourages a sense of community, ownership and pride which in turn encourages self policing of a neighbourhood.

This document will;

- Highlight typical crime and disorder issues in areas of housing regeneration.
- Demonstrate a clear understanding of the issues of crimes and criminal activity.
- Identify design solutions which reduce vulnerability to crime.
- Allow Local Planning Authorities (LPAs) to use the information to help with decision making and enable the planning process to run more smoothly.
- Assist in the consultation process.

2. Tenure

It is very important to understand that the needs of different types of tenure can vary significantly and this can affect the way in which security issues are addressed.

Whereas the occupiers (and the owners) of Local Authority or Housing Association or private rented housing may have particular needs they will differ in some significant respects to the needs of owner occupiers.

People in owner occupation have an understandably different attitude to their property to tenants.

Owner occupiers have exercised choice in purchasing their home. It is a source of pride, it belongs to them, they understand that they must maintain it in good order and the present and future value (and hopefully increase in value) is also dependent on the care and the reputation of their street. Their involvement in their property therefore extends well beyond their front boundary. They are keen to be involved in the local neighbourhood watch, not only because of the practical advantages it brings but also because it says something positive about their immediate local community.

They are quick to report breaches of restrictive covenants by their neighbours because the value of their property may be adversely affected.

Home owners can be broadly split into two categories; Stayers and Movers:-

Stayers are those who intend to live in the property until they die. As time goes by and their mortgage repayments become more affordable they will find ways to enhance their home. A typical stayer will usually spend money enhancing their property in the following order:-

1. A conservatory
2. A new kitchen
3. A garden shed
4. A block paved drive

Movers are those who intend to stay in the property for a limited period and move-on to something bigger in a few years. They may purchase a conservatory because it increases the floor area and therefore the value of their property but it is unlikely that they will spend any money on the other items because they perceive that they don't add to the potential future sales price of the property.

The one thing that stayers and movers have in common is that they care about their property and the environment in which it stands.

On the other hand Local Authority or Housing Association or private rented tenants may not be entirely free in choosing where they are to live. They do not own their home and must wait to be told when their home is to be up-graded. Their reason for renting is often short term, such as a relationship or family breakdown or a change in financial circumstances. It is understandable that, although there are exceptions, a tenant will generally have a different attitude to their home to an owner occupier.

3. Neighbourhood Watch

We regard it as an essential responsibility for us to encourage residents to form neighbourhood watch groups at the earliest stage by leafleting them and introducing them to the Local Community Police Officer. Initial meetings are usually sponsored by Gleeson and held in the show home. When we have large developments we will promote a number of schemes on a site.

The presence of a neighbourhood watch scheme encourages residents to think about their own security and that of others, it encourages community involvement and social interaction and helps to bind communities together in a desire to achieve a common good.

4. Security Considerations and Crime Statistics

Gleeson Homes and Regeneration specialise in building homes for sale in areas of industrial decline and social and economic deprivation. In the design of their developments, Gleeson consider crime and security issues which are relevant to their context such as;

- Burglary
- Criminal damage
- Anti-social behaviour
- Unauthorised access to private space
- Robbery to person
- Bogus callers/distraction burglary
- Theft of/from parked cars

Crime Statistics

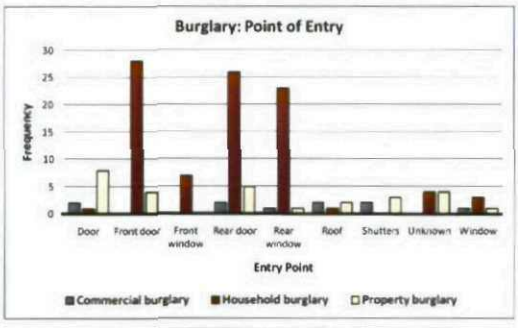
Police Crime statistics provide invaluable data on these crime and security issues. A typical set of crime figures recorded over 1 year in a typical location for a Gleeson urban development, prior to us building and selling new homes are;

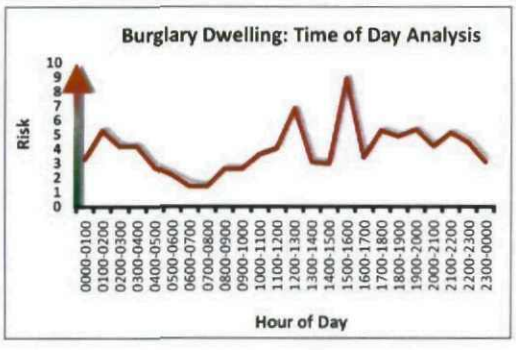
- 5 acts of car crime per month
- 8 acts of domestic burglary every month
- 15 acts of criminal damage every month
- 8 acts of less serious wounding per month

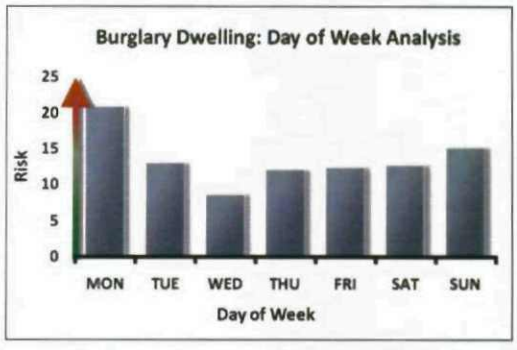
(Figures and the following tables and graphs taken from a Crime Impact Assessment prepared for Gleeson Developments at Culcheth Lane Manchester by Greater Manchester Police. Figures based upon a 1km sq area around a proposed development site)

These typical crime figures depict high levels of crime and Gleeson Homes and Regeneration have responded with appropriate security measures. Understanding of the way in which these crimes are perpetrated will ensure a better solution through design. These are summarised overleaf;

4.1. Burglary Analysis and Understanding







Entry: Typically, the vast majority of burglaries to dwellings were achieved through front and rear doors, followed by rear windows.
Time of Day: The time of highest risk for burglaries were between 12:00 and 21:00, with a similar peak in risk at around 01:00. Daytime risk could be associated with properties being vacant whilst people are at work, resulting in less local surveillance and a burglar's reduced risk of being seen/caught.
Day of Week: Burglary risk was quite uniform through the average week, with the exception of Monday, where a sizeable increase can be seen.

Gleeson's Strategy for reducing Burglary:

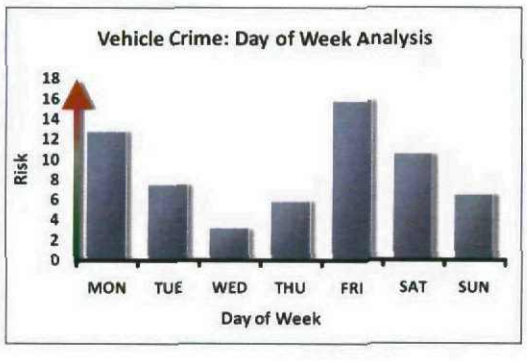
a) Rear gardens grouped into "secure zones" which are open to observation by a number of properties to enable an intruder to be easily spotted;
b) Minimal boundary treatment to frontage to give natural surveillance and create a sense of ownership of the street.
c) Defensible planting where appropriate.
d) Main aspects and doors facing the street including use of 'corner turn' houses to improve surveillance.
e) Gravel drives which provide an audible alert to occupants of intruders.
f) Physical security and specification of lighting, glazing, locks etc.
g) No climbing aids such as low fences, walls, bin stores adjacent buildings etc
h) Good positioning of dwellings to increase the sense of ownership and surveillance, providing a major deterrent to burglary.

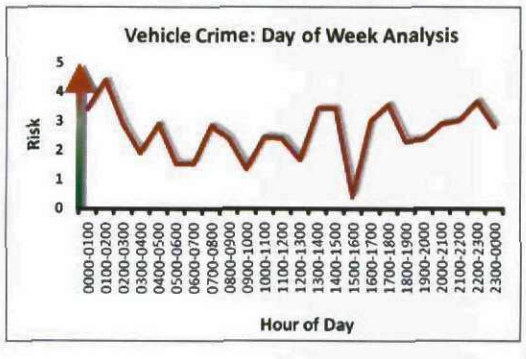
Burglary M.O.s:

Below are typical methods for committing burglary, along with measures which Gleeson employ to prevent the crime.

- *Accessing rear of property through insecure gate, and smashing glass to unlock window.*
  There are various ways of securing gates, the most typical being a pad-lockable bolt to the inner face. To improve security of rear gates the bolt is located at mid-level so it cannot easily be accessed externally. Also, if gates are likely to be used for general egress from the property they are lockable on both sides, so a resident can secure the gate when they leave. In addition, lockable ironmongery is used to accessible windows so that the resident can further secure openings to their house.
- Gates to rear gardens are positioned flush with the front elevation so that strangers are not concealed from the public eye.
- *Kicking-through front doors.*
  Doors are specified to recognised security standards to address this risk.

4.2. Vehicle Crime Analysis





Vehicle security is an important consideration. Typically, the riskiest times for car crime are Friday, Saturday and Monday; with a fairly uniform level of risk with regards to time of day

Car Crime

Car crime can take the form of theft of the car, theft from the car and criminal damage to the car.

Gleeson's Strategy for reducing Car Crime:

Gleeson recognise that car parking is safest when located in an attached or adjacent garage or within the curtilage of the home.

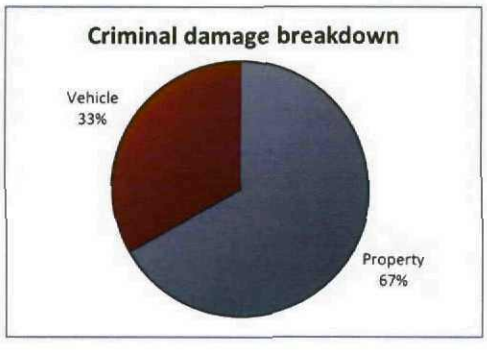
Customers want to be able to see their car from the home so on Gleeson developments, parking is on-plot and to the side of the property wherever possible to ensure clear, unobstructed views over the frontage and the street.

The majority of Gleeson's homes have a side window to ensure that the driveway is overlooked and where appropriate homes are sold with a garage.

On street parking can encourage incidental damage and vandalism to cars such as tyre slashes, paintwork damage, wing mirror damage etc., so this type of parking provision is avoided.

Gleeson also avoid the use of parking courts as they can give rise to anti social behaviour and often give access to rear gardens. Such courts are not usually regarded as part of the home and are often areas in which litter and clutter can accumulate.

4.3. Criminal Damage



Two thirds of criminal damage is committed against property and the remaining third is committed against vehicles. Both types of criminal damage are addressed in different ways. Listed below are examples of ways in which criminal damage is perpetrated and ways in which it can be avoided;

Criminal Damage M.O.s:

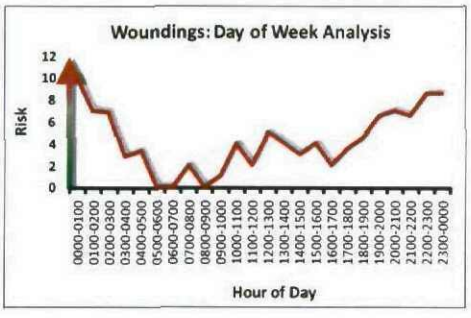
Damage to windows. (Very common)

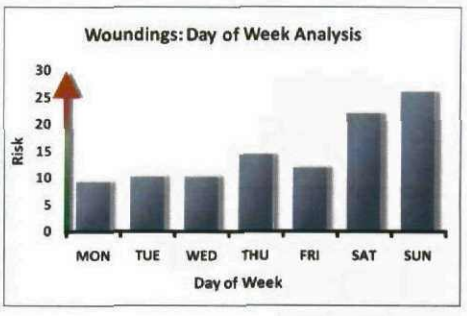
Windows are a valuable tool to offer natural surveillance over an area. Gleeson's layout design avoids windows being positioned in secluded areas and provides secure frames with locks to openers and with good specification double glazing.

Car windows breakage.

Gleeson ensure that parking spaces are located where they can be seen by their owner (and other dwellings where possible) to deter miscreants. Open frontages to properties provide additional surveillance.

4.4. Robbery and Woundings





Instances of wounding are more common on weekends and generally uniform during the week. The time of highest risk for such crimes is around midnight, though the risk increases during the afternoon/evening of the average day.

Gleeson's Strategy to minimising risk of robbery and woundings:
A typical housing layout by Gleeson will not incorporate pedestrian routes which are not overlooked, or permeable (open) cul de sacs, but will ensure that natural surveillance is optimised throughout its developments thereby helping to reduce the risk of robbery to people. Wherever possible, Gleeson's strategy is to:-

- Utilise direct links to local transport routes and ensure optimum visibility towards routes.
- Avoid using isolated footpaths and plan housing in small closed cul-de-sacs which provide safe pathways along the highway itself.
- Provide natural surveillance opportunities over pedestrian routes.
- Utilise open frontages to provide surveillance over the highway and adjacent and opposite front gardens.
- Provide lighting to a sufficient level and uniformity to eliminate dark spots.
- Avoid designing recesses, blind corners and enclosed alleys, which can reduce the distance a 'potential' victim can see in front of them.
- Ensure footpaths are as straight, wide and open as possible to increase sightlines and allow pedestrians to make rational choices over the route they take.
- Minimise the number of escape routes in a design. The closed cul-de-sac approach adopted by Gleeson provides this.

5. Design and Layout of Housing Developments

Housing Mix; Gleeson's housing schemes provide a carefully arranged mix of house sizes and types to ensure increased surveillance is achieved through mixed demographics, e.g. young parents and pensioners are likely to be at home during the day.
Streetscene; Gleeson's houses are predominantly a mix of semi detached and detached properties. These houses have great advantages over terraced properties which need passageways for access to rear gardens and have bins stored at the front which can act as climbing aids.
Materials; Properties showing signs of disrepair and physical incivilities are more likely to experience crime. Gleeson select low maintenance building methods and materials to avoid this.
Layout; Gleeson utilise a number of simple tried and tested design principles to optimise natural security to street layouts such as;

5.1. Good visibility and overlooking to all areas;

Both the street, car parking and gardens will have many windows overlooking to aid security and deter criminals or miscreants.

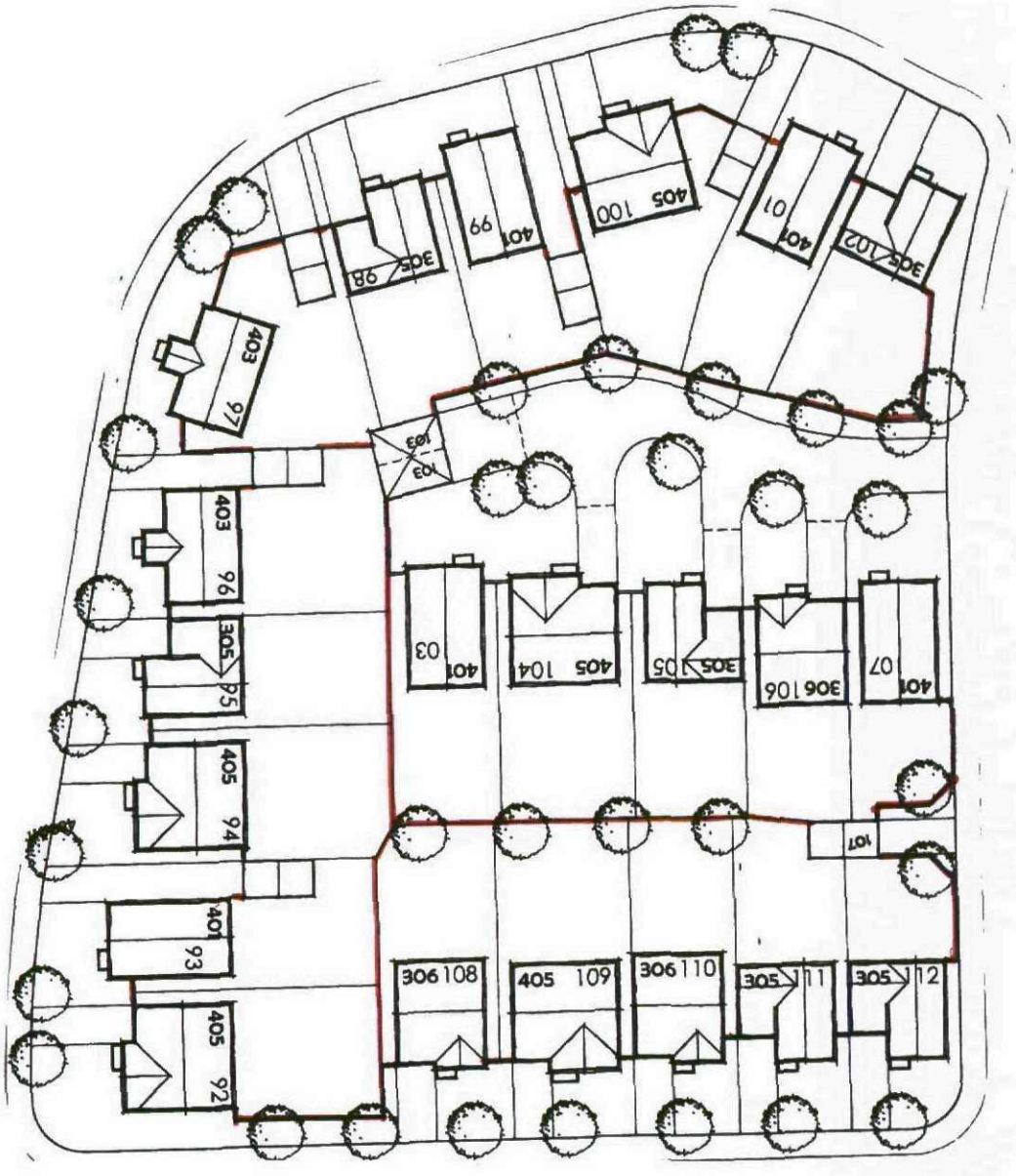
5.2. Strong physical barrier to house line and rear gardens;

Gleeson creates secure zones of rear garden areas. This works very well when the boundaries of a group of usually 5 to 7 houses form a secure zone which can be well monitored from all of houses within that group. Each of the houses overlooks and monitors up to 7 neighbouring rear gardens and vice versa. Garden fences within the secure area are low to aid vision. This overlooked area will deter trespassers.

This drawing shows part of a site divided into defensible and observable zones.

The red line indicates 1.8m high fencing with gates (not shown) where appropriate.

The boundary lines between gardens indicate low fences to create an observable zone. Perhaps plots 92 and 93 could be included in the plot 108-112 zone.



Gleeson will construct either a robust fence or garage between the houses to create a secure barrier between the street and private rear gardens making it difficult for an intruder to enter these areas thereby creating an observation zone where unusual activity can be seen or strangers identified.

5.3. Open frontages

The implication of the words "home ownership" don't stop at the curtilage of the plot. Home owners have invested in not only their home but also their community and they consider themselves to be stakeholders in their community.

Ownership of the street is a requirement of home owners and this is achieved by open frontages.

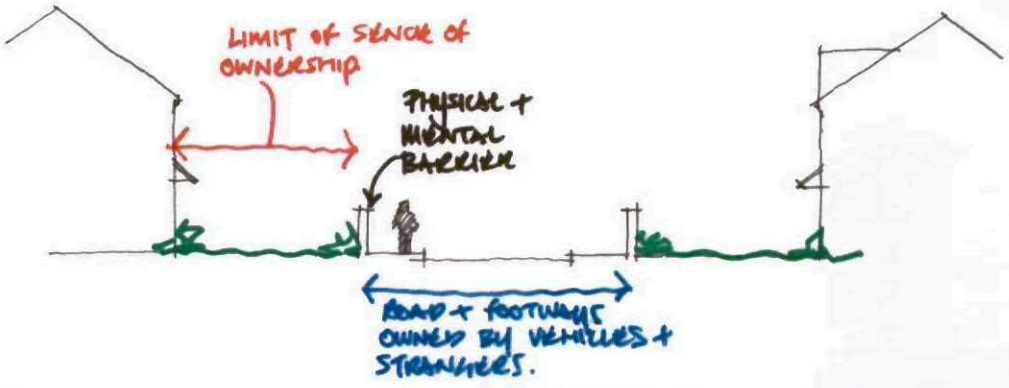
Front walls and fences create visual and physical barriers for home owners and safe corridors for vandals and intruders.

In rented schemes where there is a reduced desire for ownership of the street by residents and front boundary barriers are desirable they should be robust and vandal proof.

In home ownership schemes front garden barriers should not exist at all; the defensible boundary should be the frontage of the dwellings.

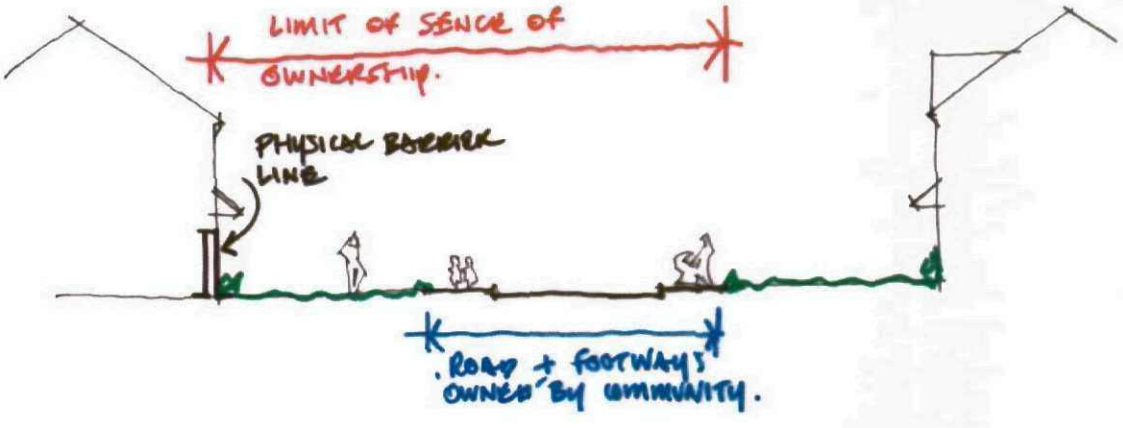
Open plan developments not only give ownership of the street to the residents they make a positive statement about the development itself. "We are a home ownership development and we are proud to be home owners".

Pride in a development engenders community involvement and communal responsibility towards security.





Closed frontages pass on ownership of the street to vehicles and strangers





Crime levels to frontages of houses which are well overlooked and monitored by the street are low because doors, windows and vehicles and of course, potential intruders are easily observed and monitored by neighbours.

5.4 Cul de sacs

- Small closed cul-de-sacs offer the best layout for housing in terms of security.
- This type of road layout creates small, safe and quiet mini communities where a stranger would be noticed.
- They naturally create a sense of community, ownership and responsibility and an environment that a burglar is least likely to operate in.
- Open cul-de-sacs (with a footpath link at the end) create ideal getaways for criminals.
- Developments with highly connected roads and footpaths – over permeable sites – make crime difficult to control.

6. Physical Security

The following component specifications are provided by Gleeson to achieve an appropriate level of physical security:

6.1 Doors

- French/double doors and sliding patio doors are certified to BS PAS 24. Front doors to properties have fixed external handles or split spindles, meaning access is only possible with a key.
- Front doors have either integrated windows, fixed sidelights or door viewers.
- Chain limiters are included as standard.
- Letterboxes are located a minimum of 400mm away from internal ironmongery.
- All glazing within, or adjacent to external doors includes at least one pane of laminated glass to a minimum 6.4mm thickness.

6.2 Windows

Ground floor and easily accessible opening lights (escape requirements permitting) are key lockable and have fixed opening restrictors (not releasable from outside) limited to 100mm.

6.3 Garages

If garages are to be featured in the scheme, the internal connecting door will be certified to BS PAS.

6.4 Alarms

Properties are fitted with a 13amp non-switched fuse spur, for residents to connect an alarm system.

6.5 Boundaries

- Any rear dwelling boundaries abutting public space are 1800mm high.
- Sub divisional boundaries between the rear of dwellings are low.
- Boundary treatments do not have design features that may act as climbing aids.
- Low fencing/railings that adjoin high fencing is tapered up to the higher fencing, so that the low fencing can't be used as an aid to climbing the higher fencing. This is typically seen in the proposal where front boundaries join rear boundaries.
- Garden pedestrian gates are lockable by way of a pad-lockable bolt at the midpoint of the internal face of the gate.
- Gates to rear curtilages of dwellings are lockable from both sides, to allow people to secure their gardens when leaving their house by car.

6.6 Landscaping

- No obstructions to visibility across the unbuilt parts of the site.
- No planting exceeds 1m in height.
- No hard landscaping that could inadvertently create seating or loitering spots.
- No planting or external furniture, i.e., bollards or seats that will aid climbing over boundary treatments.

6.7 Lighting

- Lighting provided to all dwellings at front and rear door, operated by phoelectric cell/daylight sensor.
- Lighting provided to adopted highways and footpaths and private estate roads in accordance with BS 5489 to eliminate any potential pooling or shadowing.

6.8 Construction

- Careful consideration is given to securing the site during construction, to prevent unauthorised access and theft of equipment.
- Gleeson locate temporary secure hoardings to key areas of the site and adopt on site security and health and safety measures including permanent security personnel on certain sites.

7. Case Study

Havelock Hospital Site, Sunderland

The Havelock Hospital Site built in 2003 by Broseley Homes is a proven example of how Gleeson's approach to designing out crime is successful. The housing development is located within the Pallion ward of Sunderland which is one of the most deprived areas of the City. Similar to many areas in which Gleeson builds homes, the ward suffers from low levels of employment and high levels of crime.

To determine the scheme's effectiveness in lowering crime levels, we consulted the police.uk website which publishes national crime figures for local neighbourhoods and highlights the type of crimes which have been committed in each location. The website states that in the Pallion area in May 11 there were 360 crimes reported which included 17 incidents of burglary, 189 reports of anti-social behaviour, 15 vehicular crimes, 27 violent crimes and 112 unspecified incidents.

The Havelock Hospital development, which comprises over 250 homes, experienced just 2 reports of antisocial behaviour in the same timeframe.



The Broseley development was built in accordance with the design principles set out in this report and included features such as:

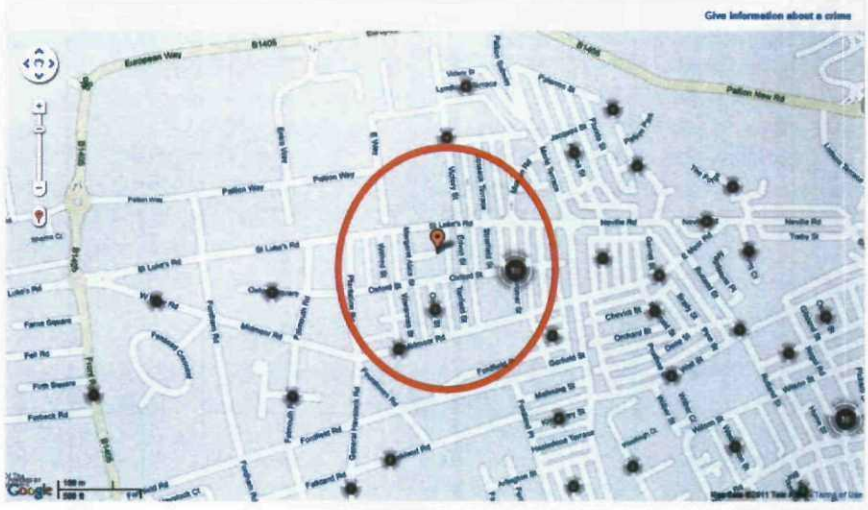
- Minimal boundary treatments to frontage;
- closed cul-de-sac design;
- well positioned dwellings;
- a variety of house types;
- well overlooked roads and footpaths
- attached or adjacent garages to the home, and;
- on-plot car parking.



In comparison to the Havelock Hospital Site, surrounding similar sized neighbourhoods in Pallion experienced significantly more incidents of crime, as follows;

Minton Square

There were 15 reports of assorted crimes within this area, which consisted of 3 accounts of burglary, 10 accounts of anti-social behaviour and 2 accounts of violent crime.



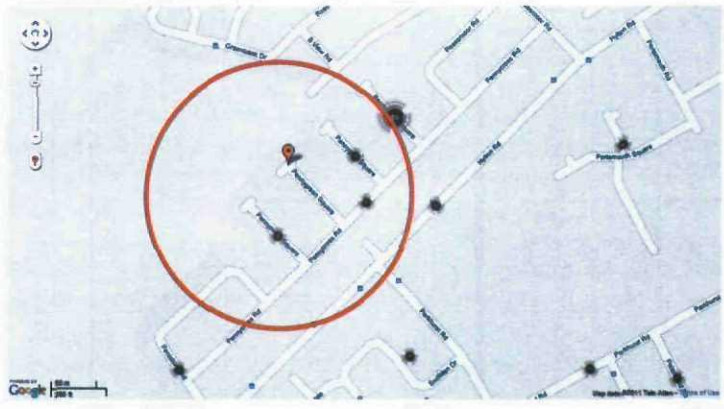
Unlike the Havelock Hospital development, this site primarily features 900mm high timber fencing to the fronts of properties, in contrast to the recommendation given by this report, which stresses the requirement for minimal boundary treatment to encourage natural surveillance and create a sense of ownership of the street by the residents. There is also limited on-plot parking and no garages, which can increase the opportunity for car crime as car parking is safest when located within the curtilage of the home.

As shown in the photograph below, the homes in the Minton Square area are similar in terms of size and type. This not only creates a one dimensional street scene with minimal opportunities for comprehensive street surveillance, but also limits the resident demographic, thereby preventing the creation of a neighbourhood which is active at all hours of the day every day of the week.



Pennygreen Square

16 assorted crimes have taken place within the area; 14 accounts of anti-social behaviour and 2 unspecified crimes.



Unlike Gleeson's design principles set out in this report, Pennygreen Square incorporates a mixture of low walls, brick piers and railings as front boundary treatments. The properties are also of a similar type and laid out in a repetitive manner, thereby reducing surveillance of the entire street.



Parkhurst Road area

15 assorted crimes took place within the area during May 2011; including 7 accounts of anti-social behaviour, 3 accounts of violent crime and 5 accounts of unspecified crime.



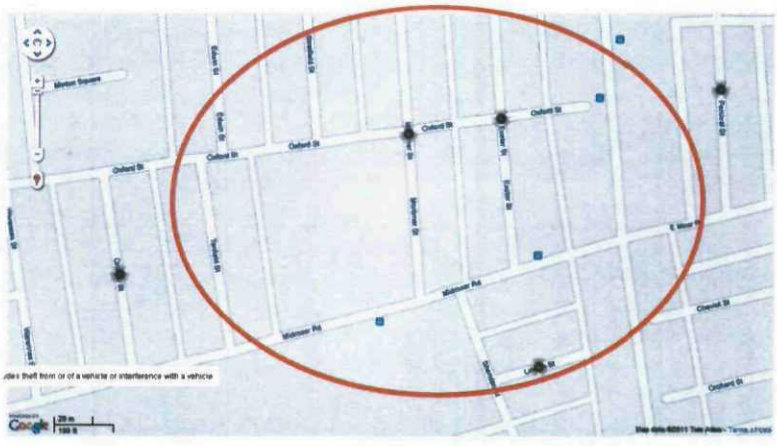
Similar to the Pennygreen Square area, the road has a mixture of low wall, brick piers and railings. There are no garages and no parking within the curtilage of the property. In addition there are no designated on-street parking spaces, which could lead to inappropriate parking in front of a neighbour's home; this is one of the most common causes of resident disputes.

Not only are the properties in Pennygreen Square identical in type, they also appear to be tenanted social housing; this often means that there is limited financial or social investment in the neighbourhood. In areas like this anti-social behaviour is common as there is little or no ownership of the street by the residents.

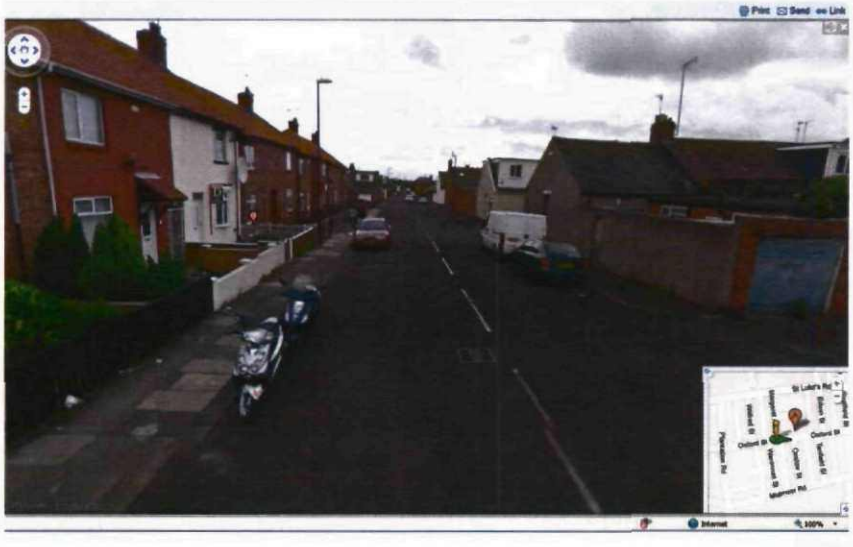


Oxford Street, Sunderland

17 crimes were reported within this area in May 2011. They consisted of 3 accounts of burglary, 4 accounts of violent crime, 8 accounts of anti social behaviour and 2 reports of unspecified crime.



This road incorporates a mixture of low walls and fencing to the front gardens and 2.1m high brick walls to exposed side and rear gardens. The street pattern is highly permeable unlike a closed cul-de-sac approach which is favoured by Gleeson. It is well documented that highly connected thoroughfares maximise escape routes, increase the likelihood of burglary, robbery and wounding. There are no garages and very limited allocated parking on site.



The above examples show that crime levels in a typical area of regeneration alter from street to street. More vitally, it is evidence that our approach to reducing crime through considered design actually works.

8. Conclusions

By adopting the above design features, housing schemes by Gleeson Homes are consistent with CPTED and Secured by Design principles and demonstrate a commitment to incorporating good design practice to reduce crime and create safer, happier neighbourhoods.

9. Bibliography

- Crime Impact Assessments prepared for Gleeson Homes by Greater Manchester Police.
- Secured by Design' publication 'New Homes 2010'.

LOWFIELD ROAD
BOLTON UPON DEARNE

PROPOSED RESIDENTIAL DEVELOPMENT
BY
GLEESON HOMES AND REGENERATION

BUILDING FOR LIFE ASSESSMENT

PREPARED BY RICHARD WARD DESIGN

The Building for Life standard is the national benchmark for well-designed housing and neighbourhoods in England. It is developed around 20 criteria that look at all aspects of house and urban design. The criteria and the approaches being adopted on this site are expanded upon below.

Q1. Does the scheme feel like a place with a distinctive character?

Yes. A clearly defined hierarchy of streets has been designed and significant buildings are used to turn corners and close vistas.

Q2. Do the buildings exhibit architectural quality?

Yes. The scheme has been developed as a holistic three dimensional exercise that will deliver a coherent and satisfying experience in use and movement through the proposal. The vista points that capture and frame views have been considered within the architectural layout and visual surveillance is supported by strategic window positions. Building pinch points are utilised at key positions within the layout to indicate the transition point between individual sequences of space. Great care has been taken to understand the existing vernacular. From this information a set of design principles has evolved that focus on form, composition and materials that binds the new development to its context.

Q3. Are the streets defined by well structured building layout?

Yes. There is a clearly defined hierarchy of streets within the development; primary routes are defined in a formal way by buildings either side which provide passive natural surveillance.

Q4. Do the buildings and layout make it easy to find your way around?

Yes. There is a simple rationale to the road hierarchy and the built form that makes it easy to understand.

Q5. Does the scheme exploit existing buildings, landscape or topography.

Yes. (as far as applicable) In terms of the re-use of existing buildings, there are none. The dilapidated former 1960s industrial units were unsuitable for retention and were demolished in 2007. There is no existing landscape and the site is flat and featureless. The design has however responded to the flatness of the site by the introduction of variety in the eaves and ridge heights to add interest to the streetscape and upper level edge.

Q6. Does the building layout take priority over the roads and car parking layout.

Yes. The built form works to create focus on space. Buildings define primary nodes and gateways. As a general rule the parking is set back behind the building frontage.

Q7. Are the streets pedestrian, cycle and vehicle friendly?

Yes. The roads have been designed to keep traffic speeds low to ensure the safety of all users.

Q8. Is the car parking well integrated and situated so it supports the street scene?

Yes. Car parking is an integral part of the "building blocks" of the development and all the parking spaces and garages are within the dwelling cartilage. The car parking is visually discreet so as not to overpower the street scene.

Q9. Does the scheme integrate with existing roads, paths and development?

Yes. The development utilises and enhances the existing site access to improve access to the site and for adjoining development.

Q10. Are the pedestrian routes overlooked and do they feel safe?

Yes. Particular care has been taken to ensure that all public spaces and pedestrian routes are

fully overlooked. Active frontages create passive surveillance over these areas. This one of the key features in designing out crime. Corner turning treatments have been introduced to deliver further natural surveillance.

11. Is the design specific to the scheme?

Yes. Fieldwork has been carried out in the location, researching the genus loci of the site. Similarly local vernacular has been researched and used as material for the evolution of the architectural response. Consideration has been given to entry details, whilst enhancing security and privacy.

Q12. Is the public space well designed and does it have suitable management arrangements in place?

Yes. The open space is to be retained as a natural feature with an informal pathway through it. It will require very little maintenance. A section 106 covering this is included in the planning application.

Q13. Do the buildings or spaces outperform statutory minima such as Building Regulations?

Yes. All proposed house types are designed to meet and exceed current Building Regulations. A number of solutions for sustainability are provided and included with the proposal

The proposed house type range and scheme will meet Code 3 of the Code for Sustainable Homes and it intended to use Modern Methods of Construction wherever appropriate.
The proposed scheme is designed to, and will meet the Secured by Design standard.

Q14. Has the scheme made use of advances and construction technology that enhances performance, quality and attractiveness?

Yes. The scheme is to be constructed to meet Code3 of the Code for Sustainable Homes, and to achieve this will be making use of best practice technologies.

Q15. Do internal space and layout allow for adaptation conversion or expansion?

Yes. (but to a limited extent)
The internal construction methods allow for flexibility and adaptation in the layout and room arrangement within the dwelling.
However, some of the properties are low cost houses for private sale and are intended to remain so. To build such properties on plots that are large enough to enable extension would not use the land resource efficiently. Eventually these properties are likely to be extended and the low cost houses would be lost to future generations.

Q16. Does the development have easy access to public transport?

Yes. The railway station is within 200m of the site and the bus route is also within easy walking distance. These enable easy, convenient access to residents by public transport to the major centres and most surrounding areas.

Q17. Does the development have any features that reduce environmental impact?

Yes. Constructing the houses to Code 3 ensures a high thermal performance and efficiency. Materials will be specified to minimise the impact of the scheme on the environment throughout its life cycle.
Waste recycling techniques will be used to recycle a very high of construction generated waste, reducing waste going to landfill sites.
With regard to household waste separate recycling facilities are provided for in each dwelling in the rear garden. There is easy access to the rear gardens recycling on collection days.
Water conservation will be encouraged through the use of flow regulators on toilets, showers, taps and appliances that keep water use to a minimum.
Working from home will be encouraged by the provision of "home office" facilities.

Q18. Is there a tenure mix that reflects the needs of the local community?

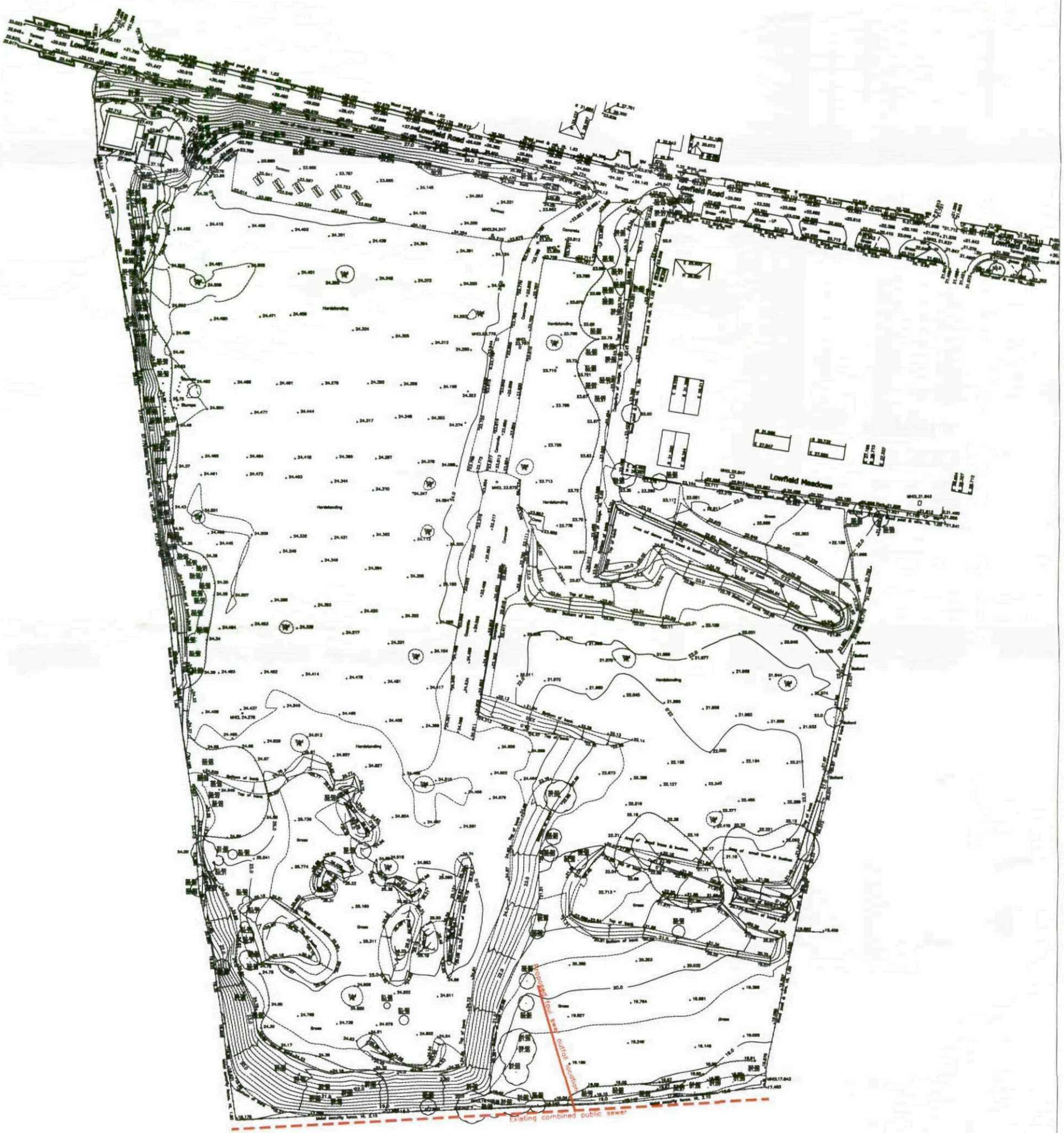
Yes. Careful consideration of local housing needs, markets and affordability study has fed into the plan brief and will ensure an appropriate mix of housing types and tenures to meet the needs of the community from first time buyers, single people, families with young children, families with school children and older people. Most of the houses are for private sale, but some are for social rent and shared ownership. A schedule of the accommodation and tenure is included in the Design and Access Statement submitted with the application.

Q19. Is there an accommodation mix which reflects the needs and aspirations of the local community?

Yes. The accommodation mix covers a wide spectrum of needs and aspiration, welcoming the first time buyer, as well as tenant, - offering good housing for young families, and for families with a range and age of children.
Similarly, there is accommodation which will attract older and single people. There is a range of plan forms that enhances the flexibility and sustainability of the development and responds to the needs and aspirations of the local community.

Q20. Does the development provide (or is close to) community facilities such as schools, parks, play areas, shops, pubs or cafes?

Yes. The development relates well to local community facilities and the centre of Bolton upon Dearne is only 800m away.
There a number of local shops and pubs within 400m of the site.



Proposed foul drainage connection point plan
Lowfields Road, Bolton on Dearne
Not to scale

Existing trees and hedge retained

New tree planting species
Ace Acer Camestre 14-16cms
Pcc Pyrus calleryana chanticleer 14-16cms
Cp Crataegus prunifia 12-14 cms

Buffer planting to railway line and sewage treatment works to comprise native species planting mix to be agreed

Private drives to be finished in a permeable material In accordance with sustainable drainage requirements

Paving slab footpaths to individual house main entrances

Line of nature walk comprising 2m wide shingle path With treated timber edging.

All front gardens to be grassed.

Roads and footpaths to Highway Authority adoption standards

- NOT FOR USE ON SITE -
PROVISIONAL LAYOUT DRAWING, SUBJECT TO PLANNING APPROVAL



gleeson
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Architectural Design & Development Consultant
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LOWFIELD ROAD
BOLTON ON DEARNE

LANDSCAPE STRATEGY PLAN

Scale 1:500 @ A1 size Dwg. No. 344/3

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Sheffield S9 1XE

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homes by gleeson

Mr Andrew Burton
Planning Officer
Development Management
Barnsley Metropolitan Borough Council
Planning and Transportation
PO Box 604
Barnsley
S70 9FE

Date: 25th July 2011

Dear Mr Burton

Re: Bolton Upon Dearne Tree Survey

We have now attached our proposed layout to the original tree survey. We have had confirmation from the arboricultural consultant that this report is both relevant and applicable to our new full application.

Yours sincerely

Steve Gamble
Land and Planning Director



IAIN TAVENDALE F.Arbor.A.

ARBORICULTURAL CONSULTANT

SURVEY DETAILS FOR TREES AT LOWFIELD ROAD, BOLTON UPON DEARNE.

Issued to:

SPAWFORTHS

22ND JULY 2008

Prepared by: Iain Tavendale F.Arbor.A
High Bank Farm
Stoneybank Road
Earby, Barnoldswick
Lancs BB18 6LD
Phone/Fax 01282 853333
07836 246062

Note:

All tree surgery and felling works detailed should be carried out to a standard, the minimum of which is specified in BS3998 Recommendations for Tree Work.

Contractors should be suitably qualified and experienced to an acceptable standard. They should also be aware that if during operations any defects become apparent that would not have been immediately obvious to the Consultant, that such defects should be notified immediately and confirmed in writing within a reasonable period.

All observations and recommendations only relate to the site and the trees as they were at the time of inspection. Should severe climatic or environmental events or changes take place, it may be necessary to reassess the situation so as to ensure an acceptable and continuing level of safety.

Should the inspection have taken place during the dormant season, this will have simplified the inspection of the high crowns and canopies. It will not have been possible however to ascertain either leaf size, colour or density which, can be classic indicators of stress or root associated disorders.

The survey has also been prepared in the knowledge that some form of dev may occur on the site. As such, some of the recommendations put forward could be considered unnecessary were the site simply left as it presently exists.

Furthermore, should development be approved, it may be necessary to reassess and amend this document upon completion of all construction operations to ensure that trees, properties and people can all safely co-exist.

All tree numbers refer to those indicated on the attached site drawing. Dimensions of any trees off site may have been estimated if access was not possible.

The report unless stated otherwise, is of a preliminary nature in that the trees were not climbed but inspected from ground level, and no soil or timber samples have been taken for analysis.

A copy of the Consultant's General Conditions of Contract are attached. These form the basis upon which all services and information are provided.

KEY:

Tree No. - Tree Number – to be recorded on tree survey plan where necessary.

Species – common and scientific names, where possible.

Height – overall height of the tree in metres

Stem Dia - Stem diameter – in millimetres at 1.5m above adjacent ground level (on sloping ground to be taken on the upslope side of the tree base) or immediately above the root flare for multi stemmed trees.

Branch Spread – in metres taken at the four cardinal points to derive an accurate representation of the crown (to be recorded on the tree survey plan where necessary).

Height of CC - Height of crown clearance – in metres above adjacent ground level to inform on ground clearance, crown stem ratio and shading).

Age class – young (Y), semi-mature (SM), early-mature (EM), mature (M), post mature (PM) & veteran (V).

Physiological Condition – e.g. good (G), moderate (M), poor (P) & dead (D).

Structural Condition – e.g. collapsing, the presence of decay and any physical defect.

Preliminary Management Recommendations – including further investigations of suspected defects that require more detailed assessment and potential for wildlife habitat.

ERC - Estimated remaining contribution – in years, e.g. less than 10, 10-20, 20-40, more than 40.

Cat Grade - Category grade – R or A to C (see Table 1) to be recorded in plan on the tree survey plan where appropriate.

RPA – Root protection area calculated from BS5837:2005 Trees in Relation to Construction - Recommendations in sq/m's. Where indicated, dimensions of radius of circle or sides of square based around centre point of trunk calculated for design purposes.

Table 1 — Cascade chart for tree quality assessment

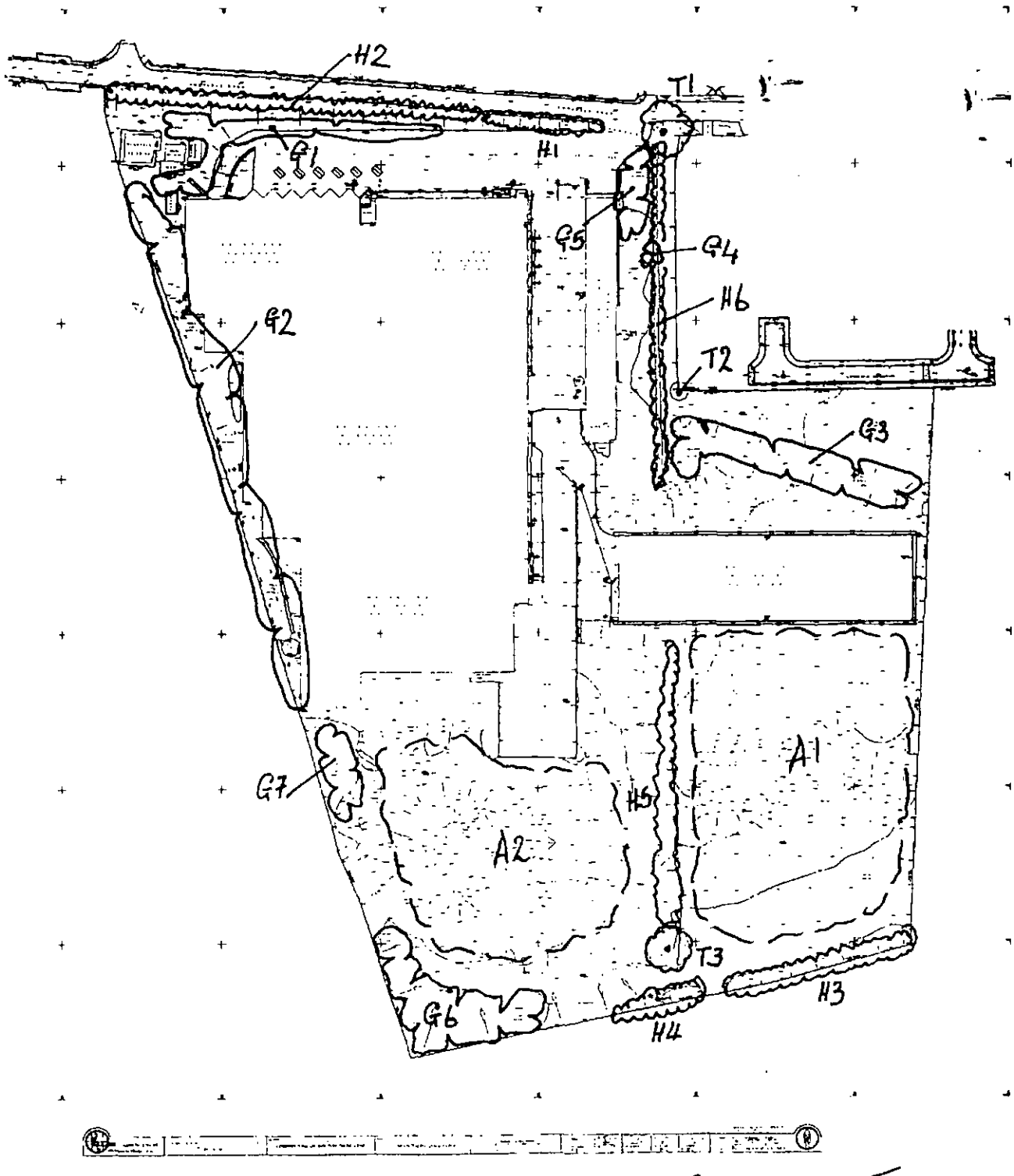
TREES FOR REMOVAL				
Category and definition	**Criteria**			**Identification on plan**
Category R Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	**Criteria — Subcategories**			**Identification on plan**
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B **Those of moderate quality and value:** those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.			

© BSI 26 September 2005

Tree No.	Species	H'gt.	Stem Dia.	Branch Spread		H'gt of C.C.	Age Class	PC	Structural Condition	Preliminary Management Recommendations	ERC	Cat Grade	RPA Sq.m's	RPA Circle of Radii / m's
T1	Robinia *(Robinia psuedacacia)*	12m	400	N E S W	5 4 4 6	3.5	EM	F/G	Slightly biased over highway due to suppression by Cherry to rear/ south east in neighbouring property.	Crown lift over highway. Clean through canopy. Monitor.	20	B1	72.39	4.8
T2	Silver Birch *(Betula pendula)*	10	200	N E S W	3 3 3 3	1.5	Y	F/G	Comparatively close to the garage and canopy rubbing on roof. No obvious physical defects.	Crown lift over garage. Monitor.	20	B2	18.10	2.4
T3	Ash *(Fraxinus excelsior)*	11	m/s 5 x 400 max	N E S W	5 6 6 6	0.5	EM	F	Coppice type material with extensive wounding, weak forks etc. Minimal potential and unsuitable for retention within an area of increased activity.	Fell.	0-10	R	Approx 80.00	Approx 5.00
G1	Goat Willow *(Salix caprea)*, Birch, Cherry, Sycamore *(Acer pseudoplatanus)*, Ornamental	8 max	240 max	N E S W	5 max	-	Y/EM	F	Generally self set primary inhabitors of unmanaged land. Nothing of quality although collectively form a "green mass" that could, if required, be of value for screening.	Remove or retain in accordance with development proposals.	10	C2	Approx 26.06	Approx 2.88
G2	Birch, Goat Willow, Thorn, Ash	10 max	200 avg	N E S W	4 max	-	Y	F	Generally self set primary inhabitors of unmanaged land. Nothing of quality although collectively form a "green mass" that could, if required, be of value for screening.	Remove or retain in accordance with development proposals.	10	C2	Approx 18.10	Approx 2.40
G3	Hornbeam *(Carpinus betulus)*, Beech *(Fagus sylvatica)*, Cherry, Rowan *(Sorbus aucuparia)*, Thorn, Field Maple *(Acer campestre)*, Ash, Willow, Maple, Whitebeam *(Sorbus aria)* etc	6 max	170 max	N E S W	3 avg	-	Y	F/G	Undermanaged group presumably planted as part of landscaped screen feature. Good potential for development with management.	Selectively thin to remove weaker specimens and maximise future viability of retained.	10-30	C2/B2	Approx 13.08	Approx 2.04

Tree No.	Species	H'gt.	Stem Dia.	Branch Spread		H'gt of C.C.	Age Class	PC	Structural Condition	Preliminary Management Recommendations	ERC	Cat Grade	RPA Sq.m's	RPA Circle of Radii / m's
G4	Ash	12	270 max	N E S W	5 5 5 5	3	EM	F/P	Appears to have suffered significant fire damage to west side of crowns impacting upon branch work and trunk. Have been coppiced in past - presumably as part of hedge laying/ management regime.	Fell.	0-10	R	Approx 32.98	Approx 3.24
G5	Thorn, Goat Willow, Cherry, Birch	7 max	m/s - 300 max	N E S W	3 avg	0/1	EM	F	Unmanaged group of primary inhabitors. Some screening potential but management or lack of management has created relatively poor quality stock of minimal potential/ durability.	Fell and replant.	10	C2	Approx 40.72	Approx 3.60
G6	Goat Willow			N E S W		0/1	EM	F/G	Situated on dense banking with very restricted access. Good screening/ shelter.	No action - monitor.	20	B2	0.00	0
G7	Thorn	5	m/s	N E S W	3 avg		Y	F/G	Predominantly Thorn group growing in area of complex levels. Some screen potential to railway but re-landscaping could create a more desirable feature.	Remove or retain in accordance with development proposals.	10-20	C2	Approx 11.00	Approx 2.00
H1	Leylandii hedge	6	155	N E S W	2 max	0.5	Y	F/G	Unmanaged but reclaimable if required.	Remove or retain in accordance with development proposals. If retained clip all round to create more secure feature.	20	B2	10.87	1.86
H2	Predominantly Hawthorn *(Crataegus monogyna)*	6 max	m/s - 300 max	N E S W	3 max	0.	Y/EM	F/G	Unmanaged but reclaimable if required. Some clearances required across highway.	Remove or retain in accordance with development proposals. If retained clip all round to create more secure feature.	20	B2	Approx 40.72	Approx 3.60
H3	Thorn	5 avg	m/s - 300 max	N E S W	3 avg	0	EM	F	Unmanaged but reclaimable if required. Some clearances required across highway. Creates desirable screen to treatment plant to the south.	Remove or retain in accordance with development proposals. If retained clip all round to create more secure feature.	20	B2	Approx 40.72	Approx 3.60
H4	Thorn/ Goat Willow	5 avg	m/s - 300 max	N E S W	3 avg	0	EM	F	Unmanaged but reclaimable if required. Some clearances required across highway. Creates desirable screen to treatment plant to the south.	Remove or retain in accordance with development proposals. If retained clip all round to create more secure feature.	20	B2	Approx 40.72	Approx 3.60

Tree No.	Species	H'gt.	Stem Dia.	Branch Spread		H'gt of C.C.	Age Class	PC	Structural Condition	Preliminary Management Recommendations	ERC	Cat Grade	RPA Sq.m's	RPA Circle of Radii / m's
H5	Thorn	6 max	m/s - 300 max	N E S W	3 avg	0	M	F	Very sparse remnant hedge type feature to bottom of embankment. Minimal potential for reclamation. At best - a few small Thorn trees/ bushes probably unsuitable for area of increased activity.	Remove or retain in accordance with development proposals.	10	R	Approx 40.72	Approx 3.60
H6	Hawthorn	6 avg	m/s - 350 max.	N E S W	3 avg	1	EM	F	Undermanaged feature with good potential for reclamation. Some undesirable Elder,etc present, plus few declining items. Gaps can be replanted.	Reshape all round - replant gaps.	20+	B2	Approx 55.42	Approx 4.2
A1	Predominantly Goat Willow, Silver Birch, Thorn & Elder *(Sambucus nigra)*	4 max	100 max	N E S W	2 max.	0	Y	F/G	Area of sparse natural regeneration of primary inhabitors. All small, transplantable or readily replaceable.	Remove or retain in accordance with development proposals.	10-20	C2	Approx 4.52	Approx 1.20
A2	Goat Willow, Thorn, Birch	3	m/s 100 max	N E S W	2 max	0	Y	F	An area with very sparse natural regeneration of primary inhabitors. All small, transplantable or readily replaceable.	Remove or retain in accordance with development proposals.	10-20	C2	Approx 4.52	Approx 1.20



PLAN TO INDICATE TREE NUMBERING SEQUENCE AT LOWFIELD ROAD, BOLTON-UPON-DEARNE.

22-07-08

IAIN TAVENDALE - ARBORICULTURAL CONSULTANTS

NOT TO SCALE

IAIN TAVENDALE F.Arbor.A
ARBORICULTURAL CONSULTANT
General Conditions of Contract

1. DEFINITIONS

In these Conditions

"Consultant" means Iain Tavendale F.Arbor.A

"Contract" means the contract for the provision of Services

"Employer" means the person whose request for the provision of the Services is accepted by the Consultant or who accepts a written quotation of the Consultant

"Site" means the area in which the services are to be carried out as specified in writing to the Consultant prior to his commencing the provision of the Services.

"Services" means the services of arboricultural consultant to be supplied to the Employer by the Consultant in accordance with these Conditions

2. *BASIS OF THE CONTRACT*

The Consultant shall provide to the Employer and the Employer shall accept the Services in accordance with any written quotation of the Consultant which is accepted by the Employer or any request to provide services of the Employer which is accepted by the Consultant to appropriate British Standards and within a reasonable time. Time shall not be of the essence of the Contract. These conditions shall govern the Contract to the exclusion of any other terms and conditions and no variation to these Conditions shall be binding unless agreed between the Employer and the Consultant. No variation of the Services will be made without prior agreement in writing between the Employer and the Consultant. The Consultant's employees or agents are not authorised to make any representations concerning the Services unless confirmed by the Consultant in writing.

3. THE CONSULTANT SHALL:

a) Be entitled to sub-contract, assign or dispose any or all of the Contract without informing the Employer. The Consultant shall be responsible for its obligations under the Contract where sub-contracting takes place

b) Be responsible for making good at his own cost any damage caused as a result solely of his own work

c) On completion of the Contract leave the site reasonably clean and tidy from his own work

4. THE EMPLOYER SHALL:

a) Be responsible for ensuring that the Consultant is notified of all Tree Preservation or Conservation Area Orders, Private Covenants, the need for Felling Licences or Planning Legislation that is applicable to the contract

b) Be responsible for ensuring that the Consultant is notified of all Services pipes and cables, sewage or fuel systems or any other hazards or obstructions which are not discoverable upon reasonable visual inspection of the Contract or the Site. Any breach of this responsibility shall entitle the Consultant to recover his costs of doing so or any additional work caused by such hazards or obstructions

5. CONTRACT PRICES

The prices for the Services shall not include Value Added Tax which the Employer shall be additionally liable to pay to the Consultant. The price which the Employer shall be liable to pay shall be discounted by 5% (five per cent) to the Consultant hereby charge (if current at the date of completion of the Services). In addition the Employer shall be liable to reimburse the Consultant for such expenses as may reasonably and properly be incurred by him in the performance of the services to Consultant. Where details of the Consultant's hourly charge rate will be provided to the Employer on written request by the Employer.

6. METHOD OF PAYMENT

a) Subject to any special terms agreed in writing between the Employer and the Consultant the Consultant shall be entitled to invoice the Employer for the price of the Services on or at any time after the Services have been completed

b) The Employer undertakes to pay the Consultant within 28 days of the date of the Consultant's invoice. The time of payment of the price shall be of the essence of the Contract

c) Failure by the Employer to make payment on the due date will entitle the Consultant to interest on the amount unpaid at 5% per annum above the base rate of Barclays Bank plc from time to time until payment in full is made and will further entitle the Consultant to cancel the contract or suspend any further provision of Services to the Employer

d) If the Consultant fails to perform the Services for any reason other than any cause beyond the Consultant's reasonable control or the Employer's fault and the Consultant is accordingly liable to the Employer, the Consultant's liability shall be limited to the excess (if any) of the cost to the Employer (in the exercise of reasonable mitigation of losses) of services to replace those not completed over the price of the Services

7. DISPUTES

a) Where disputes arising from the Contract cannot be resolved by the Employer and the Consultant they shall be referred to a single arbitrator agreeable to both parties or, in default of agreement nominated on the application of either party by the Chairman of the Professional Committee of the Arboricultural Association for the time being shall be employed

b) The losing party will pay the resulting costs, unless otherwise decided by the arbitrator

c) The Contract shall be governed by the Laws of England

8. THE SITE

Access

a) The Consultant will have free and reasonable access within the Site. Any areas that are to be excluded from this should be notified in writing to the Consultant prior to the date on which the Services are commenced

b) The Employer shall ensure that the Consultant has access to private areas outside the site reasonably necessary in order that the Services can be carried out

c) The Employer shall indemnify the Consultant against any liability incurred by the Consultant (of whatsoever nature) due to his having entered on private areas without permission of the owner when the Employer has stated free access has been negotiated

9. LIABILITY

a) The Consultant shall not be liable to the Employer or be deemed to be in breach of the Contract by reason of any delay in performing the Services if the delay or failure was due to any cause beyond the Consultant's reasonable control. Without prejudice to the generality of the foregoing, the following shall be regarded as causes beyond the Consultant's reasonable control

i) Act of God, explosion, flood, tempest, fire or accident

ii) acts, restrictions, regulations, bye-laws, prohibitions or measures of any kind on the part of any governmental, parliamentary or local authority

iii) strikes, lock-outs or other industrial actions or trade disputes

b) The Consultant shall not be responsible or liable for any work undertaken as a result of recommendations by the Consultant unless or until such work is carried out and both supervised and approved by the Consultant

10. QUOTATION

a) Any quotation given by the Consultant to the Employer shall remain open for acceptance for 30 days from the date of such quotation and then shall expire automatically

b) Acceptance of such quotation anywhere acceptance of these conditions by the Employer may involve the Employer in a claim for recovery by the Consultant of any loss or expense incurred as a result

c) The Consultant is the owner of the copyright existing in any such quotation and shall not be copied without the prior written consent of the Consultant. Any reproduction before obtaining the Consultant's consent constitutes an infringement of copyright and a breach of the Contract entitling the Consultant inter alia to rescind the Contract and rendering the Employer liable for payment of damages

11. INSOLVENCY OF EMPLOYER

This clause applies if

a) the Employer makes any voluntary arrangement with its creditors or becomes subject to an administration order or (being an individual or firm) becomes bankrupt or (being a company) goes into liquidation (otherwise than for the purpose of amalgamation or reconstruction) or

b) an encumbrancer takes possession or a receiver is appointed of any of the property or assets of the Employer or

c) the Employer ceases or threatens to cease to carry on business or

d) the Consultant reasonably apprehends that any of the events mentioned above is about to occur in relation to the Employer and notifies the Employer accordingly

If this clause applies then without prejudice to any other right or remedy available to the Consultant the Consultant shall be entitled to cancel the Contract or suspend any further provision of Services under the Contract without any liability to the Employer, and if the services have been completed but not paid for, the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary

12. OWNERSHIP/COPYRIGHT

The Consultant is the owner of the copyright in any report, tender documentation and or recommendations and all associated information submitted to the Employer by the Consultant. The report recommendations, tender documentation and all associated information submitted to the Employer shall not be copied without prior written consent of the Consultant. Any reproduction before obtaining the Consultant's consent constitutes an infringement of copyright and a breach of the Contract entitling the Consultant inter alia, to rescind the Contract and rendering the Employer liable for payment of damages

13. GENERAL

a) Any notice required or permitted to be given by either party to the other under these conditions shall be in writing addressed to that *other party at its registered office or principal place of business or* such other address as may at the relevant time have been notified pursuant to this provision to the party giving notice

b) No waiver by the Consultant of any breach of the Contract by the Employer shall be considered as a waiver of any subsequent breach of the same or any other provision

c) If any provision of these conditions is held by any competent authority to be invalid or unenforceable in whole or in part the validity of the other provisions of these Conditions and the remainder of the provision in question shall not be affected thereby.

d) The headings in these Conditions are for convenience only and shall not affect their interpretation



Existing tree to be removed

Existing tree to be retained and protected during construction to British Standard 5837:1991.

Areas of new tree planting see schedule for species

New shurbs/ ground cover planting

Grass to front garden

Paving slab access paths to level threshold for principle entrance. Gradient not to exceed 1in 12 for maximum 5.00m length

Private drives

1.80m high screen wall

S.W. boarded vertical screen fence 1.80m high (100 x 22mm boards with 22mm gaps, 3No. 75 x 38mm rails, 100 x 100mm posts @ 1.875m centres).

As above, height reduced to 1.20m

Plot division fence, post & wire

House type code reference number

8 Plot number

ba Material code reference refer to schedule

All garages are optional. If not built concurrently with the house, a screen fence is to be provided on rear garage wall.

Parking bays

33.500 Proposed floor levels subject to a tolerance of + / - 0.5m

- NOT FOR USE ON SITE -
PROVISIONAL LAYOUT DRAWING, SUBJECT TO PLANNING APPROVAL

HOUSE TYPE

code	type	no
201	2 bed semi det./ terr	10
202	2 bed semi det	10
301	3 bed semi det	11
302	3 bed semi det	4
304	3 bed detached	3
307	3 bed detached	2
309	3 bed semi det	4
401	4 bed detached	5
403	4 bed detached	3
404	4 bed detached	1
405	4 bed detached	7
TOTAL		60

gleeson

Richard Ward Design
Chartered Architectural Technologist
Architectural Design & Development Consultant
Richard S. Ward
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LOWFIELD ROAD BOLTON ON DEARNE

planning layout

GLEESON REGENERATION & HOMES

Scale	1:500 at A2
Date	15.07.11
Dwg No	344/2

Our ref: 12269195-001

18 September 2008

Hannah Richardson
Spawforths
Junction 41 Business Court
Ardsley
Leeds
West Yorkshire
WF3 2AB

Dear Hannah

Lowfield Road, Bolton-Upon-Dearne Ecological Constraints Survey

This letter report presents the findings of an ecological constraints survey of a site at Lowfield Road, Bolton-Upon-Dearne. It was commissioned by Spawforths, on behalf of Horizon Residential Developments Ltd, and was undertaken by WSP Environmental Ltd. Horizon Residential Developments Ltd requires information to accompany a planning application for the proposed residential development of the site.

An Extended Phase 1 Habitat Survey was undertaken in December 2005 by WSPE (12267084-001 Ecological Report v1(19.06.06)). The Survey identified five buildings, hard standing, semi-improved grassland, scrub and tall ruderal present on the site. Habitat suitable for nesting birds, reptiles and foraging bats was identified, and further survey for reptiles were recommended. The aim of this Ecological Constraints Survey is to provide an update to the 2005 Extended Phase 1 Habitat survey.

Constraints Survey

The ecological constraints survey was undertaken on 15th September 2008. Weather conditions at the time of survey were fine; dry with a constant temperature of 17.5°C and a wind speed 6mph.

All buildings with the exception of B4 (Plate 1) have been demolished and the remaining rubble has been flattened (Plate 2). Ephemeral vegetation has colonised across these areas and in areas where the hard standing has begun to break up. Building 4 was briefly inspected from the exterior and is considered unsuitable to support bats; lacking in suitable roosting features.

The large area of tall ruderal to the south of the site has developed into semi-improved grassland interspersed with tall ruderal species including common nettle (*Urtica dioica*) and creeping thistle (*Cirsium arvense*) (Plate 3). Scrub has also developed across this area including bramble (*Rubus fruticosus* agg.), buddleia (*Buddleia x davidii*) and silver birch (*Betula pendula*). The patchwork of tall ruderal vegetation and areas of semi-improved grassland provide suitable habitat for common reptile species such as common lizard (*Lacerta vivipara*).

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The areas of semi-improved grassland to the north east boundary have become encroached by tall ruderal dominated by common ragwort (*Senecio jacobaea*) and common nettle. Further more, the area of semi-improved grassland alongside hedgerow 2 has been lost to compacted rubble, although a strip of tall ruderal and ephemeral vegetation remains adjacent to the hedgerow.

The developing woodland recorded along the western boundary in 2005 has been greatly reduced to a thin band of trees, dominated by young silver birch (Plate 4).

The remainder of the habitats on site are largely the same as in 2005, scrub and hedgerows having matured over the last three years. No non-native invasive species were recorded on site.

Recommendations

Nesting Birds

All species of wild bird and their nests are protected under the *Wildlife and Countryside Act 1981* (as amended by the Countryside and Rights of Way Act 2000). This makes it illegal to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; and
- Intentionally take or destroy an egg of any wild bird.

Habitat is present for foraging and nesting birds including scrub and trees. Where these areas are to be lost through development, vegetation clearance should take place outside the breeding bird season (March to August inclusive).

Where avoidance of this period isn't possible, a nesting bird survey should be carried out by a competent ecologist prior to removal of any areas of suitable habitat to ensure that no active nests are destroyed Where active nests are discovered, they should be left with a suitable buffer until an ecologist has confirmed that the young birds have fledged and are no longer dependant on the nest.

Reptiles

Suitable habitat is present for reptiles on the site. The UK's four more common reptile species are widespread throughout the region (Beebee & Griffiths 2000), these are - common lizard (*Lacerta vivipara*), adder (*Vipera berus*), grass snake (*Natrix natrix*), and slow worm (*Anguis fragilis*). The UK's two rarer species of reptile, sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) are not known in the region.

The four native species of reptiles are all afforded a level of protection under the *Wildlife and Countryside Act 1981* (as amended) through their inclusion in Section 9, Schedule 5. It is an offence to:

- intentionally kill, injure or take a reptile or take its eggs; and

Hannah Richardson
18 September 2008

WSP

- transport with the intention to sell or sell a reptile.

It is recommended that a specific survey for reptiles is undertaken at the site prior to development. The optimal season for reptile surveys is from March to June and September/October. Surveys are limited by high temperatures during July and August; peak survey months are April, May and September.

In summary, although some of the habitats on site have changed the overall ecological value of the site and potential to support protected species remains the same, and therefore recommendations made in the 2005 ecology report are still valid.

I hope that the enclosed information provides you with the necessary details that you require and we would be happy to help you address the issues raised. If you have any queries regarding the above or require any further information please do not hesitate to contact me.

Yours sincerely

Nadine Rolls
Consultant Ecologist
DDI: 0161 886 2662

Plate 1 Building B4

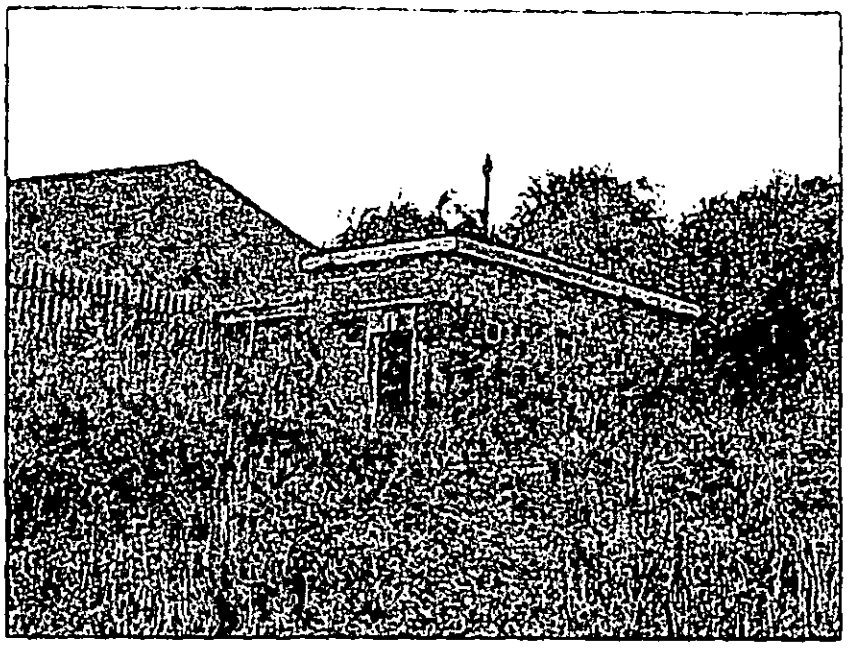


Plate 2 Compacted rubble from demolished buildings

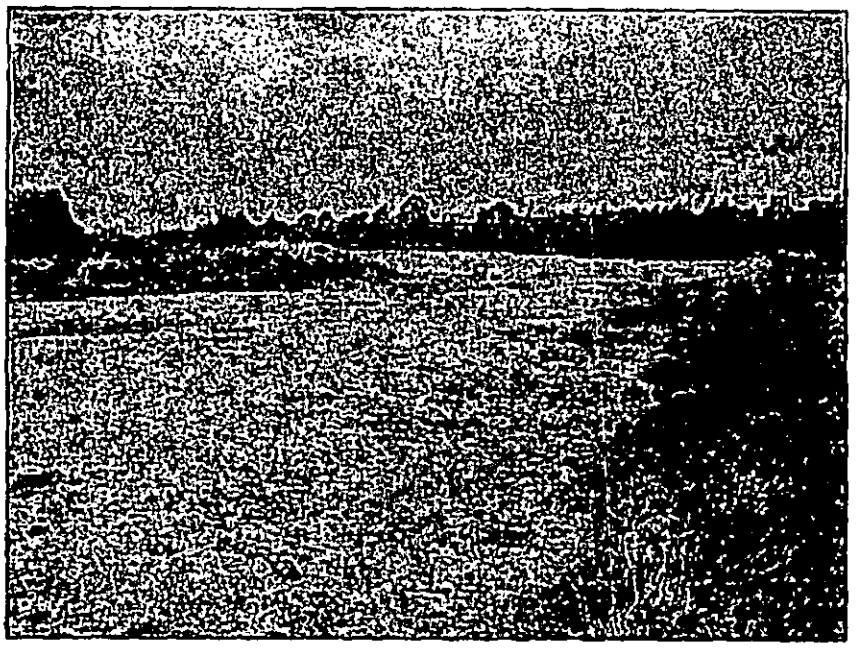


Plate 3 Semi-improved grassland

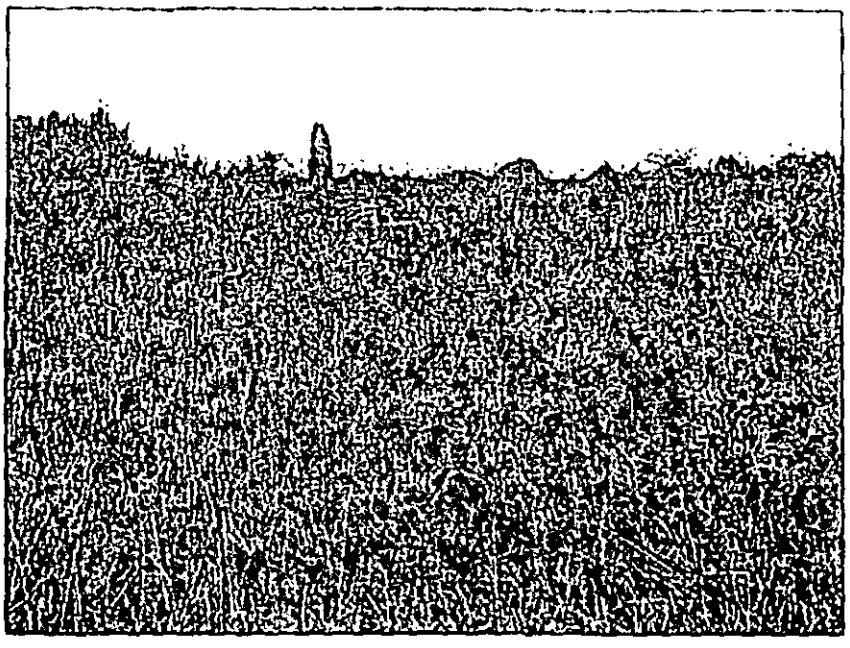
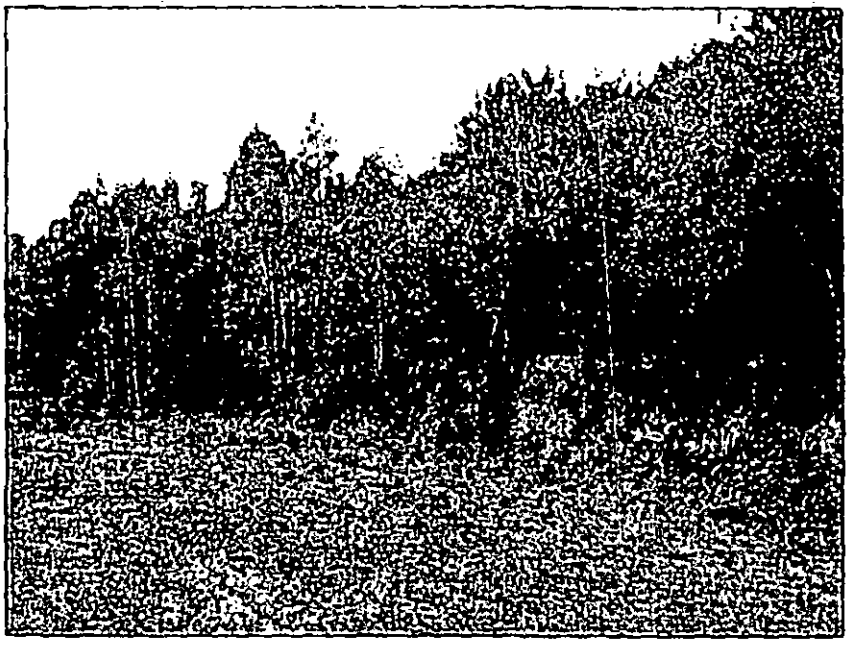


Plate 4 Remnants of developing woodland



Whitcher Wildlife Ltd.
Wildlife Consultants.

LOWFIELD ROAD, BOLTON UPON DEARNE.

REPTILE SURVEY.

Ref No:- **110357.**

Date:- **7th May 2011.**

Cliff Edge, Cliff Road, Darfield, Barnsley, S73 9HR.
Tel. 01226 753271. Fax. 01226 270993.
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Company No. 4401613.

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1. INTRODUCTION.

1.1. Condition 22 of the outline planning consent for the development of the site off Lowfield Road, Bolton upon Dearne is that a reptile survey be undertaken and a report prepared and submitted to the Local Authority.

1.2. Whitcher Wildlife Ltd has been commissioned to carry out a reptile survey of the site to establish whether there are any issues that may affect the proposed works.

1.3. This survey was carried out during April and May 2011 and this report outlines the findings of that survey and makes appropriate recommendations.

1.4. Appendices I and II of this report provide additional information on specific species and are designed to assist the reader to understand the contents of this report.

****

2. SURVEY METHODOLOGY.

2.1. The reptile survey was carried out in line with the Froglife Advice Sheet No 10, Reptile Surveys.

2.2. Prior to visiting the site the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats within the area and to identify potential access and walking routes.

2.3. During the first site visit the survey area was thoroughly searched for the presence of suitable reptile habitats.

2.4. Reptile refugia in the form of Ondulin sheets, felt and carpet squares were then placed across the site and in particular close to those areas assessed to be suitable reptile habitat. A total of eighty refugia were placed across the site during the first site visit in line with the recommended five to ten refugia per hectare.

2.5. Seven subsequent site visits were undertaken. During each visit all of the refugia were lifted and inspected underneath for the presence of reptiles. In addition, the entire site area was carefully and quietly walked and searched for evidence of reptiles.

2.6. All reptiles, plus other species including amphibians were recorded.

2.7. During the final site visit, all refugia were collected together and removed from site.

****

3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A data search for existing reptile records in the area around the site was carried out using the NBN Gateway website.

3.1.2. There are existing records of grass snake at Goldthorpe, Barnborough and Mexborough and along the River Dearne corridor. There are no records close to the site and no records of other reptile species within the 10km grid square around the site.

3.2. Site Description.

3.2.1. The aerial photograph below shows the approximate survey area outlined in red.



3.2.2. The site has contained industrial buildings in the past but these have all been demolished and cleared. The site therefore comprises large areas of concrete and hard standing and areas of crushed rubble with abundant grass, scrub and trees around the perimeter of the site.

3.2.3. A railway line runs down the western site boundary with a residential area beyond. There is another residential area to the north east and arable land to the north and east.

3.2.4. The site is crossed by numerous paths and is clearly used by dog walkers and other members of the public.

3.3. Survey Results.

3.3.1. The table below shows the dates and the results of the surveys.

Date	Weather	Findings	Surveyor	Comments
31.03.11	Fine and warm		Steve and James	Set out 80 refugia.
06.04.11	Fine and sunny	Nil	Steve	No reptile activity
08.04.11	Fine and sunny	Nil	Steve	No reptile activity
19.04.11	Fine and sunny	Nil	Steve	No reptile activity
23.04.11	Fine and sunny	Nil	Derek	No reptile activity
26.04.11	Fine	Nil	Steve	No reptile activity
27.04.11	Fine and warm	Nil	Derek	No reptile activity
28.04.11	Fine and warm	Nil	Steve and James	Collected 80 refugia.

3.3.2. No reptiles were found during any of the site visits.

****

4. EVALUATION OF FINDINGS.

4.1. The site lies in an area where there are few existing reptile records and these are limited to grass snakes only.

4.2. The site lies between open arable land and residential areas although there is a railway line that runs along the western site boundary.

4.3. All of the old buildings have been demolished leaving large areas of concrete, hard standing and bare ground that would provide potential reptile basking areas. Around this there are areas of trees and scrub, grass, bramble and nettles. These all provide potential feeding habitat.

4.4. However, no reptile activity was identified on the site during any of the seven site visit carried out.

****

5. RECOMMENDATIONS.

5.1. No reptiles or reptile field signs were identified on the site and therefore there are no limitations to the proposed development and no mitigation measures are necessary.

5.2. As a precautionary measure, it is recommended that all personnel be briefed and instructed that if any reptiles are identified during the site clearance works, these should not be harmed and should be left to escape safely from the site.

****

Derek A Whitcher.

Natural England Bat Survey Licence Number.	20110665
Natural England Great Crested Newt Survey Licence Number.	20110666
Natural England Crayfish Survey Licence Number.	20110663
Natural England Barn Owl Survey Licence Number	20110664

07.05.2011.

Appendix I.

REPTILES - GRASS SNAKE AND ADDER INFORMATION.

The grass snake (*Natrix natrix*) and the adder (*Vipera berus*) are the two most common snakes to be found in the UK. Adders are found all over Britain while the grass snake becomes rarer towards the north and are rarely found in Scotland.

The grass snake is usually around 120cm long, live in a variety of rough habitats and lay their eggs in warm rotting vegetation. The background colour is dark green and the body is marked with vertical black bars and spots that run along its sides. There is generally a dark collar marking.

The adder is the only native species that is venomous but this is rarely harmful to humans. Adult adders are generally up to 66cm long. Background colouration is a light shade of grey or brown with a black zigzag marking along the length of the back. As with all reptiles, colouration varies and becomes duller as sloughing (skin shedding) approaches.

Both snakes hibernate, spending the winter in burrows or under logs protected from the cold and predators. Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, adders will try to move to damper, cooler sites.

Both snakes are protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

Appendix II. REPTILES - LIZARD INFORMATION.

The common or viviparous lizard (*Lacerta vivipara*) is one of three species of lizard that occur in the UK. They have a dry scaly skin and are variable in colour ranging from brown or yellow-brown to almost green with varying patterns of spots or stripes. The typical length of an adult is 150mm, including the tail.

Common lizards hibernate over the winter, emerging from February onwards depending upon the weather. They begin to mate in April and May and the young are born in late July or August. The lizard gives birth to live young, hence the term viviparous, meaning live bearing.

The lizards draw their body warmth from the sun and consequently spend long periods basking in the sun. They are commonly seen on road and railway embankments and on walls where they sit for long periods soaking up the heat of the sun before going to find food.

They occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs.

Common lizards hunt insects, spiders, snails and earthworms. They stun their prey by shaking it and then swallow it whole.

At night, and when startled, they will shelter beneath logs or stones or under other refuges that may be available.

Common lizards are protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

Common lizards should not be confused with the somewhat larger sand lizard (*Lacerta agilis*). These are typically 190mm long and stockier than the common lizard. Their marking are distinctly different being considerably more colourful. Sand lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the sand lizard in the UK is therefore very limited. Sand lizards are a European protected species.

The third species of lizard is the slow worm *(Anguis fragilis)*, which is frequently mis-identified as a snake. The firm body of the slow worm is distinctly cylindrical in shape and the tiny smooth scales result in a very smooth, shiny appearance. Colouration is typically a uniform grey to brown although there is a wide variation from straw coloured to almost black and some animals have very fine stripes or a zig-zag along the centre of the back. The typical length of an adult is 400mm.

Slow worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Slow worms hibernate over the winter, emerging from March onwards depending upon the weather. They begin to mate in April and May and six to twelve young are born in August or September.

Their favourite food is slugs but they will also eat insects and spiders.

Slow worms are hard to find. They will bask in the sun but they quickly and quietly move into cover when disturbed and do not generally attract attention as they retreat from a basking spot.

Slow worms are also protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

Appendix III. REPTILE TOOLBOX TALK.

Whitcher Wildlife Ltd.
Wildlife Consultants.

Toolbox Talk : Reptiles.

Identification : Grass Snakes.

The grass snake is usually around 120cm long. The background colour is dark green and the body is marked with vertical black bars and spots that run along its sides. There is generally a yellow marking around the neck.



Identification : Adders.

The adder is the only native species that is venomous but it is rarely harmful to humans. Adult adders are generally up to 66cm long. Background colouration is a light shade of grey or brown with a black zigzag marking along the length of the back. As with all reptiles, colouration varies and becomes duller as sloughing (skin shedding) approaches.



Identification : Slow Worms.

Slow worms grow to around 45cm in length. The males and females display a marked difference in colour when fully grown. Females often have a dark vertebral stripe, the flanks are flecked or striped with dark brown or black, the ventral surface is nearly always uniform black. Males are more uniform in colour dorsally and on the flanks, the belly is usually mottled black or dark grey, they also have larger heads and occasionally distinct blue spots. The upper parts of the body vary from light or dark brown, grey, bronze or brick red.



Identification : Common Lizards.

Common lizards grow to around 16cm. They are grey brown to dark brown, often with a darker streak that may run the entire length of the spine. A continuous dark band bordered by light yellow or white spots is often seen on either side of the body. The underside of the males is egg yolk yellow to orange spotted with black, females are yellowish grey.



Habitat.

Maintaining the right body temperature is vital to reptiles' survival. In the morning they find a warm basking site to heat up their bodies, then later they may move back into the shade so as not to overheat. Hence, reptiles require a habitat that provides a range of suitable refugia for shelter such as dense vegetation, rubble or log piles, or crevices and open areas for basking such as bare ground, rocks or railway ballast shoulders. During hot summers reptiles may be found in damper, cooler sites.

Reptiles hibernate, spending the winter in burrows or under logs protected from the cold and predators.

When disturbed in their natural habitat reptiles will usually move away quickly.

Other Reptiles.

In addition to the reptiles outlined on this document there are also two other reptile species in Great Britain, the smooth snake and the sand lizard. These reptiles are a lot less common than the four species covered with the smooth snake being predominantly found on heathland in southern England and the sand lizard found throughout Great Britain in coastal dune areas.

These species are also afforded a higher level of protection because they are European Protected Species.

Legislation.

Reptiles are protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

DO's.

- ✓ Stop work if any reptiles are found and let them move away safely of their own accord.
- ✓ Stop work immediately if large number of reptiles are found and contact Whitcher Wildlife Ltd.
- ✓ Avoid handling reptiles where possible.
- ✓ Seek medical attention immediately if you are bitten by a snake.
- ✓ If in doubt of the species, photograph the reptile and contact Whitcher Wildlife Ltd regarding identification.

DON'Ts.

- × DON'T handle adders. Their bite is poisonous.
- × DON'T kill or injure any reptiles.

Further information. Contact Whitcher Wildlife Ltd.
Tel : 01226 753271. Email : info@whitcher-wildlife.co.uk.

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Gleeson Homes & Regeneration

FLOOD RISK ASSESSMENT: LOWFIELD ROAD, BOLTON UPON DEARNE

- Final
- 13 June 2011

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- Final
- 13 June 2011

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SKM ENVIROS

Executive Summary

In May 2011 SKM Enviros were commissioned by Gleeson Homes & Regeneration to undertake a Flood Risk Assessment for a site located off Lowfield Road within Bolton upon Dearne, South Yorkshire. This was undertaken in support of a planning application for residential redevelopment of the site.

The development site is elevated significantly above the River Dearne to the south. As such the proposed development levels are all at between 5 and 10 m above modelled and historic flood levels along the River Dearne adjacent to the site. Further to this photographic evidence from the June 2007 flooding clearly demonstrates that flooding was not close to impacting the site. In the light of this the risk of flooding from this source is considered to be low.

The potential for flooding from other sources including the failure of drainage infrastructure and surface runoff from adjacent areas has also been considered within this assessment. The risks for all such sources were assessed to be low or less.

Issues relating to the control of storm water runoff are all covered within a separate surface water management strategy that should be read in parallel to this assessment.

SKM ENVIROS

1. Introduction

In May 2011 SKM Enviros were commissioned by Gleeson Homes & Regeneration to prepare this flood risk assessment in support of a plan to redevelop land off Lowfield Road, Bolton Upon Dearne (Appendix A), for residential use.

1.1. Background

Planning permission is sought for the redevelopment of a site formerly occupied by a company called Addspace, for residential use. This land is situated wholly in flood zone 1 (Appendix B). In the light of this, this site is considered to pass the Sequential Test as set out in Planning Policy Statement 25[1] and potentially be appropriate for all types of development.

The site covers an area of greater than one hectare and therefore a flood risk assessment is required to consider the impact of the development on flooding locally. In addition to this the site is in proximity to areas classified as flood zone 2/3 and the assessment must also confirm that this zoning is correct and that the site is not likely to be subject to flooding.

This report is based upon previous assessments undertaken by Enviros Consulting in 2005 and 2008. During that work the following organisations were contacted in order to obtain information; the Environment Agency (Appendix C), Yorkshire Water (Appendix D) and The Dearne and Dove Internal Drainage Board (Appendix E). The report has been based on the information provided by these organisations, information provided by Gleeson Homes & Regeneration in relation to the current plans and observations from a site visit.

1.2. Objectives

The principal aims of the flood risk assessment are:

- to assess the risk posed to the site from external flood sources;
- to assess the impact of any site development on local flooding; and
- to support a planning application for redevelopment of the site with residential units.

1.3. Report Synopsis

Chapter 2 describes the site, the surrounding area and the proposals for the redevelopment. Chapter 3 then assesses the risk of flooding from external sources to the site and the potential for the site to impact flooding elsewhere. The report is then concluded in Chapter 4.

1 Planning Policy Statement 25, Development and Flood Risk, DCLG, 2006

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2. Site Description

2.1. Location

The site is located on the southeast boundary of Bolton Upon Dearne, to the north of the River Dearne (Appendix A), which is defined as a Main River. This is approximately 10 miles southeast of Barnsley and is centrally located between the M1 and M18. The site lies to the south of Lowfield Road, east of a railway line and north of a sewage treatment works. The approximate national grid reference of the site is SE 456 023.

Land use to the west of the site is dominated by relatively densely spaced residential properties. Whilst to the east, flat and drained arable land dominates the landscape, with the exception of a relatively small residential area that extends along Lowfield Road. A sewage treatment works is located down slope of the site between the southern site boundary and the River Dearne. To the east of the sewage treatment works, a recreational pond has been created which is stocked with fish; water levels in the pond are maintained through pumping to and from the River Dearne.

An active quarry and a disused waste disposal site occupy a significant proportion of the landscape to the south of the river.

The areas surrounding the site have no specific conservation classification. The River Dearne is the main hydrological feature in the area and is discussed in depth in Section 3 of this report.

2.2. Site Appearance

The wider site was formerly occupied by Addspace and covers an area of 5.3 hectares (ha) of which the proposed development would cover an area of 1.9 ha to the north (Figure 1).

The wider site was formerly occupied by two large warehouse units to the north of the site. These were surrounded by a number of smaller buildings and associated car parking and hard standing. The buildings were formerly used for furniture production and have now all been demolished. The southern third of the site has always been undeveloped, although has been raised up above surrounding natural levels.

The actual development site was previously dominated by the larger of the two main buildings and was almost completely developed with buildings and hard standing.

2.3. Topography

Pre-demolition site levels were surveyed by Ellam Land Surveys in October 2005 (Appendix F) and then more recently in April 2011 the site was again surveyed, this time by Haycock and Todd (Appendix G). This data shows that at the southern boundary of the wider site directly adjacent to the sewage treatment works elevations are approximately 18.1 m AOD. This is the lowest point on the wider site.

Within the wider site, adjacent to the sewage treatment works, the ground levels are significantly higher than the land at the boundary and further to the south. This area is raised, artificially, by up to 5 m at a steep embankment. This is clearly imported material which forms a plateau level with much of the rest of the site. It is assumed that much of the site is underlain by Made Ground.

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The development site is all between 24m and 28.5m AOD with levels sloping generally from the north to the south. To the west levels rise up from the site to a railway embankment and to the north levels rise up to a road embankment. This road embankment is where Lowfield Road passes over the railway line.

2.4. Geology

As previously stated much of the site is underlain by Made Ground, the nature of which has not been confirmed. The Geological map[2] indicates that this is underlain by undifferentiated Middle Coal Measures, comprising mudstones, sandstones and siltstones.

The Coal Measures are regarded as a Minor Aquifer by the Environment Agency and are relatively permeable.

2.5. Drainage

2.5.1. Public sewers

From plans provided by Yorkshire Water (Appendix D) it is known that a pumped foul sewer runs across the proposed development site from the north to the south en route to the sewage treatment works to the south.

A 225mm combined sewer is located down slope of the site running from east to west adjacent to the northern boundary of the sewage treatment works site boundary. This system almost certainly receives runoff from the site area. Any excess flows above the capacity of the works would discharge via a surface water overflow down to the River Dearne.

2.5.2. Site Drainage

All of the existing areas of hard standing areas were formerly served by a drainage network which was destroyed as part of the demolition works on the site. This drainage network flowed in a southerly direction; however the precise point of discharge cannot be determined.

These systems may possibly have discharged into a small ditch located within an overgrown area just inside the southern boundary of the wider site. The Ordnance Survey 1:10,000 map indicates that this is a spring but no flow or obvious outfall was observed in this feature during the site walkover. The ditch terminates at the southern boundary of the wider site and it is assumed that any flows are somehow picked up by the combined sewer that runs along the northern edge of the adjacent sewage treatment works.

2.6. Description of Development

Planning approval is sought for residential redevelopment of the site. The properties would be a mix of detached and semi-detached houses with their own gardens. The site would be accessed from Lowfield Road to the north with a new site access road constructed down the eastern development boundary. The development Masterplan is included as Appendix H.

---

2 British Geological Survey, 1:50,000 soil and drift map, Sheet 87 Runcorn

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3. External flood sources

Current guidance[3] recommends that a flood risk assessment should consider all possible sources of flooding for a given site. A large number of specific mechanisms exist; however, many of these can be easily discounted. Table 1 summarises a range of potential risks and the possibility that these may be relevant to this site.

- **Table 1 Summary of potential flood source**

Flood Type	Source	Pathway	Consider further
Fluvial	River Dearne	Extreme event	Yes
Tidal	None	None	No
Overland flow	Runoff from higher land	Surface water runoff from small section of Lowfield Road	Yes
Drainage	Combined sewer	Surcharge	Yes
Groundwater	Undifferentiated Middle Coal Measures	None	No
Other / Artificial	None	None	No

It should be noted that other than issues relating to storm water and foul runoff from the site, which are being addressed separately, no mechanisms for the proposed development to exacerbate flood risk elsewhere have been identified.

3.1. Risk Assessment

The risk assessment methodology used within this project is set out in Appendix I and is written based on guidance provided in PPS25. The guidance recommends that flood risk is assessed through consideration of both the magnitude of potential impacts and the probability of occurrence. The magnitude of impact is then dependant on two factors; these are the sensitivity of potential receptors and the severity of the flooding. There are therefore three criteria on which flood risk is assessed. These are:

- Sensitivity of the receptor;
- Severity of flooding; and
- Probability of occurrence.

3.1.1. Sensitivity of receptor

Within PPS25 residential development is classified as '*more vulnerable developments*'. Given this the sensitivity will be defined as high.

---

3 Planning Policy Statement 25: Development and Flood Risk, Department for Communities and Local Government, 2006

Development, in general, has the potential to impact the flood risk posed to offsite receptors. All offsite development is considered to be very highly vulnerable to any increase in flood risk and therefore it is important that any adverse offsite impacts to flood severity or frequency are avoided.

3.1.2. Severity and Probability of flooding

The severity and probability of flooding are both fully defined within Appendix I and the classification of these criteria is discussed over the following sections.

3.2. Fluvial

At the location where the River Dearne passes the site, the watercourse drains a catchment of approximately 300km^2. The river rises in the hills of the Pennines to the west of Barnsley and incorporates the whole of that town. As such the river has a fairly flashy response to rainfall for a watercourse of this size and has a history of flooding.

3.2.1. Flood History

A level gauge is located at Bolton Viaduct on the River Dearne, just upstream of the site. Peak flood elevations at this gauge for a number of high flow events on the River Dearne have been provided by the Environment Agency (Appendix C). These records stretch back to 1958.

The most significant event for which a flood level has been obtained occurred in May 1967, where flood levels upstream of the viaduct peaked at 17.71 m AOD. On the downstream side of the viaduct, adjacent to the site, the largest recorded events occurred in July 1958 and November 1968. Peak level for these events was recorded at 16.98 m AOD.

It must be noted that level data is not available for what are believed to be the largest local flood events. These occurred in 1947, 2000 and 2007. Appendix J illustrates the predicted extent of the 1947 and 2000 floods while the extent of the 2007 flooding is shown in Appendix K.

Appendix K has been produced by SKM Enviros based on aerial photographs taken during the flooding on both the 16th and the 26th of June 2007. These photos are included in Appendix L.

None of the data obtained suggests that flooding locally from the River Dearne has ever approached anywhere near the minimum site level.

3.2.2. Modelling

The Environment Agency has provided estimates of the modelled peak flood levels for a range of different extreme events (Appendix C) derived in 2004 by Jeremy Benn Associates (JBA). Levels at several cross sections within the vicinity of the site (Table 2) were provided.

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- **Table 2 Flood elevation data**

Cross section	Annual Event Probability (%)		
	2.00	1.00	0.67
	Elevation (m AOD)		
Upstream side of the Bolton Viaduct	17.39	17.74	18.17
Adjacent to centre of site	15.57	16.03	16.49
Adjacent to east boundary	15.55	15.95	16.39

The cross sections are equally spaced, however the flood elevation observed immediately upstream of the viaduct is significantly higher than observed at the other two sections. This suggests that the viaduct has limiting conveyance and causes flood water to back up, upstream of the viaduct (upstream of the site).

The area that is flooded as a result of the backing up of water is remote from the site. It is therefore more appropriate to use the flood level from the cross section adjacent to the centre of the site. This would suggest that there is a 0.67% chance annually of the flood level adjacent to the site exceeding 16.49 m AOD.

In the light of this the risk posed to the proposed development from flooding along the River Dearne is assessed to be ***negligible***.

3.2.3. Climate change

It is widely accepted that climate change has the potential to cause more prolonged and more intense rainfall. PPS25 recommends that an allowance of 20% is made when studying peak river flows to account for this. The necessary allowances were made for climate change during the construction of the model by JBA and in the related flood values quoted in Table 2.

3.3. Overland flow

The only areas of land upslope of the site are the railway line and Lowfield Road. Neither of these are likely to generate significant volumes of surface runoff as drainage arrangements are in place. For the railway line this is of the form of highly permeable coarse gravel surfacing that is unlikely to allow any surface runoff and for Lowfield Road this takes the form of formal road drainage.

Given the above the probability of flooding from these sources is considered to be very low.

The areas from which runoff could be generated with regards to these sources are also very small and the associated risk posed to the development proposals is considered to be ***negligible***.

3.4. Drainage

All major local drainage networks are either located down slope of the site or on the far side of either the railway of Lowfield Road embankments. If the sewers become blocked or are overwhelmed during a significant rainfall event, the local topography will ensure that flood water is routed away from the site.

The only exception to this is the pumped system that runs across the site. This system is sealed and there are no manholes on or up gradient of the site and so minimal potential for this system to surcharge and flood the site

The drainage networks therefore do not pose a flood risk to the development proposals because no pathway exists. In the light of this the risk posed by this source is assessed to be ***negligible***.

3.5. Summary of risk assessment

The probability and severity of each type of flooding has been assessed in line with the methodology and guidance set out in Appendix I. This is then combined (Table 3) with the assessment of receptor sensitivity to define the level of flood risk on a scale ranging from negligible to high.

Typically risks assessed to be low or less are acceptable whereas risks assessed to be moderate or high require additional mitigation or management to enable development to proceed.

All identified potential flood sources at this site were assessed to pose a risk or low or less.

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- **Table 3 Flood Risk Summary Table**

Flood Source		Pathway	Receptor	Sensitivity	Severity of impact	Probability of impact*	Flood Consequence
Fluvial	River Dearne	Regional fluvial flooding	Residential	High	Negligible	Very Low	Negligible
Overland flow	Embankments to north and west of site	Surface run off	Residential	High	Negligible	Very Low	Negligible
Drainage	Sewer systems	Surcharge during storm event	Residential	High	Negligible	Low	Negligible

* Over a projected development lifetime of 100 years

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4. Conclusions

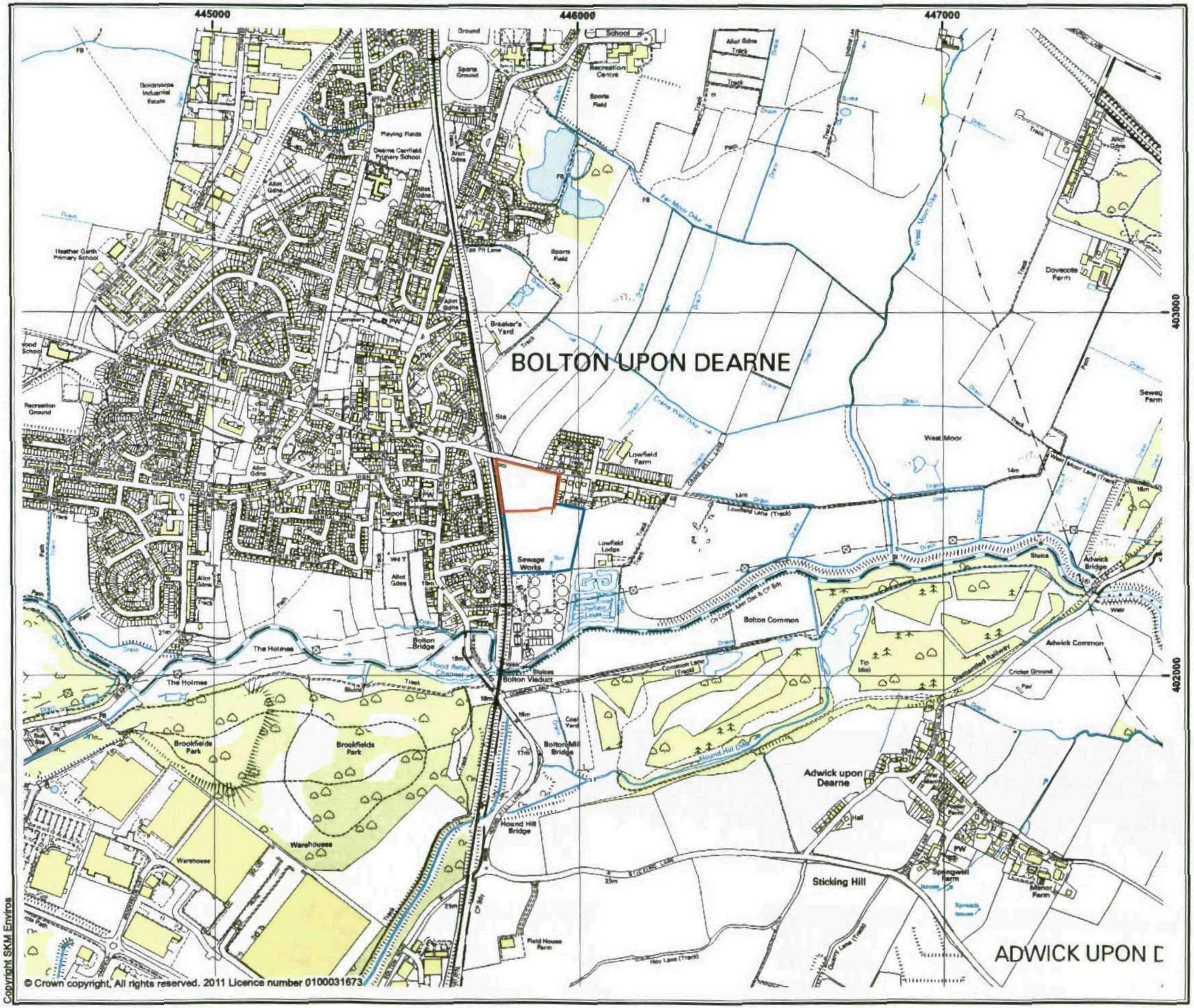
The following conclusions can be made:

1) The site is situated wholly within flood zone 1 and as such is considered to pass the Sequential Test and potentially be appropriate for any type of development.
2) To our knowledge the site has never been impacted by flooding, including the June 2007 flood events.
3) The existing levels within the development area are between 24 and 28.5 m AOD. The site is therefore somewhere between 5 and 10 m above the highest reasonable local estimate of the design flood level along the River Dearne. In light of this the risk posed by this flood source to the site is considered to be low.
4) Other flood sources including overland flows and drainage infrastructure have been considered and all potential risks identified have been assessed to be negligible.

Issues relating to site drainage are considered within a separate assessment that should be viewed in parallel to this report.

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Appendix A Site Location Map



Key

Site Boundary

- Ownership Boundary
- Development Doundary

N

Kilometres

0 0.1 0.2 0.3 0.4 0.5

REV. DESCRIPTION *DATE*

GLEASON HOMES AND REGENERATION

LOWFIELD ROAD
FLOOD RISk ASSESSMENT

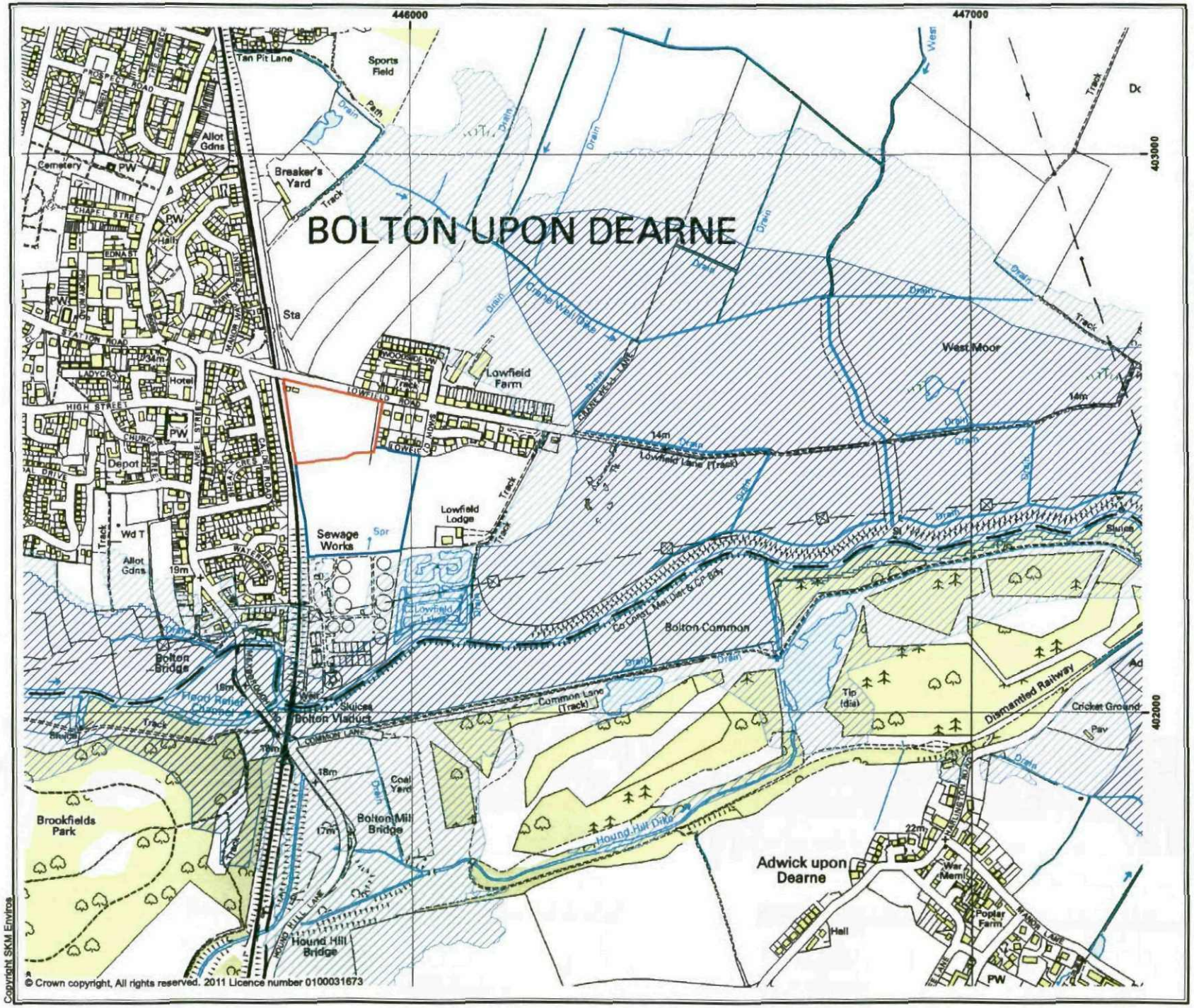
Appendix A
Site Location

SCALE 1:10,000 @ A3	*PROJECT CODE* JL30370
CONTENT SP	*DRAWN* JG
CHECKED SP	*DATE* 03/06/11

SINCLAIR KNIGHT MERZ
SKM ENVIROS

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Appendix B Environment Agency flood map



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Key

Site Boundary

- Ownership Boundary
- Development Doundary
- EA Flood Zone 2
- EA Flood Zone 3

N

Kilometres

0 0.1 0.2 0.3 0.4

REV.	DESCRIPTION	DATE

GLEASON HOMES AND REGENERATION

LOWFIELD ROAD
FLOOD RISk ASSESSMENT

Appendix B
EA flood map

SCALE	PROJECT CODE
1:6,500 @ A3	JL30370
CONTENT	DRAWN
SP	JG
CHECKED	DATE
SP	03/06/11

SKM ENVIROS

SKM ENVIROS

Appendix C Environment Agency Consultation Response

creating a better place

RECEIVED
04 JAN 2006

Environment Agency

Daniel Watson
Enviros Consulting
3rd Floor Suite
Lister House
Lister Hill
Horsforth
Leeds
LS18 5AZ

Our Ref : RA/2005/027095-1/2
Your Ref : SP020017

Date : 23 December 2005

Dear Sirs

PROPOSED RESIDENTIAL REDEVELOPMENT - LOWFIELD ROAD, BOLTON UPON DEARNE, FLOOD RISK ASSESSMENT

Thank you for your enquiry, which was received on 9 December 2005.

Flood Risk Management

Flood Zone Map.
The Environment Agency has recently published the Flood Zone Map (see enclosed extract). This map shows natural floodplain 'zoned' into three areas based on risk for the purpose of PPG25. The three zones are shown as coloured areas on the map and are referred to as Zones 1,2,3 in PPG 25. They show the flooding that would occur if there were no flood defences and have been created from a combination of detailed models where available, generalised models based on the national Digital Terrain Model and relevant historic flood data. It should be noted that watercourses that have catchment size of less than 2 square kilometres have not been included.

Key for Map extract:

Zone 1 is not shaded showing areas with the lowest probability of flooding from rivers and the sea, where the annual probability is less than 1000 to 1 (0.1%).
Zone 2 is shaded turquoise and shows areas with an annual probability of flooding of between 1000 to 1 (0.1%) and 100 to 1 (1 %) in the case of river flooding or 200 to 1 (0.5%) in relation to coastal flooding. The outer edge of this zone is referred to as the 'Extreme Flood Outline' (EFO).
Zone 3 is shaded blue and shows areas with the highest probability of flooding, where the annual probability is greater than or equal to 100 to 1 (1%) for river flooding and greater than or equal to 200 to 1 (0.5%) for coastal flooding.

River Modelling

Phoenix House, Global Avenue, Leeds, LS11 8PG
Customer services line: 08708 506 506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

This reach of the River Dearne was modelled as part of the River Don Catchment Flood Model. This model was completed by Jeremy Benn Associates in May 2004.

Enclosed is an extract from the report describing the modelling approach taken and the are the Model Summary Sheets showing modelled water levels and flows for 5 different return periods adjacent to your site.

Flood History
See the enclosed map showing the flood history for this site. The extent of flooding is only shown for those watercourses surveyed after a flood event. Other flooding may have occurred which is not shown. This is the best information currently available.

Development Control

The Agency no longer makes recommendations as to minimum floor levels, however, prior to the introduction of PPG25 the Agency recommended that floor levels should be a minimum of 600mm above the 1 in 100 year flood level. An allowance should also be added for the possible effects of climate change.

An extract from historic flood records are enclosed.

The Agency is keen to promote the use of sustainable drainage systems and draw attention to Section 40 and Appendix E of Planning Policy Guidance Note 25 (PPG25).
If surface water will be discharged to public sewer the Water Authority, or their Agents, must confirm that there is adequate spare capacity in the existing system, this would be the limiting factor.
If the present surface water drainage system discharges to a watercourse and it is proposed that the redeveloped site will also discharge to the watercourse The Agency would require balancing to provide a 20% reduction in flows in line with the recommendations of PPG25 para 56 for the opportunity of redevelopment to be used to reduce run-off rates.

The Agency are not aware of any localised flooding problems relating to this site. The site is adjacent to an area covered by The Dearne and Dove Internal Drainage Board and enquiries should be made of the IDB and the Local Authority. Dearne and Dove IDB, Shire Group of Drainage Boards, Denison House, Hexthorpe Road, Doncaster, DN4 0BF, tel. 01302 342055.

The FRA should take account of the site levels in the vicinity of the spring and sinks, the flow, any seasonal variations, where the water would flow if the was a blockage of the watercourse. Any proposal to divert or culvert a watercourse requires the prior written approval of the Agency under the terms of the Land Drainage Act 1991. The Agency resists culverting on conservation and other grounds, and consent for such works will not normally be granted except for access crossings.

This information does not constitute a Flood Risk Assessment (FRA) in itself. It may be necessary to engage a consultant to utilise this data in the production of the FRA.

The Environment Agency does not undertake FRA's for any organisation other than itself.

We encourage you to have pre-application discussions with us if your enquiry will lead to you making a planning application with your local authority.

If your proposals for managing flood risk are acceptable, we can agree this with you before you make your planning application. We can give you a Letter of Compliance to send with your flood risk proposals to the local authority. The local authority will not need to contact us to ask for our advice about flood risk for your planning application.

The Letter of Compliance only covers flood risk grounds. We may have other (non-flood risk) concerns about your proposal and pre-application discussions may also help to cover these issues.

If you want to discuss this with us, please call Roger Dixon on 0113 2134679.

The information provided is based on that currently available to the Agency. The Agency and its officers accept no liability whatsoever for any loss or damage arising from the interpretation or use of the information.

I can advise that the interpretation of the information is your own responsibility however, should you have any queries regarding this letter, please contact this office at the address given below.

This information is provided subject to the enclosed notice, which you should read.

Yours faithfully

LESLEY SLANEY
EXTERNAL RELATIONS OFFICER

Encs:-

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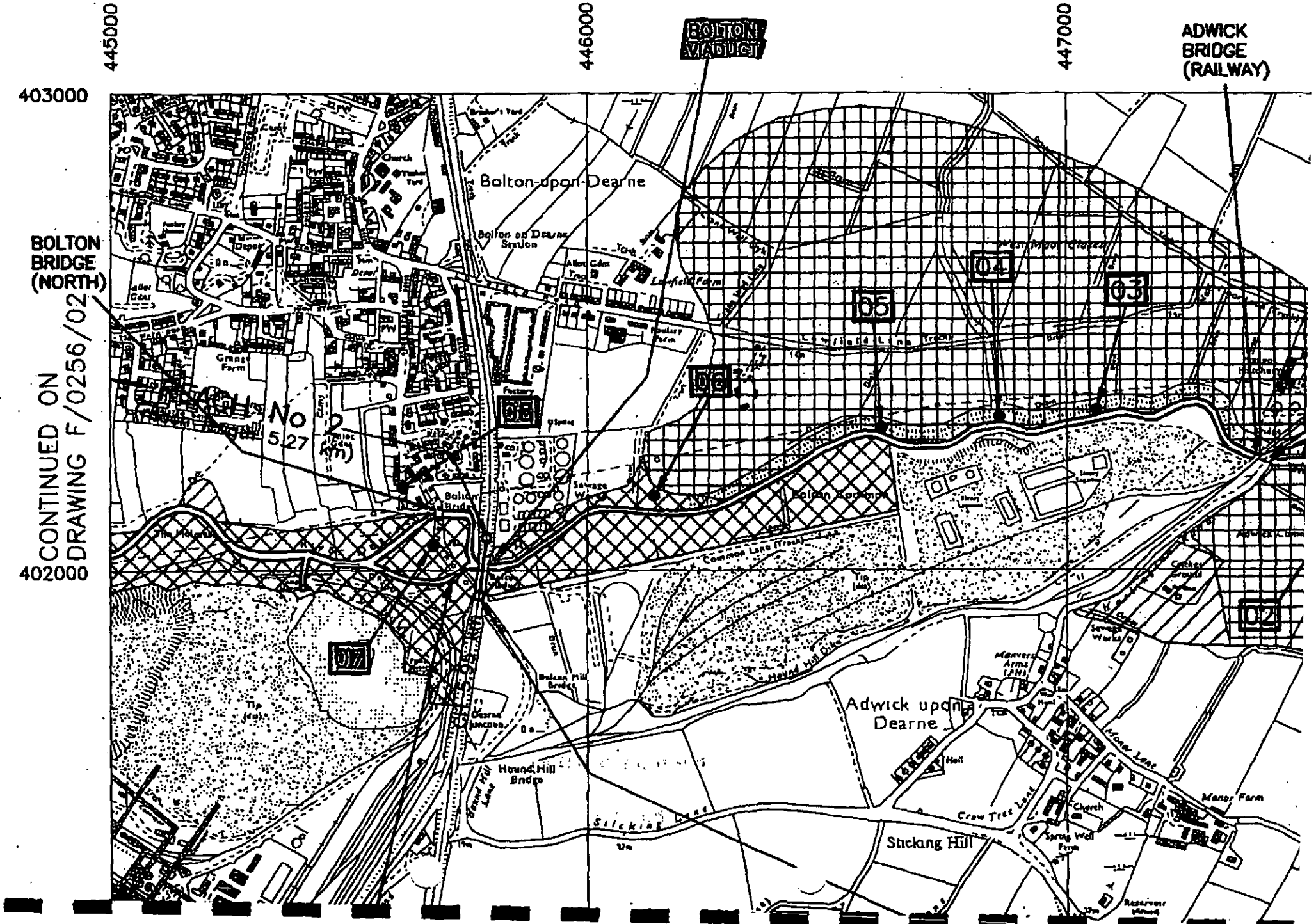
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EXTRACT FROM HISTORIC FLOOD RECORDS



BOLTON VIADUCT

UPSTREAM				DOWNSTREAM			
DATE	LEVEL m.A.O.D.	DISTANCE (metres)	EVENT No.	EVENT No.	DATE	LEVEL m.A.O.D.	DISTANCE (metres)
4–16/5/67	17.71	0	04	02	7/58	16.98	0
2–3/11/68	17.15	0	06	05	3–6/11/67	16.92	0
2–13/4/70	16.95	0	07	06	2–3/11/68	16.98	0
				07	12–13/4/70	16.72	0

BOLTON BRIDGE (NORTH)

UPSTREAM				DOWNSTREAM			
DATE	LEVEL m.A.O.D.	DISTANCE (metres)	EVENT No.	EVENT No.	DATE	LEVEL m.A.O.D.	DISTANCE (metres)
2–3/11/68	17.70	0	06	06	2–3/11/68	17.29	0
12–13/4/70	17.24	0	07	07	12–13/4/70	16.96	0

ADWICK BRIDGE (RAILWAY)

UPSTREAM				DOWN	
DATE	LEVEL m.A.O.D.	DISTANCE (metres)	EVENT No.	EVENT No.	DATE
7/58	15.97	0	02	04	14–16/5/67
3–6/11/67	14.53	0	05	06	2–3/11/68
2–3/11/68	14.80	0	06		
12–13/4/70	14.89	0	07		

PASTURES ROAD BRIDGE

UPSTREAM				DOWN	
DATE	LEVEL m.A.O.D.	DISTANCE (metres)	EVENT No.	EVENT No.	DATE
7/58	14.11	0	02	04	14–16/5/67
7/58	14.35	30	02	05	3–6/11/67
3–6/11/67	12.80	0	05	06	2–3/11/68
2–3/11/68	13.42	0	06	07	12–13/4/70
12–13/4/70	13.66	0	07		

FOOTBRIDGE (MILL LANE)

WEIR

UPSTREAM				DOWNSTREAM			
DATE	LEVEL m.A.O.D.	DISTANCE (metres)	EVENT No.	EVENT No.	DATE	LEVEL m.A.O.D.	DISTANCE (metres)
12–13/4/70	14.42	0	07				

399000

WNSTREAM

LEVEL m.A.O.D.	DISTANCE (metres)
13.23	0
12.74	0
13.33	0
13.64	0

OTHER LOCATIONS

DATE	LEVEL m.A.O.D.	LOCATION	EVENT No.	EVENT No.	DATE	LEVEL m.A.O.D.	LOCATION
7/58	18.03	08	02				
14–16/5/67	17.75	07	04				
2–3/11/68	15.89	06	06				
2–3/11/68	15.97	05	06				
2–3/11/68	15.99	02	06				
2–3/11/68	15.71	01	06				
12–13/4/70	16.84	01	07				
12–13/4/70	15.51	04	07				
12–13/4/70	15.86	05	07				
7/4/87	15.25	06	18				

WNSTREAM

LEVEL m.A.O.D.	DISTANCE (metres)
13.69	40
13.87	40
13.91	40

ADWICK BRID

UPSTREAM			
DATE	LEVEL m.A.O.D.	DISTANCE (metres)	EVENT No.
2–3/11/68	14.95	0	06

1 INTRODUCTION

1.1 Note to Local Planning Authorities

1.1.1 This report describes a catchment flood study carried out on the River Don. This river and its tributaries flow through several local planning jurisdictions, and flood risks maps have been produced which are relevant to six local planning authorities (LPAs). These are:

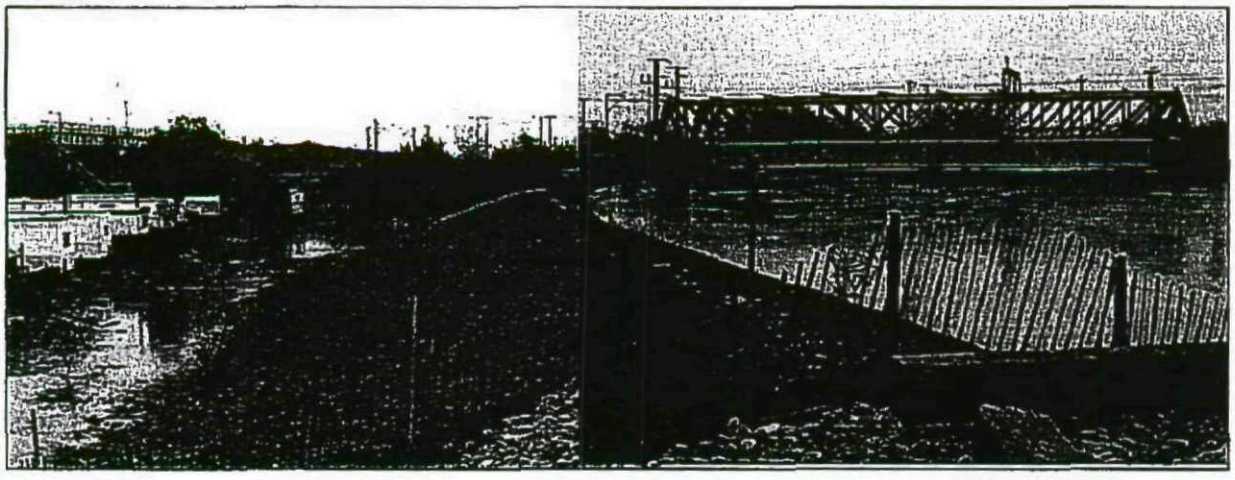
- Chesterfield
- North East Derbyshire
- Sheffield
- Rotherham
- Barnsley
- Doncaster

1.1.2 This report is a brief summary of the work carried out. For details about the project, or to reference the other volumes of the report, local planning authorities are asked to contact the Environment Agency in the first instance.

1.2 Background

1.2.1 In November 2000 the River Don registered the largest flow measured at Doncaster since 1973, and easily the largest flow since the completion of the last river regulator on the Rother in 1988 at Meadowgate. This event was a timely reminder of the potential for flooding in Doncaster, as water levels came within 0.1m of overtopping flood defences in the town (Figure 1.1, below).

Figure 1.1 : Flood levels adjacent to the caravan park in Doncaster in November 2000

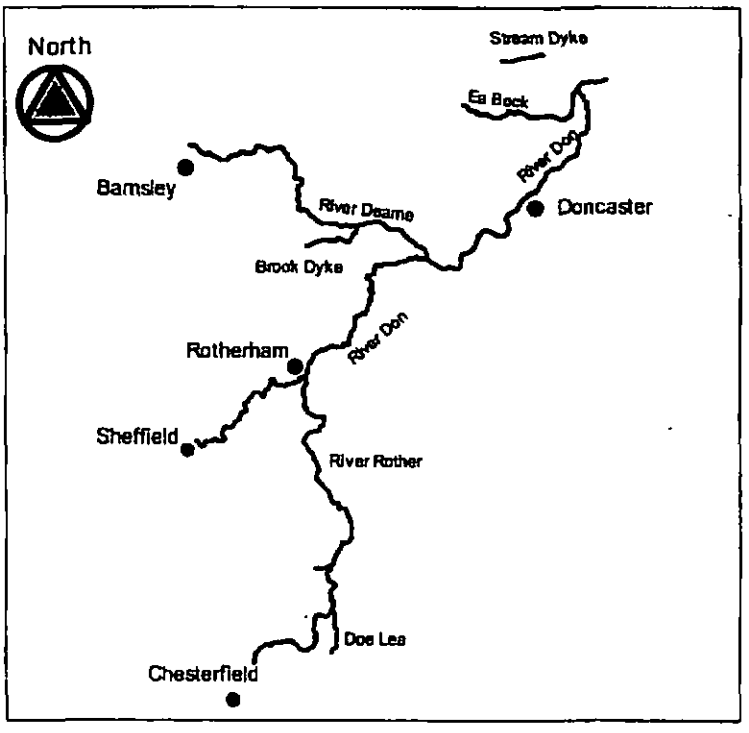


1.2.2 The River Don is an unusual catchment in that it relies on a combination of formal washland, flow control structures and river embankments to protect its lower reaches from flooding. The catchment is heavily urbanised for much of its lower reaches, and even the headwaters have been impacted upon by the needs of past industrial development, being extensively reservoired.

1.2.3 The combination of densely populated flood risk areas around Doncaster and Rotherham with the possibility of flooding over wide areas led the Environment Agency to commission this detailed hydrological and hydraulic modelling study of the River Don. The system of river regulation and formal washlands meant that the flood risk at Doncaster could only be evaluated with any certainty by considering the catchment and its main tributaries as a whole.

1.2.4 Several smaller watercourses, some of which were not direct tributaries of the River Don, were also included in the Don study. Bentley Moor Drain, Stream Dyke and Brook Dyke (a tributary of the River Dearne) were all identified as being at risk from flooding and requiring further study. The River Don, River Dearne and River Rother were the main components of the hydrological and river modelling study however, each forming a key part of the Don system. Figure 1.2 shows the locations of these watercourses relative to one another.

Figure 1.2 : Location of watercourses under study



1.3 Objectives

1.3.1 The study was carried out under the auspices of Section 105 of the Water Resources Act. The original brief was written in March 2000, and the Brightside reach of the River Don was included in November 2001. As a Section 105 commission, the primary objective was to determine the extent of the floodplain and flood risk areas. In order to achieve this, a hydraulic river model with hydrological inputs was needed. In addition to determining flood risk areas, the hydrological and hydraulic models were to be used to:

- Establish the present level of service for defences
- Obtain an understanding of the hydrology and hydraulic behaviour of the Don and its tributaries under flood conditions
- Examine the impact of proposed development
- Make recommendations on the effectiveness of flood control structures, flood forecasting and warning, the maintenance regime and capital works.

1.4 The Don Catchment

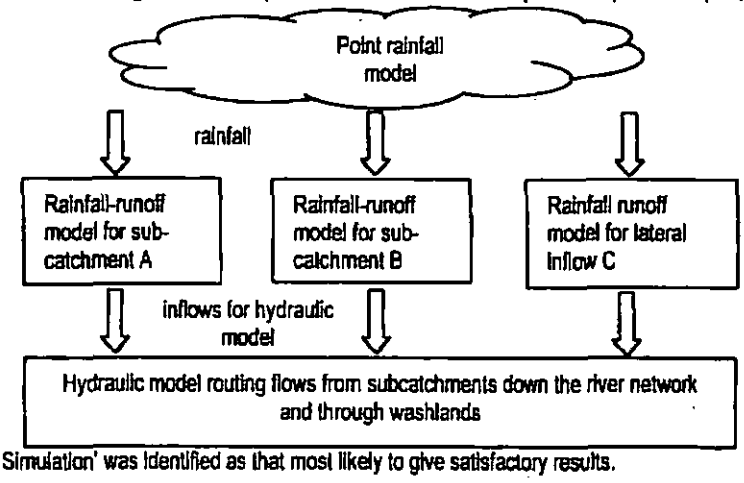
1.4.1 The River Don rises on the Southern Pennines, an area of high ground formed of Millstone Grit and Coal Measures. The Don's two main tributaries are the River Rother to the South and the Dearne to the North, a further watercourse joins the Don downstream of Doncaster, called Ea Beck. The steep upper parts of the Don, Rother and Dearne contrast sharply with the very flat Ea Beck and Lower Don. The Don, Rother and Dearne respond quickly to rainfall in their headwaters, but in the lower reaches of the Don and Ea Beck significant flood events tend to be much longer in duration.

1.4.2 There is significant urbanisation throughout the catchment, although this has most hydrological impact in Sheffield, Barnsley, Chesterfield and Rotherham. The Rother has a fairly natural flood response in its upper reaches, although downstream of the Doe Lea confluence there is significant flood storage. This storage is uncontrolled as far as Rother Valley Country Park, but three regulators between there and the Don confluence control the filling and emptying of large washlands. The flood response of the Upper Don is partly influenced by several water supply reservoirs in its headwaters. Almost half of the catchment upstream of Hadfields Gauging Station in Sheffield drains through such impoundments. The Dearne also flows off the Yorkshire Coal Measures and mining of this resource has been the cause of much subsidence and a changing topography. The middle and lower Dearne is utilised for flood storage, some of which can be controlled by Bolton Regulator. Ea Beck drains a very flat catchment which contributes flow to the Don downstream of Doncaster. An important feature of this river is that it is 'tide locked' by the Don during flood events so that water ponds behind flood banks until it is free to drain once more.

1.5 Approach to the study

1.5.1 The main reach of interest to this study, at Doncaster, lies downstream of the three main tributaries (Don, Rother and Dearne). Each river has differing hydrological characteristics and flood response times, and each tributary has formal and informal washland storage which serves to attenuate peak flows. Two tributaries also have flow control structures which directly regulate flows downstream.

1.5.2 The study approach needed to take account of these features in representing the hydrological response and hydraulic behaviour of the rivers being studied. After considering the various options identified in Section 3 (Volume 2) of this report, a relatively new technique



known as 'Continuous Simulation' was identified as that most likely to give satisfactory results.

1.5.3 Continuous Simulation, in the context of a study of this scale, is a relatively simple concept that was very complicated to implement. The basic principle (illustrated by Figure 1.3) is that a very long flow series is derived, representing the extreme highs and lows, and shapes and sizes, of flood events that might occur over a period of say 1000 years. This 'realistic' flow series is then applied to a deterministic model of a complicated system (like a hydraulic river model). The results of the simulation at any point (or model node) can then be analysed as if they were an observed level or flow series, allowing the design flood to be calculated directly using the Gringorten plotting position (Equation 1.1).

1.5.4 The principles of continuous simulation are well known to the river modelling community, however the complexities described, together with computer processing requirements, mean that the technique has not been tried before on such a large scale in the UK. The work described in these volumes therefore has a 'pioneering' element to it, one that will hopefully lead to the furthering of flood modelling as a science, as well as developing an understanding of the Don Catchment.

Figure 1.3 : Schematic of the modelling framework

Gringorton formula : $$T = \frac{N + 0.12}{r - 0.44}$$ Equation 1.1

Where T is the return period in Years, N is the number of AMAX values and r is the rank.

1.5.5 With the River Don, a hydraulic model was used to simulate the reaches of the river that contained washlands and river regulators. This model (constructed using ISIS) extended up each tributary of the Don as far as a river flow gauging station, with the exception of Ea Beck which does not have one. The hydrological inputs are therefore relatively 'natural' and all the effects of storage and regulation are described by the hydraulic model.

1.5.6 Volume 2 of this report describes how the task of continuous simulation was approached for the River Don. The process was simplified into the following steps:

1. Hydraulic river model constructed and calibrated for the Don, Rother, Dearne and Ea Beck (Volume 3).
2. PDM (Probability Distributed Model) rainfall runoff models calibrated for each tributary against observed flow data (Section 4, Volume 2).
3. PDM Parameters derived for ungauged areas by transfer from hydrologically similar gauged catchments.
4. Stochastic rainfall series (1000 years in length at 1 hour intervals) generated, giving the same depth, duration and frequency (DDF) of rainfall as that predicted for the catchment from the FEH CD-ROM.
5. Stochastic rainfall series applied to each rainfall runoff model, generating 1000-years of hourly flow values for 21 sub-catchments.
6. Generated flow series adjusted for the gauged sub-catchments, forcing agreement with FEH statistical design peak flows (ungauged catchments were not adjusted).
7. Largest 97 flood events in the series at Hadfields identified, and these events run through the hydraulic model.

1.5.7 In practice, a truly continuous simulation using a large complex hydraulic river model is not practical because of the overwhelming demands on computer processing power, this is why only the largest 97 events at Hadfields were processed, a task still taking 3.5 days on a dual processor personal computer.

1.5.8 'Continuous simulation' unifies the normally separate hydraulic modelling and hydrological tasks, so that the design flow estimates are only generated when the hydraulic model has been run for the simulations, a process which also produces the design level estimates. The technique makes no assumption about the magnitude, duration or volume of flood events that go to make up the 100-year storm at a particular point in the river network. A great advantage is that it therefore allows each node to have a different design flood event, as might be expected in reality.

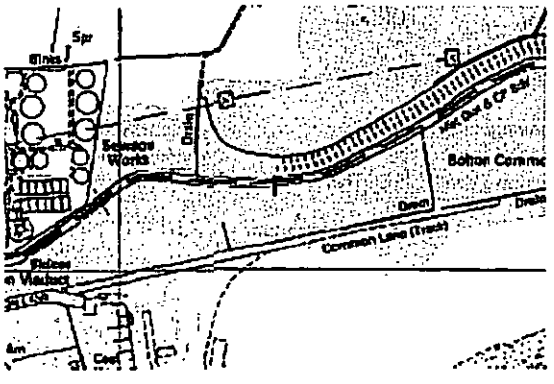
1.6 Report volumes

1.6.1 The main report is divided into 5 volumes, although local planning authorities have only been issued with the first of these. The first (this volume) attempts to summarise the methods used and the main findings of the study. It should be treated as an executive summary for the whole report. For greater detail, the reader should refer to the other volumes which describe the work undertaken in detail. Volume 2 covers the approach taken to the hydrology in this project. This report is quite lengthy because of the relative novelty of the methods employed and the need to document this work. Volume 3 covers the hydraulic modelling of the Rivers Don, Deame, Rother and Ea Beck and contains details of the results. Volume 4 describes the hydraulic modelling of the minor watercourses not part of the ISIS model (Broook Dyke, Bentley Moor Drain and stream Dyke). Volume 5 contains the flood risk maps and supporting information, such as hydraulic model check files.

Environment Agency - North East Region
Re-working of the River Don Model
ISIS Hydraulic Model Summary Sheet

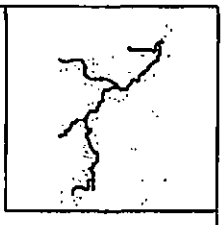
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Location Plan



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Cross Section References



River: DRN

Reach: 01

Chainage: 5544

Section Type: SECTION

OS NGR: SE 46213 02115

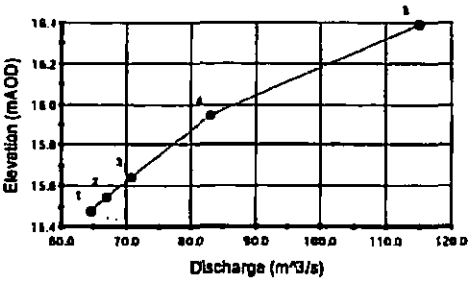
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Next
Section D/s: 5292
Section U/s: 5795



Rating Curve



Number represents model profile number

Summary of Results

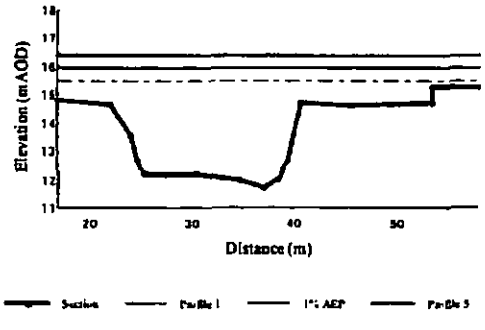
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1	4.00	64.5	15.481	0.97
2	2.00	66.9	15.550	0.98
3	1.33	70.8	15.647	0.99
4	1.00	82.9	15.948	1.00
5	0.67	114.9	16.391	1.01

Level of Left Bank 14.650 mAOD

Level of Right Bank 15.275 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile



DRN: 01: CROSS SECTION NUMBER 5544

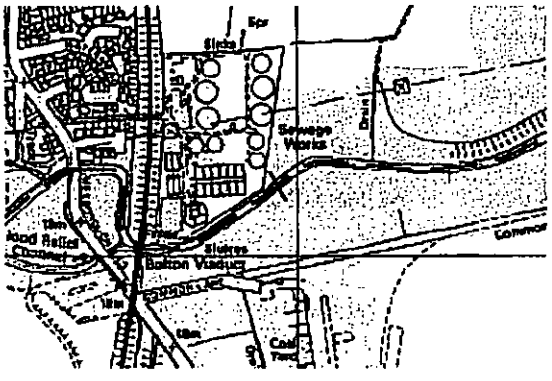
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Print Date: 21/05/2004

Environment Agency - North East Region
Re-working of the River Don Model
ISIS Hydraulic Model Summary Sheet

jba

Location Plan



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Cross Section References



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Chainage: 5795

Section Type: SECTION

OS NGR: SE 45973 02096

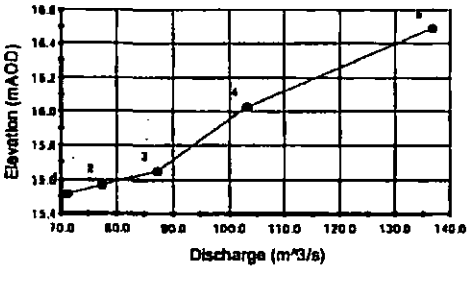
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Section U/s: 6014U



Rating Curve



Number represents model profile number

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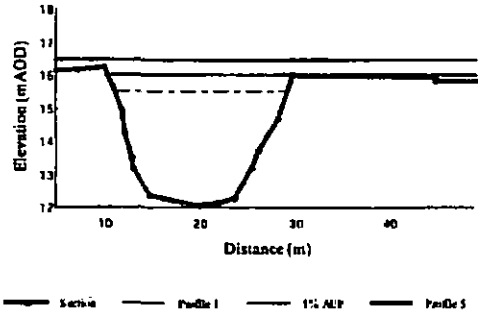
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2	2.00	77.3	15.576	1.65
3	1.33	87.2	15.654	1.78
4	1.00	103.1	16.031	1.89
5	0.67	136.5	16.493	1.90

Level of Left Bank 16.260 mAOD

Level of Right Bank 15.850 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile



DRN: 01: CROSS SECTION NUMBER 5795

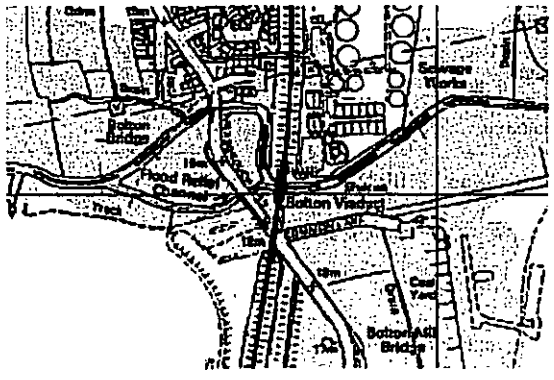
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Environment Agency - North East Region
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ISIS Hydraulic Model Summary Sheet

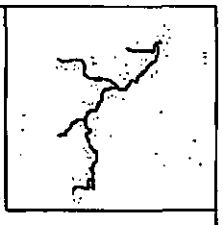
jba

Location Plan



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Cross Section References



River: DRN

Reach: 01

Chainage: 6014U

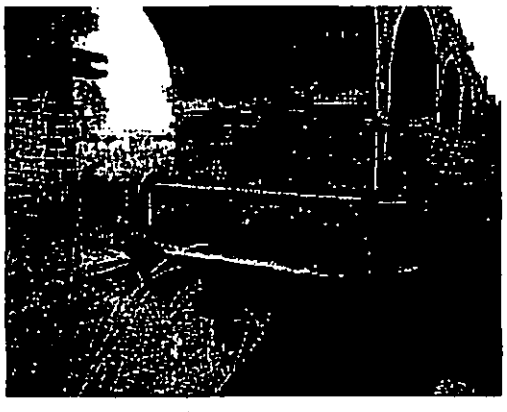
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OS NGR: SE 45780 02011

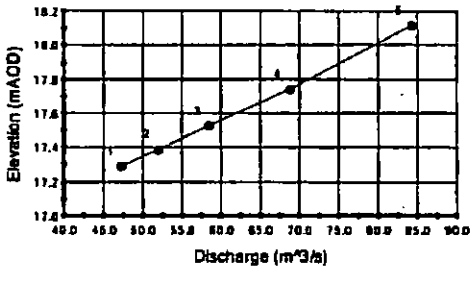
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Next
Section D/s: 5795
Section U/s: 6197U



Rating Curve



Number represents model profile number

Summary of Results

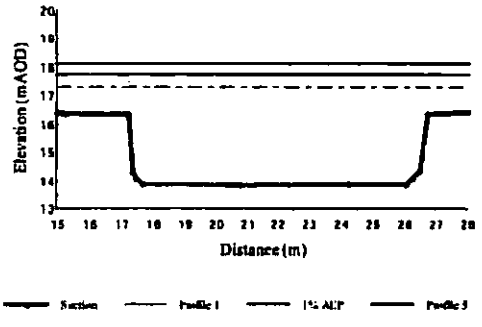
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2	2.00	51.9	17.390	0.96
3	1.33	58.4	17.532	0.96
4	1.00	68.7	17.744	0.96
5	0.67	84.1	18.117	0.96

Level of Left Bank 16.332 mAOD

Level of Right Bank 16.342 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile



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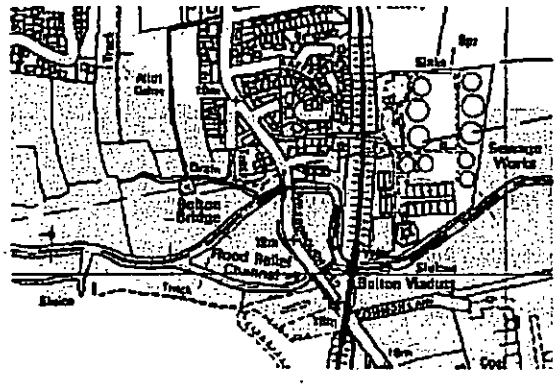
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Cross Section References



River: DRN

Reach: 01

Chainage: 6197U

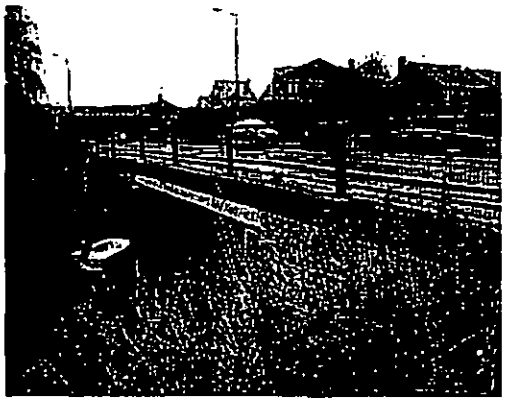
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OS NGR: SE 45690 02121

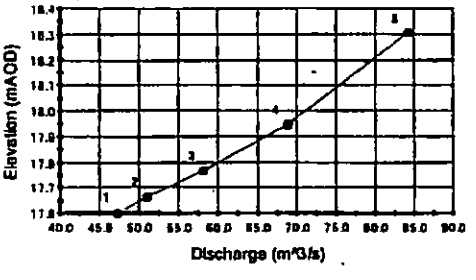
Survey Dwg Ref: N/A

Photograph Ref: DEAR_06197.JPG

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Section U/s: 6301



Rating Curve



Number represents model profile number

Summary of Results

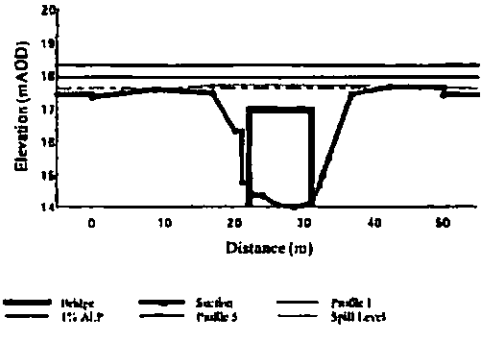
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2	2.00	51.0	17.667	0.91
3	1.33	58.1	17.770	0.91
4	1.00	68.7	17.949	0.91
5	0.67	84.1	18.307	0.92

Level of Left Bank 17.350 mAOD

Level of Right Bank 17.412 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile



DRN: 01: CROSS SECTION NUMBER 6197U

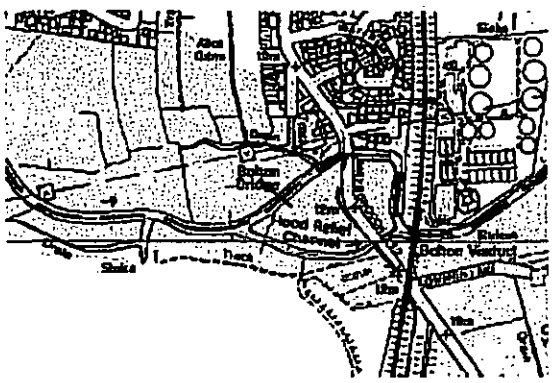
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Location Plan



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Cross Section References

River: DRN

Reach: 01

Chainage: 6301

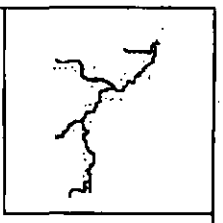
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OS NGR: SE 45598 02066

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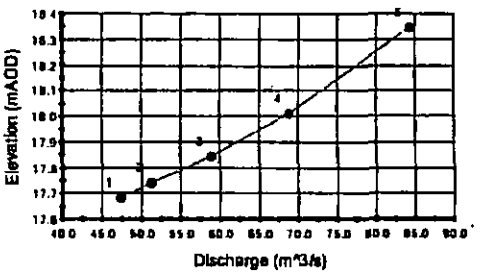
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Section U/s: 6381U





Rating Curve



Number represents model profile number

Summary of Results

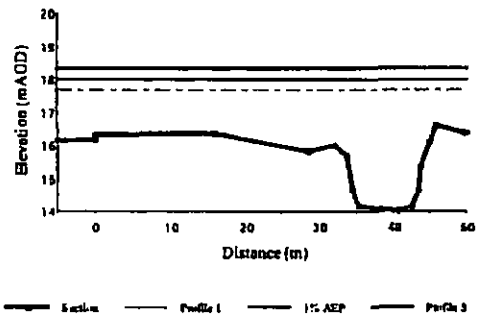
Profile No	AEP (%)	Flow (m^3/s)	Water Level (mAOD)	Velocity (m/s)
1	4.00	47.3	17.686	0.81
2	2.00	51.2	17.745	0.81
3	1.33	58.9	17.847	0.81
4	1.00	68.8	18.013	0.81
5	0.67	84.2	18.347	0.81

Level of Left Bank 16.340 mAOD

Level of Right Bank 16.620 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile



DRN: 01: CROSS SECTION NUMBER 6301

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Appendix D Yorkshire Consultation Response

Nick

With reference to your correspondence of the 22 December 2005 concerning the easement requirements of Yorkshire Water and the above site.

A check of the statutory sewer record has indicated that a 400mm diameter combined rising main is recorded traversing the site. To allow the sewerage undertaker to perform its statutory duties in this instance no building or other obstruction should be located over or within 4 (four) metres of a public sewer. The proposal and/or proposed layout for the site may therefore be affected by the position of a/the public sewer(s).

A developer may, where it is reasonable to do so, require a sewerage undertaker to alter or remove a pipe where it is necessary to enable that person to carry out a proposed improvement of land. This provision is contained in section 185 of the Water Industry Act 1991 that also requires the developer to pay the full cost of carrying out the necessary works.

In this instance Yorkshire Water would object to any connections onto the 400mm diameter rising main

Please note the pipe(s) is/are lawfully retained in its/their existing position(s) and the sewerage undertaker is entitled to have it/them remain so without any disturbance. The provisions of section 159 of the Water Industry Act 1991 provides that the sewerage undertaker may "inspect, maintain, adjust, repair or alter" the pipe(s). Those rights are given to enable the sewerage undertaker to perform its statutory duties. Any development of the land or any other action that unacceptably hindered the exercise of those rights would be unlawful.

Terry Hill

Find out how to protect your home from frost this winter at www.yorkshirewater.com

YORKSHIRE WATER - WINNER OF THE UTILITY OF THE YEAR AWARD 2004 AND 2005

The information in this e-mail is confidential and may also be legally privileged. The contents are intended for recipient only and are subject to the legal notice available at http://www.keldagroup.com/email.htm

Yorkshire Water Services Limited

Registered Office Western House Halifax Road Bradford BD6 2SZ Registered in England and Wales No 2366682

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Appendix E IDB Consultation Response

FAX TRANSMISSION

To	Nick Bosanko - Enviros Leeds
Fax Number	0113 239 5619
From	Chris Wright
Our Reference	IDB-4110/20
Date & Time	06/01/2006

No of pages including cover sheet 2

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Nick
Site off Lowfield Rd Bolton-On-Dearne

Further to our telephone conversation today, I was mistaken in that I have not had a planning consultation for this site.
However, I can confirm that if surface water from the site is to discharge into Lowfield Rd east of the site, the Dearne & Dove Internal Drainage Board will require flow restriction to prevent reduction of drainage standard downstream within the Board's area. If surface water is to be discharged into the River Dearne direct or into sewers which discharge into the river, then the Board would not object to the proposals.
The site lies just outside the Board's area so would be concerned if SW discharge were to enter the Board's area.
The attached plan extract shows the Board's area to the east of the boundary line.

We do not know of any flooding of the site from the drainage system in the Board's area.

I hope this is of some help.

Regards

Chris Wright
on behalf of the Dearne & Dove IDB

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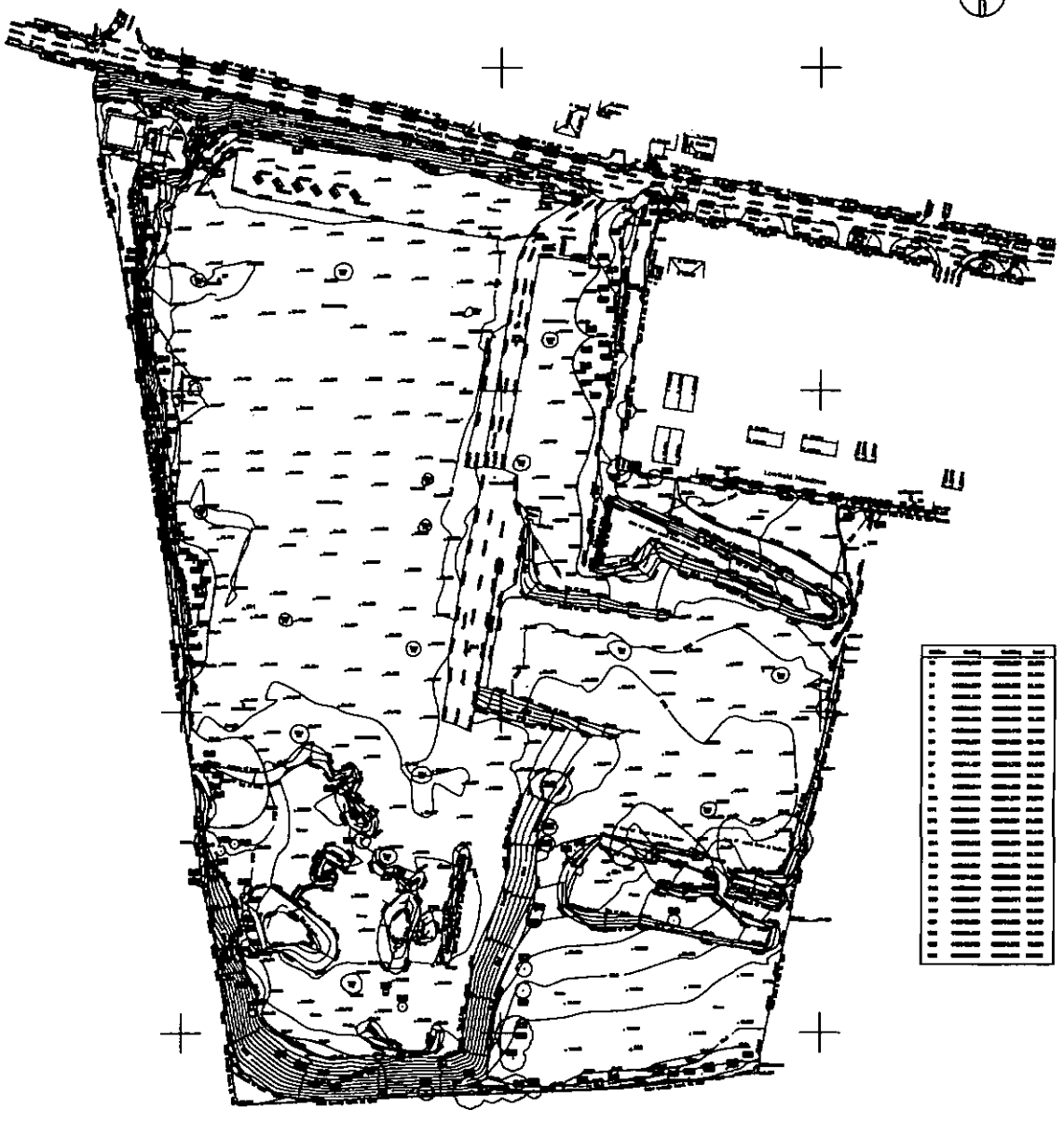
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Appendix F Pre-demolition site topographic survey



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Appendix G Post-demolition site topographic survey



HAYCOCK & TODD

SITE SURVEY

LOWFIELDS ROAD, BOLTON ON DEARNE.

S7474

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Appendix H Proposed Development Masterplan

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Appendix I Flood Risk Methodology

It is recommended by both the Environment Agency and DEFRA that the primary assessment tool within a flood risk assessment should be the Sequential Test as set out in Tables D1 and D2 of PPS25: Development and Flood Risk. Such an assessment however, deals almost exclusively with the risks associated with tidal and fluvial sources and not the full range of flooding sources identified in Annex C of PPS25. In addition to this, the Sequential Test does not provide guidance for assessing the impact of mitigation and residual risk subsequent to development, as required by Annex G of PPS25.

Therefore in order to allow for the wider assessment of flood risk this more generalised assessment methodology has been developed. It should be noted that where applied to fluvial and tidal sources the results of the assessment should be cross checked against the results of the Sequential Test.

Assessment Methodology

In line with guidance set out in PPS25: Development and Flood Risk, the key to the classification is that the designation of significance (or risk) is based upon the consideration of:

- The sensitivity of the receptor – takes into account the nature of the development or receptor and its likely response to increased risk.
- The magnitude of the potential hazard (i.e. severity) – takes into account the potential severity and nature of the flooding.
- The probability of occurrence (i.e. likelihood) – takes into account both the presence of the hazard and receptor, and the integrity of the pathway.

Classification of Sensitivity of the Receptor

When considering new developments, the classification of sensitivity is based (where possible) directly on the Sequential Test as set out within Table D2 of PPS25. When considering offsite impacts there is a general assumption that all developments are highly sensitive. This assumption can however typically be relaxed when considering 'Water Compatible' development or undeveloped land. Given this the Sensitivity of the receptor is ranked as shown in Table 1.

Table 1 Classification of sensitivity of receptor

Sensitivity of receptor	New Development	Offsite
Very High	*Highly Vulnerable** developments	All built developments unless mitigating circumstances exist. Key access routes
High	*More Vulnerable** developments	Other access routes
Medium	*Less Vulnerable** developments	Undeveloped Land
Low	*Water Compatible** developments	-

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Very Low	Flood attenuation features	-

* For definition of italicised terms please see Table D2 of PPS25

Classification of Magnitude of Potential Effect

To classify the magnitude of the potential effects it is necessary to look at the nature and scale of the individual impacts. These include, but are not confined to, the extent of flooding, the depth of flooding, the duration of flooding and the velocity of flood waters. For new developments the assessment is based on the likely post development situation, for offsite receptors it is based solely on the likely deterioration.

Given this the magnitude of the potential effect is then ranked as shown below in Table 2.

Table 2 Classification of Magnitude of Potential Hazard

Magnitude of Hazard	New Development	Offsite
High	Any one of the following criteria achieved: • flood depths greater than 1m, • flood flow velocities greater than 0.45m/s • likely flood duration in excess of 24 hours	Any marked (>10%) increase in flood depth, flood flow velocity or flood duration. Any change in flood extent that impacts additional properties including access
Medium	Any one of the following criteria achieved: • flood depths between 0.3m and 1m, • flood flow velocity greater than 0.15m/s • likely flood duration in excess of one hour • Any restrictions to access and egress	Any other measurable increase of flood depths, durations, flow velocities or extent.
Low	All of the following criteria achieved: • flood depths below 0.3m, • likely flood duration below one hour • flood proofing measures planned	Likely, but unquantifiable small increases of flood depths, durations, flow velocities or extent
Very Low	Planned or permitted flooding that does not adversely impact the built development	-
Negligible	No potential for flooding, or no identifiable impact of flooding	No likely increase in flood severity at any offsite location

Magnitude of potential effect

The magnitude of the hazard and the sensitivity of the receptor are combined using a matrix (Table 3) to determine the magnitude of the potential effect.

Table 3 Matrix for determining the Magnitude of the potential effect

		Sensitivity of Receptor				
		Very Low	Low	Medium	High	Very High
Magnitude of Potential Hazard	High	Low	Moderate	Moderate	High	High
	Medium	Very Low	Low	Moderate	Moderate	High
	Low	Very Low	Very Low	Low	Moderate	Moderate

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	Very Low	Negligible	Very Low	Very Low	Low	Low
	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Classification of Probability of Occurrence

To classify the probability of occurrence for a potential effect it is necessary to understand how regularly a given event or outcome will come to pass. This can be assessed in a number of ways including assessments based on historical data, quantitative analysis, or experience from other similar sites. Often this assessment will be based on standard guidance. The magnitude of the potential effect is then ranked as shown below in Table 4.

Table 4 Classification of Probability of Occurrence

Probability of Occurrence	Potential effect
High	Any consequence would appear likely in the medium term and inevitable in the long term (Life time of the development).
	Equivalent to an annual probability of flooding of greater than 1% (0.5% for tidal) or *Flood Zone 3**.
Medium	Circumstances are such that an event is possible in the medium term and likely over the long term, although not necessarily inevitable.
	Equivalent to an annual probability between 0.1 and 1% (0.1 and 0.5% for tidal) or *Flood Zone 2**.
Low	It is unlikely that any consequence would arise within the lifetime of the development.
	Equivalent to an annual probability of less than 0.1% or *Flood Zone 1**.
Very Low	It is unlikely that any consequence will ever arise.

* For definition of italicised terms please see Table D1 of PPS25

It should be noted that in circumstances where sites are defended determining an accurate assessment of probability of flood occurrence is complex and assumptions that defences will not fail are unlikely to be acceptable. In such cases assessments cannot be prescriptive and site specific assessments should be undertaken. Factors that should be considered include construction, age, condition, maintenance, exposure and other external pressures.

Risk Assessment

Once the magnitude of the potential effect and likelihood of occurrence have been assessed these are then combined using a risk matrix (Table 5) to assess the flood risk of each potential effect.

Table 5 Risk Matrix

		Likelihood of Occurrence			
		Very Low	Low	Medium	High
Magnitude of Potential Effect	High	Low	Moderate	High	High
	Moderate	Low	Low	Moderate	High

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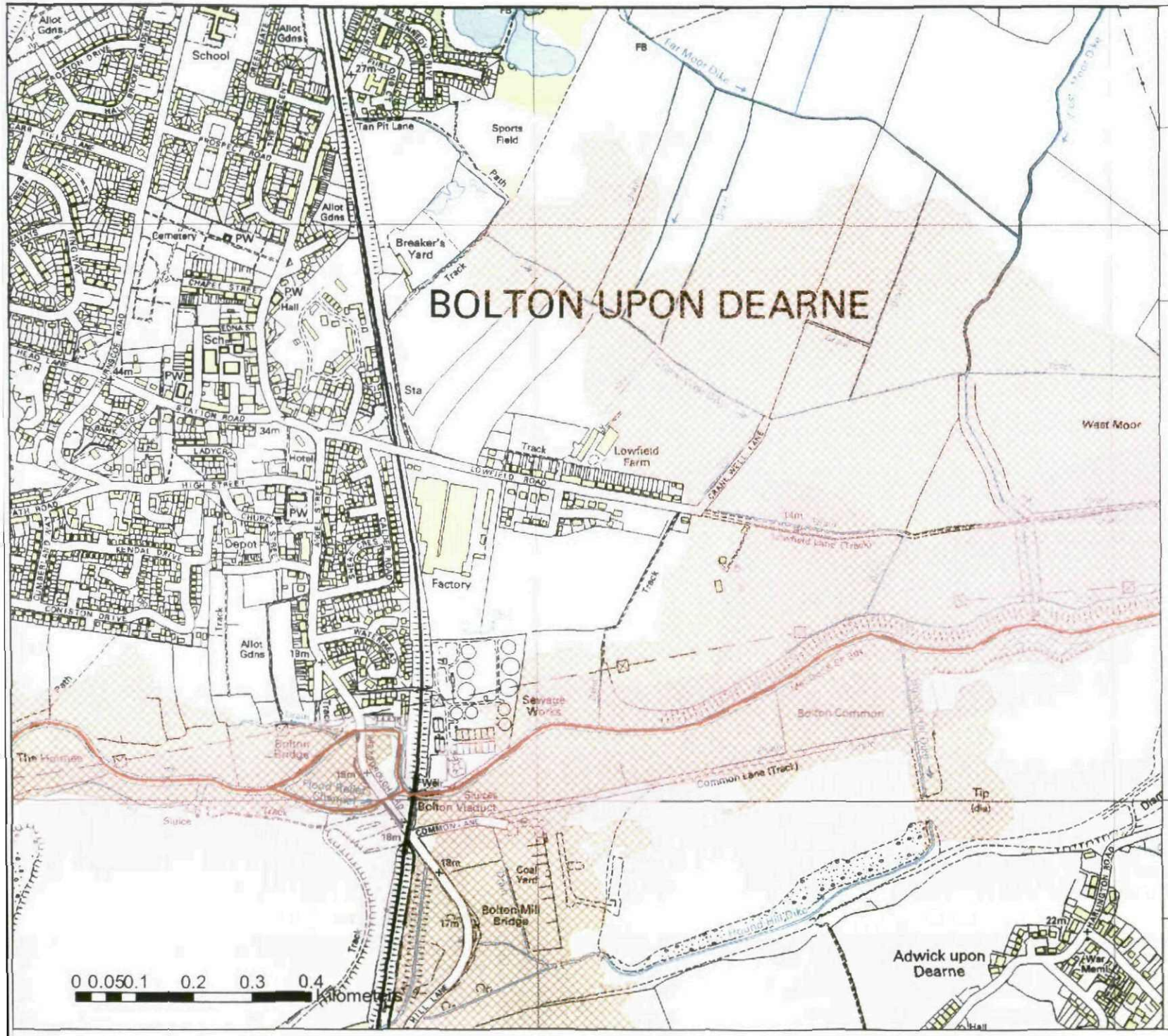
	Low	Very Low	Low	Low	Moderate
	Very Low	Negligible	Very Low	Low	Low
	Negligible	Negligible	Negligible	Negligible	Negligible

Typically flood risks assessed as low, or less are considered acceptable. If the assessment results in moderate or high risk, additional mitigation measure will be required to facilitate development.

In some situations the risk assessment procedure will result in an artificially low assessment of risk. This is particularly the case in situations where consequences of very rare flooding (i.e. breech scenarios) are so extreme that any residual risk however low should not be allowed. In such instances the assessed risk should be elevated. Such decisions must always be accompanied by detailed justification.

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Appendix J Historic flood map (1947 and 2000)



Environment Agency

North East Region
Ridings Area
Phoenix House
Global Avenue
Leeds
LS11 8PG

Flood Extents and Level Information

Legend

- Autumn 2000 Flood Event Flood Level (m)
- Main River
- Autumn 2000 Flood Event Flood Extent
- River Don 1947 Flood Event Flood Extent

Flood Extent and Flood Levels - Information Notes

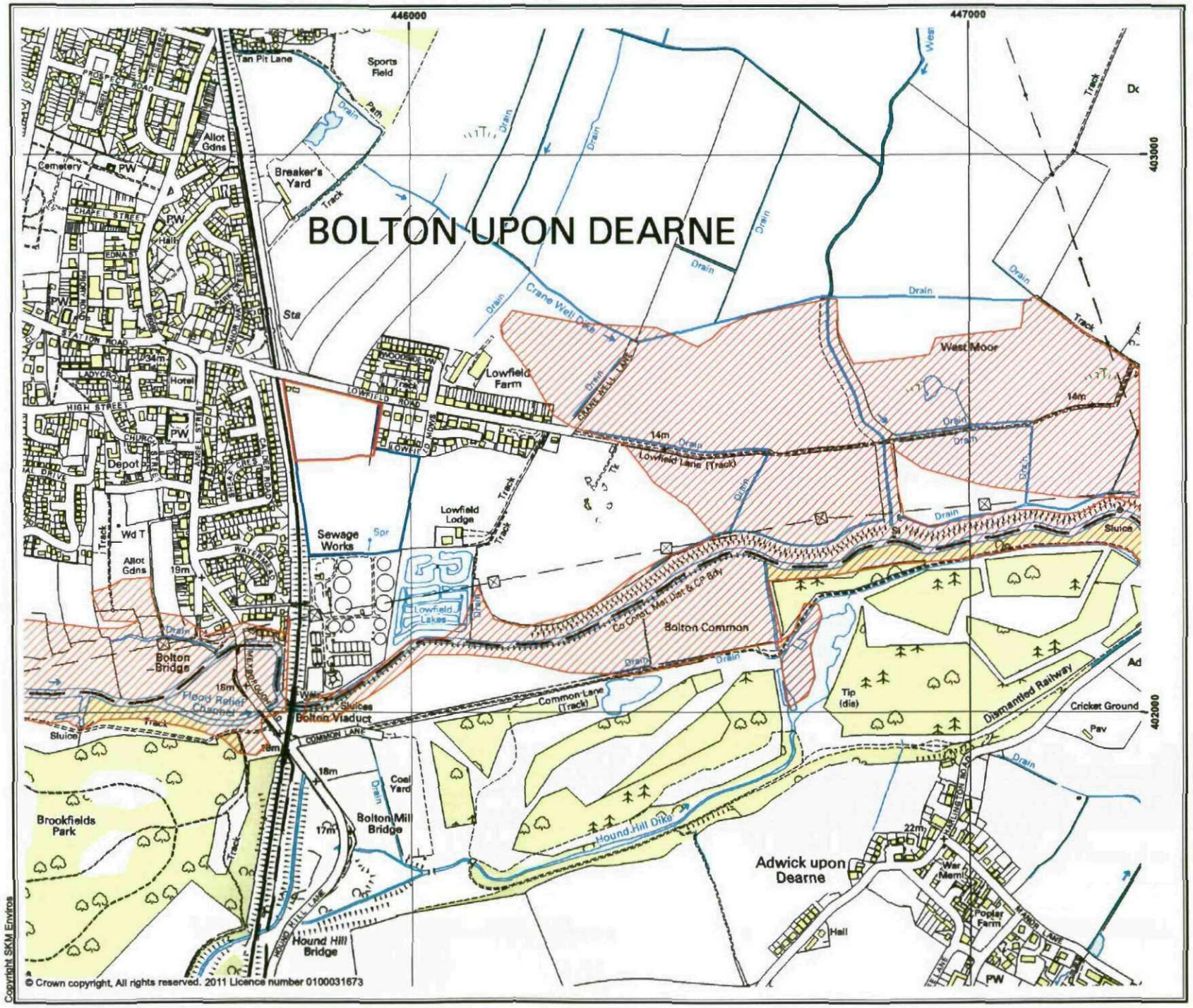
The extent of flooding is only shown for those watercourses surveyed after the flood event. Other flooding may have occured which is not shown. This is the best information currently available.

The Map:

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Appendix K Historic flood map (2007)



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Key

Site Boundary

- Ownership Boundary
- Development Boundary
- 2007 floodplain

N

Kilometres

0 0.1 0.2 0.3 0.4

REV.	DESCRIPTION	DATE

GLEASON HOMES AND REGENERATION

LOWFIELD ROAD
FLOOD RISk ASSESSMENT

Appendix K
June 2007 estimated flood extent

SCALE	PROJECT CODE
1:6,500 @ A3	JL30370
CONTENT	**DRAWN**
SP	JG
CHECKED	**DATE**
SP	03/06/11

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Appendix L Aerial Photos from June 2007 Flooding

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GEOTECHNICAL AND GEO-ENVIRONMENTAL SITE INVESTIGATION

LOWFIELD ROAD
BOLTON ON DEARNE

FOR

GLEESON DEVELOPMENTS LTD

ISSUE 1

33662-01

APRIL 2011

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LOWFIELD ROAD
BOLTON ON DEARNE

FOR

GLEESON DEVELOPMENTS LTD

ISSUE 1

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Document Date	:	26.04.11
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K R Pursall BEng, CEng, MIStructE S R Ellis BEng, CEng, MIStructE, AMICE
Senior Associates: K Newsome BSc, CEng, MICE, MIStructE S J Mitchell BSc, MSc, CEng, MEI, MCIBSE, MASHRAE
Associates: A Jones BEng, CEng, MICE, MIStructE M Young MA, CEng, MICE, MIStructE A Allison BEng
C A Wood BSc, CEng, MIStructE, AMICE C A Toplis BSc, CEnv, CSci, CGeol, AMICE, FGS

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APPENDICES

Appendix 1 Exploratory Hole Location Plan 33662/001A

Appendix 2 Envirocheck Report

Coal Authority Report

BGS Boreholes SE40SE216 and SE40SE64

Appendix 3 Trial Pit Logs TP1 to TP13

Appendix 4 Chemical Test Results – Report 116779

Table of Assessment Values

Modified Mean Calculation

Appendix 5 Soakaway Data

1.0 EXECUTIVE SUMMARY

1. The site is centred on grid reference SE 459 024 (445890, 402430) and measures around 1.9 hectares in area. The site is relatively level and is currently undeveloped. Service plans for the site show a public rising main to enter the site at the site's entrance and run parallel to the eastern site boundary towards the south of the site.

2. Made ground was found between 0.1 and 1.3 m in depth. It comprised sand or gravel with demolition rubble, hardcore and sections of rebar. The natural ground was found to comprise either firm to stiff sandy clay or sand. Sandstone was encountered beneath the made ground in the central and western sections of the site and beneath the natural ground in the east. The rock became strong from around 0.5 m in the west to 2.0 m in the east. Groundwater was not encountered in the trial pits.

3. No radon or ground gas precautions will be required.

4. Precautions against the effects of shallow coal mining will not be required.

5. An allowable bearing pressure of 125 kN/m^2 can be assumed for the foundations within the natural clay, 150 kN/m^2 within the sand and 200 kN/m^2 within the sandstone.

6. The majority of the footings will be unreinforced strip or trench fill footings, taken through the made ground and founded into undisturbed natural ground at a minimum foundation depth of 900 mm within the clay, 750 mm within the sand or 450 mm within the sandstone.

7. Some reinforcement may be required where two different ground types are encountered in the same footing, but this can be avoided if the footing is taken down to bear down on one stratum, such as the sandstone.

8. Trees are present to the west, north and east of the site. These will have an effect on the clay on site, which has been found to be up to 2.0 m depth in TP13. Footings should be deepened in accordance with NHBC Standards when under the influence of trees or hedgerows. Heave precautions will also be required where clay is present if any footings would be deepened over 1500 mm due to trees if the ground were clay, or where desiccated ground is encountered.

9. Assuming site levels remain similar to those at present, ground bearing slabs will be appropriate across the majority of the plots. Reinforced suspended slabs would be required for plots where more than 600 mm of made ground is present, for example east of the centre

of the site. Due to the effects of trees along the northern boundary on natural clay, a precast concrete floor with underlying void may be required.

10. Soakaways are not to be considered a viable option for drainage at this site.

11. Slightly elevated PAH contamination was recorded within the made ground however, we do not consider remedial measures to be required. Topsoil will however be required in gardens and landscaped areas.

12. It is recommended that sulphate precautions comprising DS-2 and AC-2 are incorporated in any concrete in contact with the made ground. This will result in the use of FND2 type concrete.

13. Slightly elevated concentrations of PAH were recorded in the made ground and these can permeate plastic water pipes. It is recommended that the results are forwarded to the water company who will then confirm what types of pipe need to be installed at the site.

14. The conclusions made in this report in relation to contamination are subject to agreement by the approving bodies such as the Local Authority and the NHBC.

PROPOSED RESIDENTIAL DEVELOPMENT
LOWFIELD ROAD
BOLTON UPON DEARNE
BARNSLEY

PLANNING APPLICATION BY
GLEESON HOMES & REGENERATION

TRANSPORT STATEMENT

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July 2011

Ref: 11-235-001.01

Planning Issue

Prepared by	Aimee L Hanson	Date	28/07/2011
Checked by	Neil Appleton	Date	28/07/2011

July 2011

Ref: 11-235.001.01

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1.0 INTRODUCTION / BACKGROUND

1.1 This Transport Statement has been prepared as part of a planning application submitted by Gleeson Homes & Regeneration to develop an area of land off Lowfield Road in the Bolton upon Dearne area of Barnsley. The application site is approximately 14.0 kilometres to the south-east of Barnsley town centre.

1.2 Horizontal Residential Developments Ltd were granted outline planning permission in 2008 for residential development of the application site. The proposals associated with this planning approval comprised 50 residential units including 40 houses and 10 apartments served by way of a new priority junction with Lowfield Road.

1.3 The current proposals for which planning permission is sought comprise some 60 residential units including a mix of two, three and four bed houses served by way of a new priority junction with Lowfield Road, at the same location previously approved, as indicated on the site layout plan attached at Appendix **BGH1.**

1.4 This report considers the transport issues associated with the proposed development and, in particular, the access and likely transport impact on the surrounding highway network based upon trip data from the TRICS Consortium database and the guidance given in the Department for Transport (DfT) publication 'Guidance on Transport Assessment', March 2007.

1.5 This report demonstrates that the site can be satisfactorily accessed and that the traffic likely to be generated by the development proposals can be accommodated safely and satisfactorily on the local highway network. The site is also well located to encourage trips by more environmentally friendly modes of travel than the private car.

1.6 A separate Residential Travel Plan has been produced in conjunction with this Transport Statement both of which demonstrate the development will accord with Government advice contained in PPG13: "Transport".

1.7 This Transport Statement concludes therefore that there are no highways or transportation reasons which would prevent the proposed development being granted planning consent.

2.0 RELEVANT CENTRAL AND LOCAL GOVERNMENT POLICIES

2.1 Planning Policy Statement 3 (PPS3): Housing

2.1.1 Planning Policy Statement 3 (PPS3): Housing, which was last published in June 2010 contains advice on providing housing in suitable locations.

2.1.2 At paragraph 36 of PPS3 it is noted that the Government's policy is to ensure that housing is developed in suitable locations which offer a range of community facilities with good access to jobs, key services and infrastructure.

2.2 Planning Policy Guidance 13 (PPG13): Transport

2.2.1 Planning Policy Guidance 13 (PPG13): Transport, which was last published in January 2011, provides advice on the integration of transport and land use planning. The objectives of the guidance are to integrate planning and transport at national, regional, strategic and local level to:

- promote more sustainable transport choices for both people and for moving freight;
- promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
- reduce the need to travel, especially by car.

2.2.2 PPG13 also provides guidance on parking policy and states that policies in development plans should set maximum levels of parking for broad classes of development. PPG13 states that maximum standards should be designed to be used as part of a package of measures to promote sustainable transport choices, reduce land-take of development, enable schemes to fit into central urban sites, promote linked-trips and access to development for those without use of a car and to tackle congestion.

2.3 South Yorkshire's Transport Plan 2006 – 2011 (LTP2)

2.3.1 The Transport Act 2000 requires all local transport authorities in England, outside London, to prepare Local Transport Plans. The relevant local policy

documentation in the context of this Transport Assessment is the Third South Yorkshire Local Transport Plan (LTP3) 2011 – 2015.

2.3.2 South Yorkshire's third Local Transport Plan (LTP3) has three component parts: the Transport Strategy, the Implementation Plan and the Annual Delivery Programme which will set out in detail the agreed prioritised delivery programme for the next financial year as well as briefly outlining the proposed four year programme.

2.3.3 The Transport Strategy has four main goals. The primary goal is to support the economic growth of the City Region. At the same time it aims to enhance social inclusion and health, reduce greenhouse gas emissions and maximise safety.

2.3.4 In translating the Transport Strategy into action, it will follow four cross-cutting principles:-

- **Squeeze more from existing assets**– in the current funding climate this principle will ensure assets are well managed and maintained and used to their fullest potential, minimising the need for major infrastructure work. It is key to this first Implementation Plan. Efforts will be targeted on the routes, locations, customer groups and issues we have identified from our evidence base as being particularly important;
- **Make our growth sustainable** – it will look to achieve economic growth while minimising the impact on the environment, reducing emissions wherever possible;
- **Give people choice** – it will enable people to make informed choices about whether and how they travel, through providing a range of transport links and services to match varying lifestyles; and
- **Encourage a change in travel culture** - facilitating a shift from car-dependency to more active and sustainable travel modes.

2.3.5 Relevant Transport strategy policies include:

- To improve connectivity between major Settlements;

- To focus new development along key public transport corridors and in places adjacent to existing shops and services;
- To apply parking policies to promote efficient car use, while remaining sensitive to the vulnerability of urban economies;
- To develop public transport that connects people to jobs and training in both urban and rural areas;
- To develop user-friendly public transport, covering all parts of SCR, with high quality of integration between different modes;
- To ensure public transport is accessible to all;
- To encourage active travel and develop high-quality cycling and walking networks; and
- To provide information and travel advice for the users of all modes of transport, so that they can make informed travel choices.

3.0 THE EXISTING SITUATION

3.1 The Application Site

3.1.1 The development site is located approximately 14.0 kilometres to the south-east of Barnsley town centre. The site is bounded to the north by the Lowfield Road, to the east by residential dwellings, to the south by green field land and to the west by the Sheffield – Wakefield railway line

3.1.2 The site previously housed a furniture manufacturing company, however, the site is now cleared.

3.1.3 The site was previously served by an informal access off the southern kerb line of Lowfield Road, the proposed priority access will be constructed in its place. Hence there will be no net increase in the number of accesses onto this part of the public highway. The location of the application site in relation to the highway network is shown on the plan attached at Appendix **BGH2**.

3.2 The Local Highway Network

3.2.1 The site is located within Bolton upon Dearne, a predominantly residential area approximately 14.0 kilometres to the south east of Barnsley town centre. The only vehicular access into the development will be from Lowfield Road.

3.2.2 Lowfield Road is a single carriageway two-way road, approximately 6.5 metres in width, which links with the town centre to the west. A 30mph speed restriction is in force. A hump-backed stone bridge, 6.5m wide, approximately 175 metres west of the proposed site access carries Lowfield Road over the main Sheffield - Wakefield railway line. A 1.2m wide footway is provided only at the northern side of Lowfield Road in the vicinity of the site. However, footways are provided at both sides of the road west of the bridge.

3.2.3 Approximately 130 metres west of the bridge Lowfield Road forms a priority junction with the B6068 which is the main route through Bolton upon Dearne. The B6068 provides a link between the A623 and the A635. The A623 provides a direct route into Mexborough and provides access onto the A630

which is the main route into Rotherham town centre. The A635 can be described as a primary distributor type of road from which there is direct access into Barnsley town centre, it also provides access onto the A1(M), the M1 Motorway at Junction 37 and the A19 which is the main route into Doncaster town centre. Accessibility to the site by car is therefore considered to be excellent due to its close proximity with Barnsley, Rotherham and Doncaster town centres and both the A1(M) and M1 Motorway.

3.2.4 As part of the analysis undertaken for the existing outline planning permission on the site fully classified traffic surveys were carried out at the Lowfield Road / Scarp Yard Access on Wednesday 1 March 2006 during the morning and evening peak periods 7:00am to 9:30am and 4:00pm and 6:30pm. The peak hours were found to be 8:00am to 9:00am and 5:00pm to 6:00pm and the surveyed flows are summarised at Appendix **BGH3**.

3.2.5 During the AM Peak hour Lowfield Road carried a maximum 2-way flow of 75 vehicles and during the PM Peak hour a maximum 2-way flow of 96 vehicles. This confirms that the traffic flows on Lowfield Road are very low.

3.2.6 Given the character of the road and the economic downturn, traffic levels on this road are unlikely to have significantly changed since the traffic surveys were undertaken.

3.3 Existing Traffic Generation

3.3.1 As the site how now been cleared it is not currently generating any vehicular traffic. However, the former use on the site was generating traffic movements. It was agreed in the Transport Statement for the existing outline application on the site that the former development was generating in the region of 57 two-way vehicular trips during the AM Peak period and 62 two-way during the PM Peak period.

3.3.2 The outline consent also confirms that the planning and highway authorities had accepted the traffic generated by 50 units would not have any adverse impact upon the operation of the highway network.

4.0 THE DEVELOPMENT PROPOSALS

4.1 The Form of Development

4.1.1 The current proposals comprise some 60 residential units including a mix of two, three and four bed houses.

4.2 Means of Access

4.2.1 The residential development site will be served by a simple priority access onto Lowfield Road, the details of which were agreed within the existing outline approval on the site. The priority access will serve the site by means of a 5.5 metre wide residential road, as shown on the site layout plan attached at Appendix **BGH1.** The site is currently accessed via an informal access off the southern kerb line of Lowfield Road in the same location as the proposed access.

4.2.2 Visibility splays of 2.4m x 90m can be achieved at the site access in both directions as shown on the drawing attached at Appendix **BGH1.** The site access therefore provides a safe and suitable link in to the existing road network. Appropriate dropped kerb crossings will also be provided to facilitate pedestrians crossing the junction mouth.

4.2.3 There is an existing footway on the north side of Lowfield Road and as part of the development proposals a footway will be provided on the south side over the frontage of the application site. Footways are also proposed on west side of the internal link road between the site and Lowfield Road and on both sides of the main residential road through the site.

4.2.4 The internal highway layout has been designed to take account of current Government guidance as contained within the Departments of Communities and Local Government and Transport publication 'Manual for Streets', March 2007. A swept path analysis, included in Appendix **BGH1**, has been undertaken at the site access to demonstrate that a large refuse vehicle can enter, turn and exit the site satisfactorily.

5.0 POTENTIAL TRAFFIC GENERATION OF THE APPLICATION SITE

5.1.1 In order to predict the level and type of trips which will be made as a result of the residential development and as required in the Department for Transport's "Guidance on Transport Assessment", the person trips to the proposed development have been assessed using information contained within the TRICS 2011(b) database. The TRICS outputs are attached at Appendix **BGH4**.

5.1.2 The TRICS database has been used to assess the 85th percentile vehicle trips generated by the proposed residential development assuming the land-use category Residential – Houses Privately Owned and the results are summarised below:-

Table 5.1

Total Vehicular Trips

Assessment Period	Trip Rates per Unit			Trips for 60 Units		
	IN	OUT	2-WAY	IN	OUT	2-WAY
08:00 – 09:00	0.225	0.450	0.675	14	27	41
17:00 – 18:00	0.475	0.333	0.808	29	20	49

5.1.3 Following the above estimation of vehicular trips, the modal split for the overall trips associated with the proposed development have been derived from the National Statistics Census 2001 data for journeys to work for the ward area of Dearne South, in which the site is situated. This provides a percentage breakdown of different modes of transport currently used to travel to/from the ward, which can then be applied to the proposed development. The results are summarised below in Table 5.2.

Table 5.2

National Statistics Census 2001 Ward Data for Dearne South

Method of Journey to Work – Resident Population (UV39)

Modal Split	% Split
Pedestrians	18
Cyclist	2
Public Transport Users	11
Car	68
Motorcyclist	1
Total	100

5.1.4 It can be seen that 68% of all journeys are undertaken using the private car either as the driver or a passenger. These percentages have been applied to the vehicle trips in Table 5.1 to calculate the likely number multi modal trips associated with the proposed development. The morning and evening peak hour trips for each mode are shown in Table 5.3 below.

Table 5.3

AM and PM Peak Hour Modal Split

Peak Hour Modal Split	% Split	Trips			
		AM In	AM Out	PM In	PM Out
Pedestrians	18	4	7	8	5
Cyclist	2	1	1	1	1
Public Transport Users	11	2	5	5	3
Car	68	14	27	29	20
Motorcyclist	1	0	0	0	0
Total	100	21	40	43	29

5.1.5 It can be seen from the above that the current proposals for the site are likely to generate some 41 two way vehicular trips during the AM Peak period, 14 in and 27 out, and 49 during the PM Peak period, 29 in and 20 out.

5.1.6 The trips likely to be generated by the proposed development are similar to those previously accepted when the planning authority granted outline planning permission on the site. AAs is discussed in section 7.0)

6.0 SUSTAINABLE TRANSPORT ACCESSIBILITY

6.1 General

6.1.1 As set out in Section 2 of this Transport Statement, national transport policies through PPS3 and PPG13 place significant emphasis for new development proposals on the availability and use of means of transport other than the private car.

6.2 Walking

6.2.1 With regard to pedestrian accessibility more specific advice is set out in 'Guidelines for Providing for Journeys on Foot', which was published in 2000 by the Institution of Highways and Transportation. These guidelines note that walking accounts for over a quarter of all journeys and four-fifths of journeys less than one mile (1.6 kilometres).

6.2.2 The Guidelines also provide 'ideal' walk distances for various trip types and advise that the 'desirable' walking distance for commuting or walking to and from school is 500 metres, the 'acceptable' walking distance for commuting or walking to and from schools is 1.0 kilometre and the 'preferred maximum' walking distance is 2.0 kilometres.

6.2.3 As regards walk distances to retail outlets, the IHT Guidelines suggest a 'preferred maximum' walking distance to town centres of 800 metres. This advice is reflected in the Department for Transport, Local Government and the Regions in conjunction with CABE published 'Better places to live: By design – A companion guide to PPG3', September 2001. This suggests that:

> *"Having established the site's broad setting in terms of its relationship to a city, town or village centre, a good starting point is to examine the area within 10 minutes' (about 800m) walking distance of the site. This can help to identify the range of facilities which residents may access comfortably access on foot, as well as opportunities to reach more distant facilities by public transport."*

6.2.4 An accessibility study of the site has been carried out and the plan attached at Appendix **BGH5** shows in detail the full range of facilities within 800 metres

(10 minutes) walking distance of the site.

6.2.5 Pedestrian / cyclist access into the site will be provided from the main access off the southern kerb line of Lowfield Road. Footways are proposed on west side of the internal link road between the site and Lowfield Road and on both sides of the main road through the site.

6.2.6 There is an existing footway on the north side of Lowfield Road and as part of the development proposals a footway will be provided on the south side along the site frontage linking the site with Bolton on Dearne Railway Station, bus stops and the local facilities in Bolton upon Dearne to the west of the site. There are existing footways and dropped crossings along both sides of all other local roads between the site and these facilities.

6.2.7 A plan is provided at Appendix **BGH5** which shows the straight-line 1.6km and 2.0km walking isochrones from the centre of the site along with a plan showing walking routes in Bolton upon Dearne.

6.3 Public Transport

6.3.1 The Department of the Environment publication [1996] 'PPG13: A Guide to Better Practice' states that for trips over 3 miles (5 km), public transport is the main alternative mode of transport to the private car. It is recognised however that for public transport to be an attractive alternative mode of transport to the private car it needs to be easily accessible on foot.

6.3.2 The Institution of Highways and Transportation publication [1999] 'Planning for Public Transport recommends that residents of major new housing developments should not have to walk more than 400m (¼ mile) to their nearest bus stop but that this criterion has been hard to satisfy comprehensively and therefore it recognises that direct, frequent and easily understood services are more important than a few metres of walking distance.

6.3.3 The nearest bus stops are located on both sides of Angel Street approximately 380 metres from the centre of the site, within the recommended 400 metres walking distance. Both bus stops benefit from timetable information. These bus stops are served by bus number 226 which has a service frequency of two per hour Monday to Saturday all day and one per hour on Sundays and runs from Barnsley to Thurnscoe via Manvers.

6.3.4 There are also bus stops located on High Street, approximately 430 metres from the centre of the site, slightly outside the recommended 400 metres walking distance. These stops are served by service numbers 224 and 226, which have a combined service frequency of four per hour Monday to Saturday all day and two per hour on Sundays. Bus number 224 runs from Doncaster to Mexborough via Goldthorpe, it also stops on Carr Head Lane adjacent to St Andrews Square where Bolton upon Dearnes main facilities are located which include a Medical Centre, Pharmacy, Cooperative Food Store and Post Office.

6.3.5 Bus number 218 also serves Bolton upon Dearne stopping at bus stops located on Dearne Road and Furlong Road, the closest of which are approximately 900 metres from the centre of the site. This bus has a service frequency of two per hour Monday to Saturday all day and one per hour on Sundays and runs from Barnsley to Rotherham via Manvers.

6.3.6 The Institution of Highways and Transportation publication 'Guidelines for Planning for Public Transport in Developments', March 1999, sets out that new developments should be located so that walking distances to the nearest railway station should be less than 800 metres.

6.3.7 The nearest railway station to the development site is Bolton on Dearne Railway Station, located approximately 350 metres walking distance from the centre of the site, which is well within the recommended 800 metres. The station has a car park with 26 spaces and secure cycle storage is available. The station has step free access coverage and a train is available every 60 minutes between Leeds and Sheffield.

6.3.8 Route maps and a summary of the bus services serving the stops in the vicinity of the site and a summary of the trains serving Bolton on Dearne Railway Station are given at Appendix **BGH6**.

6.4 Cycling

6.4.1 The Department of the Environment publication [1996] 'PPG13: A Guide to Better Practice' states that the bicycle is an ideal mode of transport for journeys under 8 kilometres. PPG13 [January 2011] states that cycling "has clear potential to substitute for short car trips, particularly those under 5km, and to form part of a longer journey by public transport."

6.4.2 As shown on the plan attached at Appendix **BGH7** areas including Wath upon Dearne, Mexborough, Goldthorpe and Thurnscoe lie within 5km cycle catchment and Wombwell within the 8km catchment providing residents with a wealth of facilities and employment opportunities.

6.4.3 Bolton upon Dearne has a network of cycle routes and lanes as shown on the plans also attached at Appendix **BGH7**. Route 62 of the National Cycle Network follows Dearne Road north bound then runs east along Lowfield Lane (the northern boundary of the site) where it links into the Trans Pennine Trail to the east of the site. Route 62 provides a traffic free route from the site in to Wath, Mexborough, Barnsley town centre and Doncaster town centre.

6.5 Conclusion

6.5.1 The site is considered to be in a sustainable location. This conclusion is confirmed by the planning authority granting outline planning permission on the site in 2008.

7.0 NET TRAFFIC CHANGES

7.1 The starting point for assessment of the traffic consequences of the application proposal is a comparison between the traffic generating potential of the permitted and proposed land uses. The current guidance on Transport Assessments sets out that the permitted and existing use of the site should be identified. Furthermore, previous advice set out in the Institution of Highways and Transportation document 'Guidelines for Traffic Impact Assessment'. On the question of net impact the Guidelines state:

> "3.3.4 Frequently a new development will be proposed that will replace an existing use. In such cases it will be important to identify as much information as possible about a current activity since the traffic impact of the proposal will be the net change between the two uses."
>
> "3.4.10 Many developments are not on greenfield sites and account needs to be taken of the traffic generation of the existing use which is to be replaced. The quantification of traffic generated by the existing use is therefore important and should be separately identified within the assessment of existing conditions."

7.2 Furthermore, Section 70(2) of the Town and Country Planning Act also states that, in dealing with applications the authority shall have regard to the provisions of the development plan and to other material considerations. In the general note on this section in the Encyclopaedia of Planning Law, Paragraph 8 discusses material considerations and under paragraph 9(8) reference is made to the planning history of the site stating that:-

> "An existing planning permission may be a material consideration in determining an application."

The sub-paragraph goes on:-

> "The planning authority are entitled, and indeed obliged, to have regard to the 'fall-back' position, i.e. what the applicant could do without any fresh planning permission."

7.3 To establish the traffic generation associated with the permitted residential land use on the site, the traffic generation agreed within the Transport

Assessment for the 50 mixed residential dwellings are summarised below.

Table 7.1

Vehicular Traffic Generation Associated with Permitted Land Use

50 Dwellings	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Generated Traffic	9	25	34	24	15	39

7.4 By comparison, the peak hour traffic generation associated with the current residential development proposals for 60 residential dwellings are summarised below.

Table 7.2

Vehuicular Traffic Generation Associated with the Current Proposals

60 Dwellings	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Generated Traffic	14	27	41	29	20	49

7.5 The net changes in traffic flows entering and leaving the site during the morning and evening peak traffic hours resulting from the replacement of the permitted residential land use by the current residential proposals are summarised below:

Table 7.3

Net Changes in Traffic Flows

Land Use	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Approved Residential Use	9	25	24	15
Current Residential Proposals	14	27	29	20
Net Difference	+5	+2	+4	+5

7.6 It can be seen from the above table that the substitution of the current residential proposals for the previously permittedresidential land use will result in similar car borne trips in both the morning and evening peak periods to those approved as part of the existing outline planning permission on the site and therefore it is not considered that the current proposals will have any material adverse impact on the approved situation.

7.7 The trip rates used in the assessment of the current residential proposals were obtained from from TRICS Database 2011(b) and are considered to be an up to date and accurate reflection of the vehicular flows expected to be generated by residential houses.

7.8 Although the site has now been cleared it should also be taken in consideration that the former use on the site was generating traffic movements. It was agreed in the Transport Statement for the existing outline application on the site that the former development was generating in the region of 57 two-way vehicular trips during the AM Peak period and 62 two-way during the PM Peak period.

7.9 Hence, there can be no defensible highway reason why the proposed residential development should not be acceptable as a substitute for the extant outline planning permission granted on the site.

8.0 CONCLUSIONS

8.1 This Transport Statement has been prepared as part of a planning application submitted by Gleeson Homes & Regeneration to develop an area of land off Lowfield Road in the Bolton upon Dearne area of Barnsley. The application site is approximately 14.0 kilometres to the south-east of Barnsley town centre.

8.2 The site previously housed a furniture manufacturing company, however, the site is now cleared. The site is currently accessed via an informal access off the southern kerb line of Lowfield Road.

8.3 Horizontal Residential Developments Ltd were granted outline planning permission on the site in 2008 for residential development of the site. The proposals associated with this approval comprised 50 residential units including 40 houses and 10 apartments served by way of a new priority junction with Lowfield Road.

8.4 The current proposals for which planning permission is sought comprise some 60 residential units including a mix of two, three and four bed houses served by way of a new priority junction with Lowfield Road, to be located to the eastern extent of the frontage onto this road.

8.5 This Statement has demonstrated through robust assessment that the current proposals will result in similar car borne trips in both the morning and evening peak periods to those approved as part of the existing outline planning permission on the site and therefore it is not considered that the current proposals will have any material adverse impact on the operation of the highway network.

8.6 The site is well located to encourage trips other than by private car. A Residential Travel Plan has been produced in conjunction with this Transport Statement, for the consideration of Barnsley Metropolitan Borough Council. The development accords with sustainable transport policies promoted by the Government and the relevant Local Government departments. This is

confirmed by the granting of the outline planning permission on the site in 2008.

8.7 It is concluded that there are no defensible highway or transport related reasons why these development proposals should not be granted full planning permission.

APPENDIX BGH 1

HOUSE TYPE

code	type	no
201	2 bed semi det/ terr	10
202	2 bed semi det	10
301	3 bed semi det	11
302	3 bed semi det	4
304	3 bed detached	3
307	3 bed detached	2
309	3 bed semi det	4
401	4 bed detached	6
403	4 bed detached	3
404	4 bed detached	1
405	4 bed detached	7
TOTAL		60

- NOT FOR USE ON SITE -
PROVISIONAL LAYOUT DRAWING, SUBJECT TO PLANNING APPROVAL

Existing tree to be removed

Existing tree to be retained and protected during construction to British Standard 5837:1991

Areas of new tree planting see schedule for species

New shrub / ground cover planting

Grass to front garden

Paved slab access patio to rear threshold for principle entrance. Gradient not to exceed 1in12 for maximum 6.00m length

Private drives

1.80m high screen wall

1.8m boarded vertical screen fence 1.80m high (100 x 22mm boards with 22mm gaps, 5No. 75 x 50mm rails, 100 x 100mm posts @ 1.875m centres).

As above, height reduced to 1.20m

Plot division fence, post & wire

House type code reference number

Plot number

Material code reference refer to schedule

Gatewell location

Parking bays

Proposed floor levels subject to a tolerance of +/- 0.5m

LOWFIELD MEADOWS

LOWFIELD ROAD

RETAIN EXISTING TREES TO BE RETAINED

3.00m HIGH ACOUSTIC FENCE TO SPECIALIST DESIGN

RAILWAY LINES

gleeson

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Architectural Design & Development Consultant

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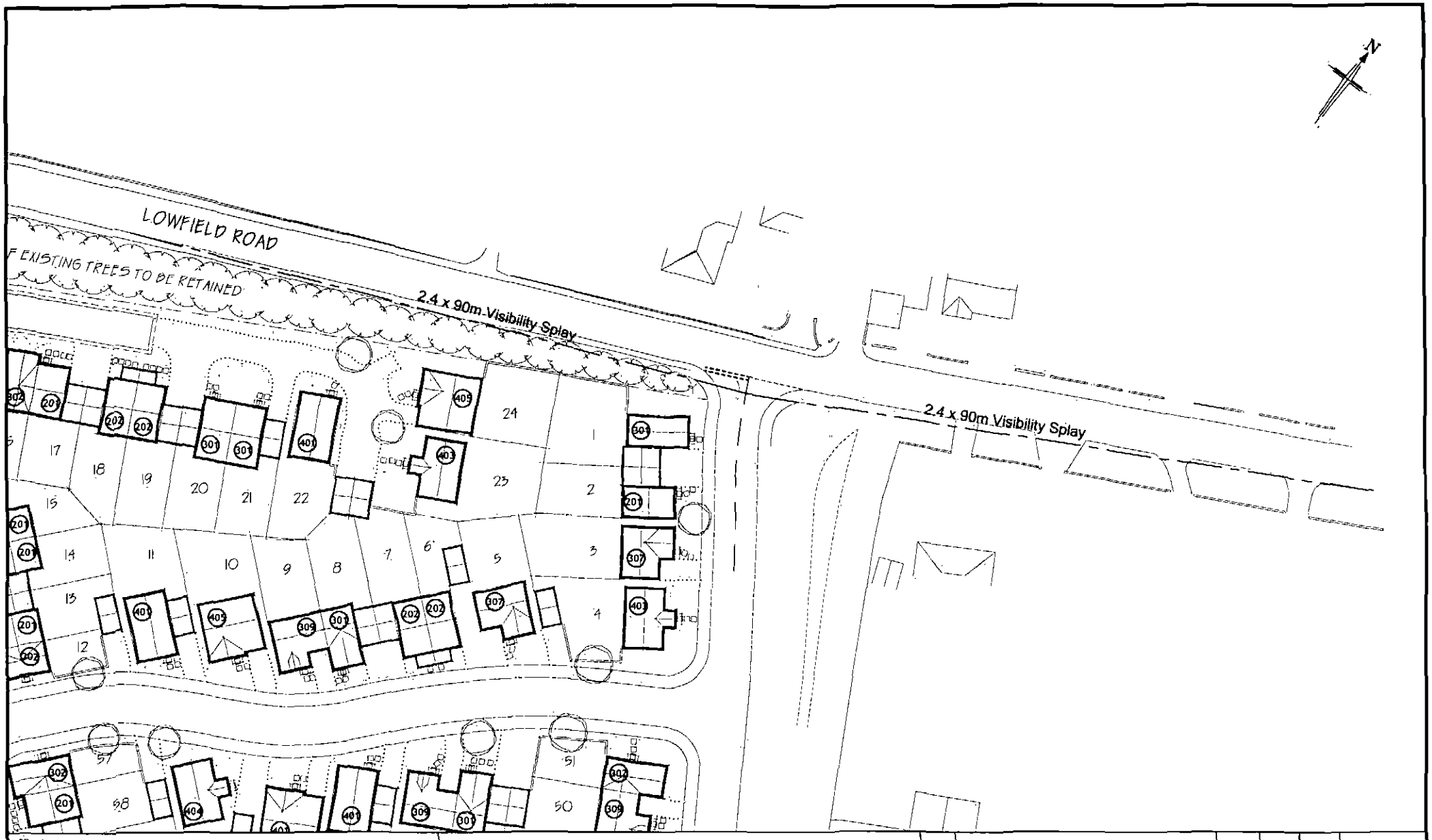
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LOWFIELD ROAD
BOLTON ON DEARNE

planning layout

GLEESON
HOMES & REGENERATION

A1 Additional text & remarks added omitted 28.07.11	Scale
	1:500 at A1
	Date
	18.07.11
	Dwg No
	344/2A



Client GLEESON HOMES & REGENERATION

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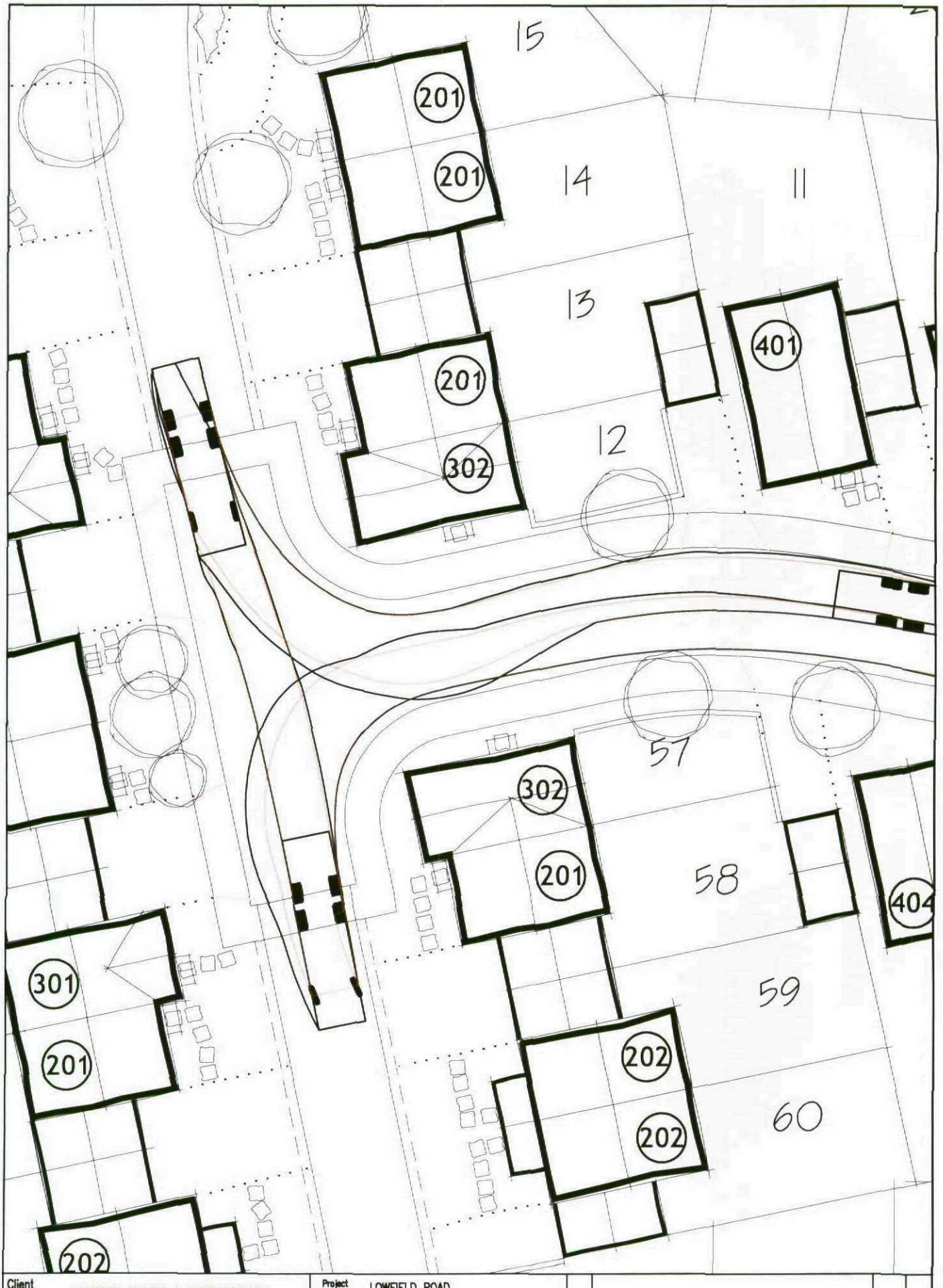
Project LOWFIELD ROAD
BOLTON UPON DEARNE

Title 2.4 x 90m VISIBILITY SPLAYS

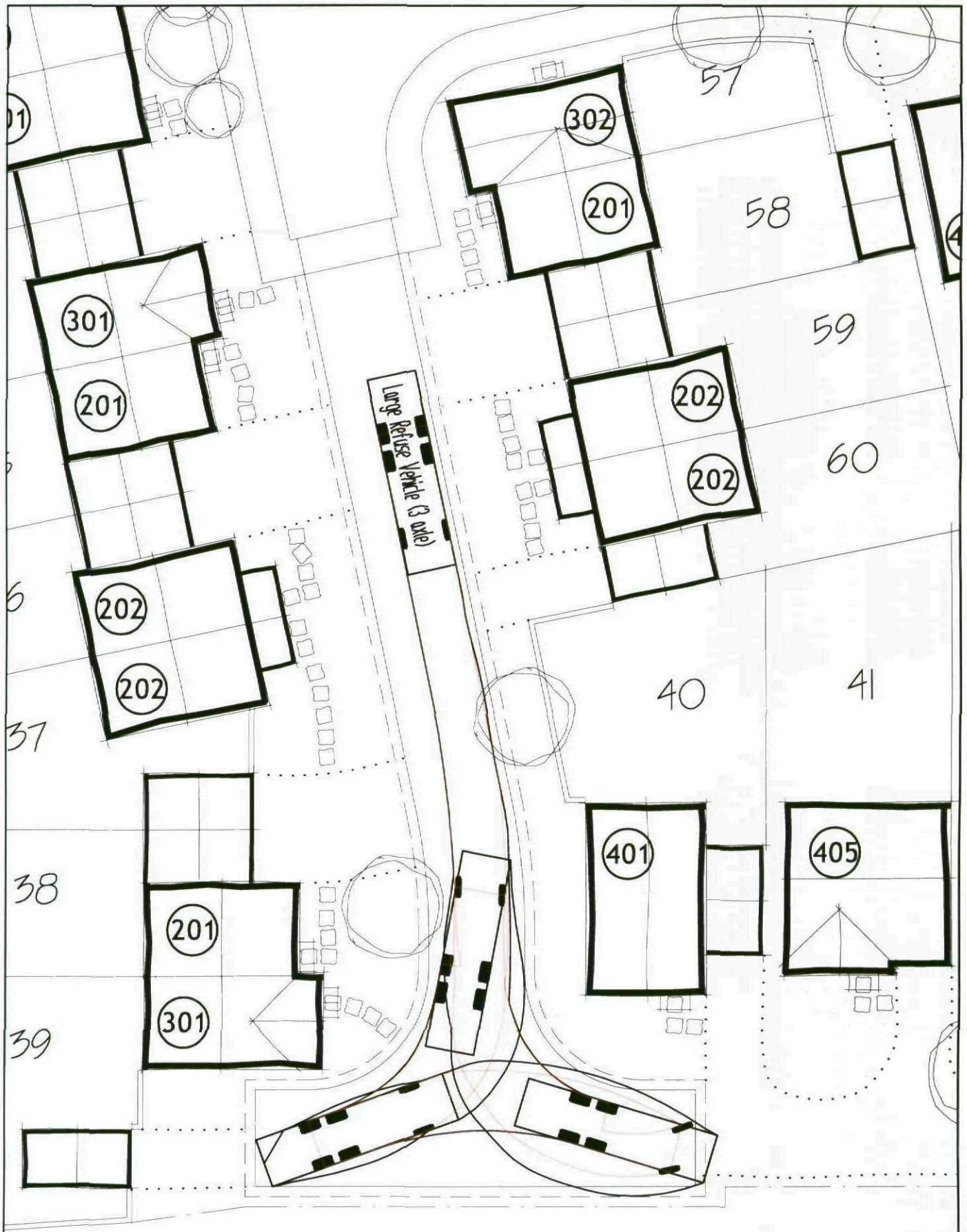
Rev	Amendments	Drawn	Chkd	Appr	Date

Scale 1:500	Date JULY 2011	Doc Sheet No
Drawn CT	Checked RBC	Approved RBC
Job No 11-235	Drawing No 11/235/VIS/001	Rev –

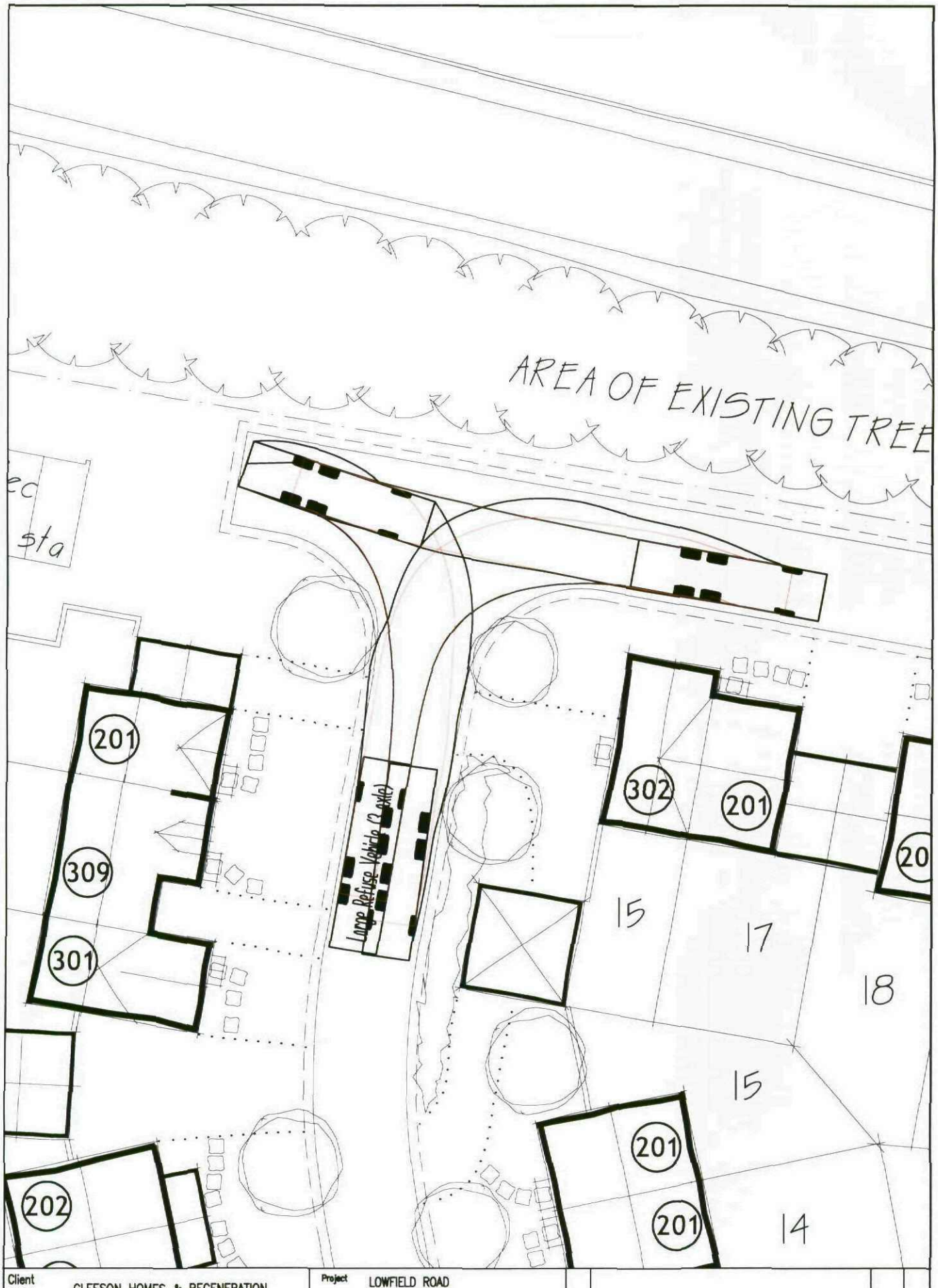
FILENAME



Client: GLEESON HOMES & REGENERATION	Project: LOWFIELD ROAD BOLTON UPON DEARNE				
BRYAN • G • HALL consulting civil & transportation planning engineers	Title: LARGE REFUSE VEHICLE AUTOTRACK MANOEUVRE	Rev	Amendments	Drawn	Appr
		Drawing No: 11/235/ATR/001	Date: JULY 2011	Scale: 1:250	
		Job No: 11-235	Checked: RBC	Approved: RBC	
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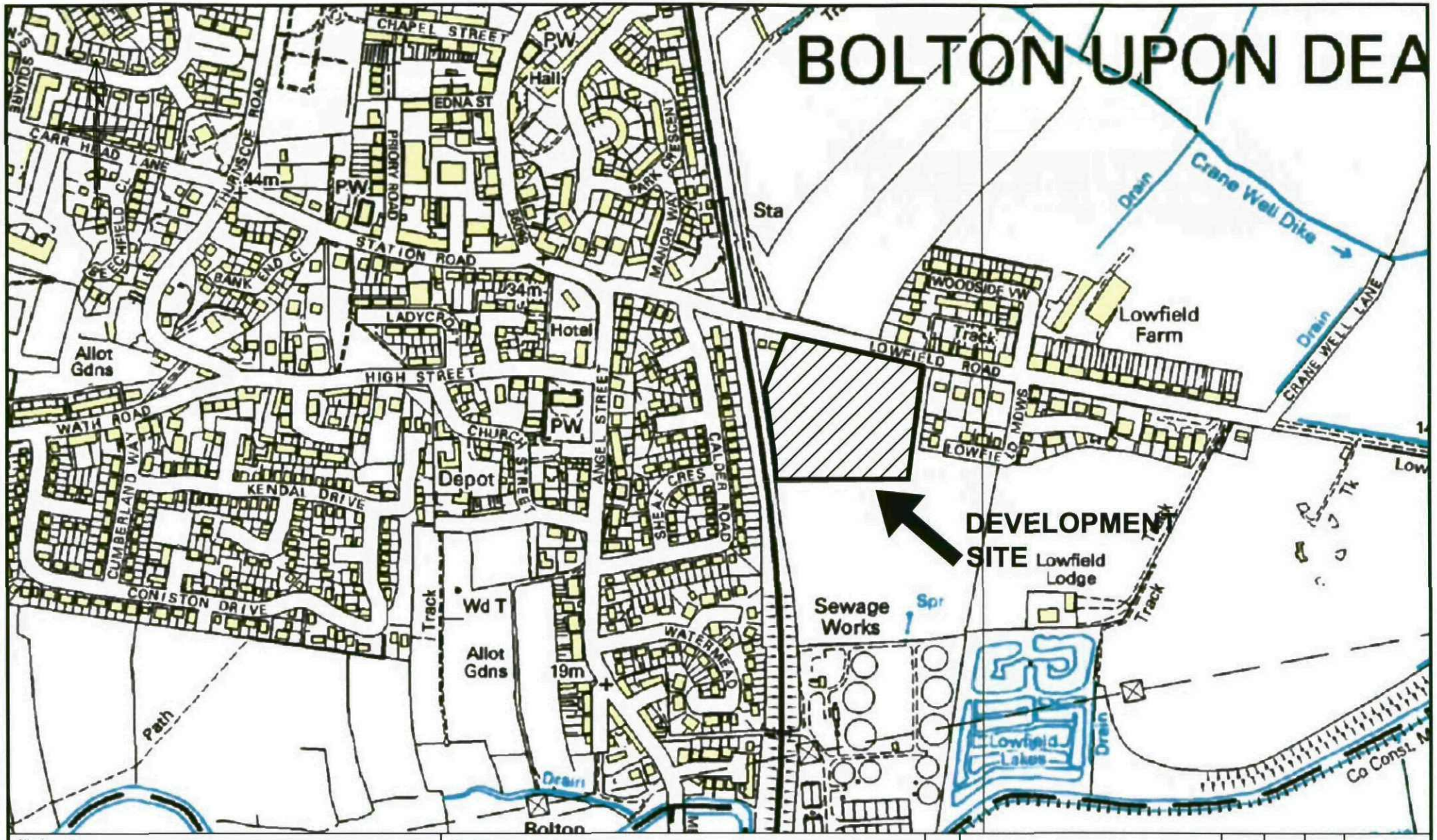


Client: GLEESON HOMES & REGENERATION	Project: LOWFIELD ROAD, BOLTON UPON DEARNE					
BRYAN • G • HALL, consulting civil & transportation planning engineers	Title: LARGE REFUSE VEHICLE AUTOTRACK MANOEUVRE	Rev	Amendments		Drawn	Appr
		Drawing No: 11/235/ATR/002		Date: JULY 2011	Scale: 1:250	
		Job No: 11-235		Checked: RBC	Approved: RBC	
				Drawn: CT	Rev: _	



Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE		
BRYAN • G • HALL consulting civil & transportation planning engineers		Title	LARGE REFUSE VEHICLE AUTOTRACK MANOEUVRE	Rev Amendments	Drawn Appr
				Drawing No 11/235/ATR/003	Date JULY 2011 Scale 1:250
				Job No 11-235	Checked RBC Approved RBC
					Drawn CT Rev _

APPENDIX BGH 2



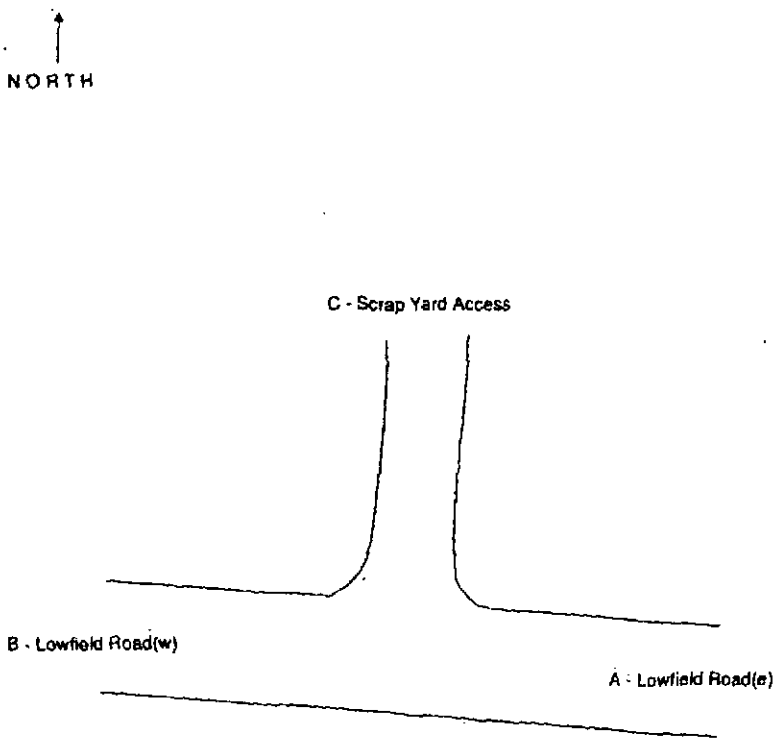
Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE			
BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite 6E Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201 http:\www.bryanghall.co.uk	Title	SITE LOCATION PLAN IN RELATION TO THE LOCAL HIGHWAY NETWORK	Rev	Amendments	Drawn / Chkd / Appr / Date
				Scale 1:1,000 @ A4	Date JULY 2011	Doc Sheet No
				Drawn ALH	Checked DJP	Approved DJP
				Job No 11-235	Drawing No BGH2	Rev –

FILENAME

APPENDIX BGH 3

SKY HIGH TRAFFIC DATA COLLECTION

Client :	Halcrow
Project :	Bolton On Dearne Traffic Survey
Site plan for :	3 - Lowfield Road / Scrap Yard Access
Date :	Wednesday 1st March 2006



SKY HIGH TRAFFIC DATA COLLECTION

Client : Halcrow
Date : Wednesday 1st March 2006
AM Weather : Cold / Sunny
PM Weather : Cold / Sunny / Patchy Cloud
Project : Bolton On Dearne Traffic Survey
Site : 3 - Lowfield Road / Scrap Yard Access
Incidents : None Reported

Entry : A - Lowfield Road(e)

	Destination : A - Lowfield Road(e)						Destination : B - Lowfield Road(w)						Destination : C - Scrap Yard Access						Arm
	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	Totals
07:30	0	0	0	0	0	0	18	0	0	0	0	18	0	0	0	0	0	0	18
07:45	0	0	0	0	0	0	11	0	0	0	0	11	0	0	0	0	0	0	11
1 Hr	0	0	0	0	0	0	29	0	0	0	0	29	0	0	0	0	0	0	29
08:00	0	0	0	0	0	0	17	0	0	0	1	18	0	0	0	0	0	0	18
08:15	0	0	0	0	0	0	17	0	0	0	0	17	0	0	0	0	0	0	17
08:30	0	0	0	0	0	0	17	0	0	0	0	17	0	0	0	0	0	0	17
08:45	0	0	0	0	0	0	9	0	0	0	0	9	0	0	0	0	0	0	9
1 Hr	0	0	0	0	0	0	60	0	0	0	1	61	0	0	0	0	0	0	61
09:00	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	3
09:15	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	6
1 Hr	0	0	0	0	0	0	9	0	0	0	0	9	0	0	0	0	0	0	9
2 Hrs	0	0	0	0	0	0	98	0	0	0	1	99	0	0	0	0	0	0	99
16:30	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	4
16:45	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	0	8
1 Hr	0	0	0	0	0	0	12	0	0	0	0	12	0	0	0	0	0	0	12
17:00	0	0	0	0	0	0	9	0	0	0	0	9	0	0	0	0	0	0	9
17:15	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	6
17:30	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	6
17:45	0	0	0	0	0	0	12	0	0	0	0	12	0	0	0	0	0	0	12
1 Hr	0	0	0	0	0	0	33	0	0	0	0	33	0	0	0	0	0	0	33
18:00	0	0	0	0	0	0	9	0	0	0	0	9	0	0	0	0	0	0	9
18:15	0	0	0	0	0	0	7	0	0	0	0	7	0	0	0	0	0	0	7
1 Hr	0	0	0	0	0	0	16	0	0	0	0	16	0	0	0	0	0	0	16
2 Hrs	0	0	0	0	0	0	61	0	0	0	0	61	0	0	0	0	0	0	61
Total	0	0	0	0	0	0	159	0	0	0	1	160	0	0	0	0	0	0	160

SKY HIGH TRAFFIC DATA COLLECTION

Client : Halcrow
Date : Wednesday 1st March 2006
AM Weather : Cold / Sunny
PM Weather : Cold / Sunny / Patchy Cloud
Project : Bolton On Dearne Traffic Survey
Site : 3 - Lowfield Road / Scrap Yard Access
Incidents : None Reported

Entry : B - Lowfield Road(w)

	Destination : A - Lowfield Road(e)						Destination : B - Lowfield Road(w)						Destination : C - Scrap Yard Access						Arm
	Car/Lgv	Hgv	Bus	Mc	Pc	Total	Car/Lgv	Hgv	Bus	Mc	Pc	Total	Car/Lgv	Hgv	Bus	Mc	Pc	Total	Totals
07:30	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
07:45	4	0	0	0	0	4	0	0	0	0	0	0	3	0	0	0	0	3	7
1 Hr	8	0	0	0	0	8	0	0	0	0	0	0	3	0	0	0	0	3	11
08:00	4	0	0	0	0	4	0	0	0	0	0	0	1	0	0	0	0	1	5
08:15	2	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	1	3
08:30	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
08:45	4	0	0	0	0	4	0	0	0	0	0	0	1	0	0	0	0	1	5
1 Hr	14	0	0	0	0	14	0	0	0	0	0	0	3	0	0	0	0	3	17
09:00	4	0	0	0	0	4	0	0	0	0	0	0	2	0	0	0	0	2	6
09:15	5	0	0	0	0	5	0	0	0	0	0	0	4	1	0	0	0	5	10
1 Hr	9	0	0	0	0	9	0	0	0	0	0	0	6	1	0	0	0	7	16
2 Hrs	31	0	0	0	0	31	0	0	0	0	0	0	12	1	0	0	0	13	44
16:30	10	0	0	0	0	10	0	0	0	0	0	0	1	0	0	0	0	1	11
16:45	14	0	0	1	0	15	0	0	0	0	0	0	3	0	0	0	0	3	18
1 Hr	24	0	0	1	0	25	0	0	0	0	0	0	4	0	0	0	0	4	29
17:00	16	0	0	0	1	17	0	0	0	0	0	0	1	0	0	0	0	1	18
17:15	15	0	0	0	1	16	0	0	0	0	0	0	0	0	0	0	0	0	16
17:30	15	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	15
17:45	14	0	0	0	1	15	0	0	0	0	0	0	1	0	0	0	0	1	16
1 Hr	60	0	0	0	3	63	0	0	0	0	0	0	2	0	0	0	0	2	65
18:00	10	0	0	0	0	10	0	0	0	0	0	0	2	0	0	0	0	2	12
18:15	12	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12
1 Hr	22	0	0	0	0	22	0	0	0	0	0	0	2	0	0	0	0	2	24
2 Hrs	106	0	0	1	3	110	0	0	0	0	0	0	6	0	0	0	0	6	116
Total	137	0	0	1	3	141	0	0	0	0	0	0	20	1	0	0	0	21	162

SKY HIGH TRAFFIC DATA COLLECTION

Client : Halcrow
Date : Wednesday 1st March 2006
AM Weather : Cold / Sunny
PM Weather : Cold / Sunny / Patchy Cloud
Project : Bolton On Dearne Traffic Survey
Site : 3 - Lowfield Road / Scrap Yard Access
Incidents : None Reported

Entry : C - Scrap Yard Access

	Destination : A - Lowfield Road(e)						Destination : B - Lowfield Road(w)						Destination : C - Scrap Yard Access						Arm
	Car/Lgv	Hgv	Bus	Mc	Pc	Total	Car/Lgv	Hgv	Bus	Mc	Pc	Total	Car/Lgv	Hgv	Bus	Mc	Pc	Total	Totals
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
1 Hr	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	2
1 Hr	0	0	0	0	0	0	3	1	0	0	0	4	0	0	0	0	0	0	4
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
1 Hr	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
2 Hrs	0	0	0	0	0	0	5	1	0	0	0	6	0	0	0	0	0	0	6
16:30	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	3
16:45	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	6
1 Hr	0	0	0	0	0	0	8	1	0	0	0	9	0	0	0	0	0	0	9
17:00	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	3
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	2
1 Hr	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	6
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hrs	0	0	0	0	0	0	14	1	0	0	0	15	0	0	0	0	0	0	15
Total	0	0	0	0	0	0	19	2	0	0	0	21	0	0	0	0	0	0	21

SKY HIGH TRAFFIC DATA COLLECTION

Client : Halcrow
Project : Bolton On Dearne Traffic Survey
Date : Wednesday 1st March 2006
Site : 3 - Lowfield Road / Scrap Yard Access
AM Weather : Cold / Sunny
PM Weather : Cold / Sunny / Patchy Cloud
Incidents : None Reported

ORIGIN SUMMARY

	Origin : A - Lowfield Road(e)						Origin : B - Lowfield Road(w)						Origin : C - Scrap Yard Access						Arm Totals
	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	
07:30	18	0	0	0	0	18	4	0	0	0	0	4	0	0	0	0	0	0	22
07:45	11	0	0	0	0	11	7	0	0	0	0	7	1	0	0	0	0	1	19
1 Hr	29	0	0	0	0	29	11	0	0	0	0	11	1	0	0	0	0	1	41
08:00	17	0	0	0	1	18	5	0	0	0	0	5	0	1	0	0	0	1	24
08:15	17	0	0	0	0	17	3	0	0	0	0	3	0	0	0	0	0	0	20
08:30	17	0	0	0	0	17	4	0	0	0	0	4	1	0	0	0	0	1	22
08:45	9	0	0	0	0	9	5	0	0	0	0	5	2	0	0	0	0	2	16
1 Hr	60	0	0	0	1	61	17	0	0	0	0	17	3	1	0	0	0	4	82
09:00	3	0	0	0	0	3	6	0	0	0	0	6	0	0	0	0	0	0	9
09:15	6	0	0	0	0	6	9	1	0	0	0	10	1	0	0	0	0	1	17
1 Hr	9	0	0	0	0	9	15	1	0	0	0	16	1	0	0	0	0	1	26
2 Hrs	98	0	0	0	1	99	43	1	0	0	0	44	5	1	0	0	0	6	149
16:30	4	0	0	0	0	4	11	0	0	0	0	11	2	1	0	0	0	3	18
16:45	8	0	0	0	0	8	17	0	0	1	0	18	6	0	0	0	0	6	32
1 Hr	12	0	0	0	0	12	28	0	0	1	0	29	8	1	0	0	0	9	50
17:00	9	0	0	0	0	9	17	0	0	0	1	18	3	0	0	0	0	3	30
17:15	6	0	0	0	0	6	15	0	0	0	1	16	0	0	0	0	0	0	22
17:30	6	0	0	0	0	6	15	0	0	0	0	15	1	0	0	0	0	1	22
17:45	12	0	0	0	0	12	15	0	0	0	1	16	2	0	0	0	0	2	30
1 Hr	33	0	0	0	0	33	62	0	0	0	3	65	6	0	0	0	0	6	104
18:00	9	0	0	0	0	9	12	0	0	0	0	12	0	0	0	0	0	0	21
18:15	7	0	0	0	0	7	12	0	0	0	0	12	0	0	0	0	0	0	19
1 Hr	16	0	0	0	0	16	24	0	0	0	0	24	0	0	0	0	0	0	40
2 Hrs	81	0	0	0	0	81	114	0	0	1	3	118	14	1	0	0	0	15	184
Total	159	0	0	0	1	160	157	1	0	1	3	162	19	2	0	0	0	21	343

SKY HIGH TRAFFIC DATA COLLECTION

Client : Halcrow
Date : Wednesday 1st March 2006
AM Weather : Cold / Sunny
PM Weather : Cold / Sunny / Patchy Cloud
Project : Bolton On Dearne Traffic Survey
Site : 3 - Lowfield Road / Scrap Yard Access
Incidents : None Reported

DESTINATION SUMMARY

	Destination : A - Lowfield Road(e)						Destination : B - Lowfield Road(w)						Destination : C - Scrap Yard Access						Arm Totals
	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	Cars/Lgv	Hgv	Bus	Mc	Pc	Total	
07:30	4	0	0	0	0	4	18	0	0	0	0	18	0	0	0	0	0	0	22
07:45	4	0	0	0	0	4	12	0	0	0	0	12	3	0	0	0	0	3	19
1 Hr	8	0	0	0	0	8	30	0	0	0	0	30	3	0	0	0	0	3	41
08:00	4	0	0	0	0	4	17	1	0	0	1	19	1	0	0	0	0	1	24
08:15	2	0	0	0	0	2	17	0	0	0	0	17	1	0	0	0	0	1	20
08:30	4	0	0	0	0	4	18	0	0	0	0	18	0	0	0	0	0	0	22
08:45	4	0	0	0	0	4	11	0	0	0	0	11	1	0	0	0	0	1	16
1 Hr	14	0	0	0	0	14	63	1	0	0	1	65	3	0	0	0	0	3	82
09:00	4	0	0	0	0	4	3	0	0	0	0	3	2	0	0	0	0	2	9
09:15	5	0	0	0	0	5	7	0	0	0	0	7	4	1	0	0	0	5	17
1 Hr	9	0	0	0	0	9	10	0	0	0	0	10	6	1	0	0	0	7	26
2 Hrs	31	0	0	0	0	31	103	1	0	0	1	105	12	1	0	0	0	13	149
16:30	10	0	0	0	0	10	6	1	0	0	0	7	1	0	0	0	0	1	18
16:45	14	0	0	1	0	15	14	0	0	0	0	14	3	0	0	0	0	3	32
1 Hr	24	0	0	1	0	25	20	1	0	0	0	21	4	0	0	0	0	4	50
17:00	16	0	0	0	1	17	12	0	0	0	0	12	1	0	0	0	0	1	30
17:15	15	0	0	0	1	16	6	0	0	0	0	6	0	0	0	0	0	0	22
17:30	15	0	0	0	0	15	7	0	0	0	0	7	0	0	0	0	0	0	22
17:45	14	0	0	0	1	15	14	0	0	0	0	14	1	0	0	0	0	1	30
1 Hr	60	0	0	0	3	63	39	0	0	0	0	39	2	0	0	0	0	2	104
18:00	10	0	0	0	0	10	9	0	0	0	0	9	2	0	0	0	0	2	21
18:15	12	0	0	0	0	12	7	0	0	0	0	7	0	0	0	0	0	0	19
1 Hr	22	0	0	0	0	22	16	0	0	0	0	16	2	0	0	0	0	2	40
2 Hrs	106	0	0	1	3	110	75	1	0	0	0	76	8	0	0	0	0	8	194
Total	137	0	0	1	3	141	178	2	0	0	1	181	20	1	0	0	0	21	343

APPENDIX BGH 4

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	BD	BEDFORDSHIRE	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	2 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	2 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	3 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 20 to 99 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/03 to 05/09/10

Selected survey days:

Monday	4 days
Tuesday	6 days
Wednesday	2 days
Thursday	2 days
Friday	2 days

Selected survey types:

Manual count	16 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	12
No Sub Category	4

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES

Ranking Type: **ARRIVALS** Time Range: 08:00-09:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **14 (**)**

85th Percentile = No. **3 (**)**

Median Values

Arrivals: 0.138
Departures: 0.339
Totals: 0.476

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Arrivals)			Travel Plan
							Arrivals	Departures	Totals	
1	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.321	0.405	0.726	
2	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.317	0.537	0.854	
**3 **	**CB-03-A-03**	**SEMI DETACHED, WORKINGTO**	**CUMBRIA**	**40**	**Thu**	**20/11/08**	**0.225**	**0.450**	**0.675**	
4	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.200	0.100	0.300	
5	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.183	0.366	0.549	
6	LC-03-A-22	BUNGALOWS, BLACKPOOL	LANCASHIRE	98	Tue	18/10/05	0.173	0.337	0.510	
7	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.173	0.173	0.346	
8	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.152	0.418	0.570	
9	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.123	0.260	0.383	
10	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.113	0.465	0.578	
11	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.104	0.333	0.437	
12	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.104	0.416	0.520	
13	DC-03-A-01	DETACHED, POOLE	DORSET	51	Wed	16/07/08	0.098	0.373	0.471	
**14 **	**CW-03-A-02**	**SEMI D./DETATCHED, TRURO**	**CORNWALL**	**73**	**Tue**	**18/09/07**	**0.096**	**0.329**	**0.425**	
15	CB-03-A-02	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Mon	20/06/05	0.075	0.425	0.500	
16	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.071	0.333	0.404	

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	BD	BEDFORDSHIRE	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	2 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	2 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	3 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 20 to 99 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/03 to 05/09/10

Selected survey days:

Monday	4 days
Tuesday	6 days
Wednesday	2 days
Thursday	2 days
Friday	2 days

Selected survey types:

Manual count	16 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	12
No Sub Category	4

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES

Ranking Type: **DEPARTURES** Time Range: 08:00-09:00
WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.
15th Percentile = No. **14 (**)**
85th Percentile = No. **3 (**)**

Median Values
Arrivals: 0.141
Departures: 0.369
Totals: 0.510

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Departures)			Travel Plan
							Arrivals	Departures	Totals	
1	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.317	0.537	0.854	
2	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.113	0.465	0.578	
3 **	**CB-03-A-03**	**SEMI DETACHED, WORKINGTO**	**CUMBRIA**	**40**	**Thu**	**20/11/08**	**0.225**	**0.450**	**0.675**	
4	CB-03-A-02	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Mon	20/06/05	0.075	0.425	0.500	
5	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.152	0.418	0.570	
6	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.104	0.416	0.520	
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11	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.104	0.333	0.437	
12	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.071	0.333	0.404	
13	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.096	0.329	0.425	
14 **	**GS-03-A-01**	**SEMI D./TERRACED, GLOUCE**	**GLOUCESTERSHIRE**	**73**	**Tue**	**25/05/04**	**0.123**	**0.260**	**0.383**	
15	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.173	0.173	0.346	
16	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.200	0.100	0.300	

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	**SOUTH EAST**		
	BD	BEDFORDSHIRE	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	2 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	2 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	3 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 20 to 99 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/03 to 05/09/10

Selected survey days:

Monday	4 days
Tuesday	6 days
Wednesday	2 days
Thursday	2 days
Friday	2 days

Selected survey types:

Manual count	16 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	12
No Sub Category	4

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES

Ranking Type: **ARRIVALS** Time Range: 17:00-18:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **14 (**)**

85th Percentile = No. **3 (**)**

Median Values

Arrivals: 0.390

Departures: 0.255

Totals: 0.645

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Arrivals)			Travel Plan
							Arrivals	Departures	Totals	
1	CB-03-A-02	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Mon	20/06/05	0.525	0.400	0.925	
2	DC-03-A-01	DETACHED, POOLE	DORSET	51	Wed	16/07/08	0.510	0.333	0.843	
3 **	**CB-03-A-03**	**SEMI DETACHED, WORKINGTO**	**CUMBRIA**	**40**	**Thu**	**20/11/08**	**0.475**	**0.250**	**0.725**	
4	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.458	0.229	0.687	
5	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.437	0.169	0.606	
6	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.425	0.219	0.644	
7	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.411	0.137	0.548	
8	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.405	0.369	0.774	
9	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.374	0.141	0.515	
10	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.354	0.207	0.561	
11	LC-03-A-22	BUNGALOWS, BLACKPOOL	LANCASHIRE	98	Tue	18/10/05	0.347	0.173	0.520	
12	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.342	0.203	0.545	
13	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.247	0.169	0.416	
14 **	**BD-03-A-02**	**SEMI DETACHED, LUTON**	**BEDFORDSHIRE**	**82**	**Tue**	**06/07/04**	**0.232**	**0.268**	**0.500**	
15	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.154	0.231	0.385	
16	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.100	0.150	0.250	

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

Selected regions and areas:

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	BD	BEDFORDSHIRE	1 days
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Filtering Stage 2 selection:

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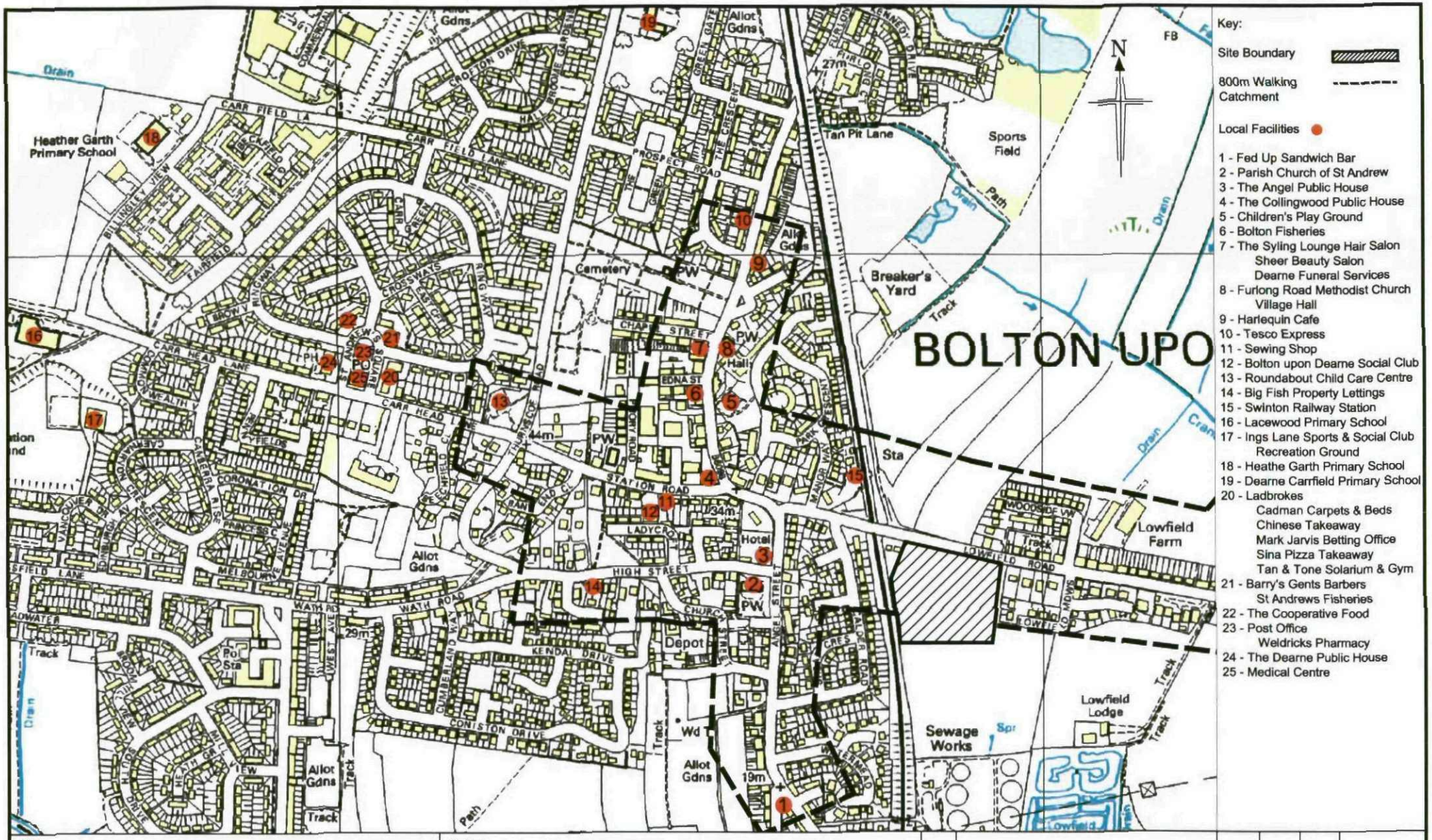
RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES

Ranking Type: **DEPARTURES** Time Range: 17:00-18:00
WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.
15th Percentile = No. **14 (**)**
85th Percentile = No. **3 (**)**

Median Values
Arrivals: 0.389
Departures: 0.213
Totals: 0.603

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Departures)			Travel Plan
							Arrivals	Departures	Totals	
1	CB-03-A-02	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Mon	20/06/05	0.525	0.400	0.925	
2	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.405	0.369	0.774	
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4	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.232	0.268	0.500	
5	CB-03-A-03	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Thu	20/11/08	0.475	0.250	0.725	
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13	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.247	0.169	0.416	
14 **	**DS-03-A-01**	**SEMI D./TERRACED, DRONFI**	**DERBYSHIRE**	**20**	**Thu**	**22/06/06**	**0.100**	**0.150**	**0.250**	
15	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.374	0.141	0.515	
16	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.411	0.137	0.548	

APPENDIX BGH 5

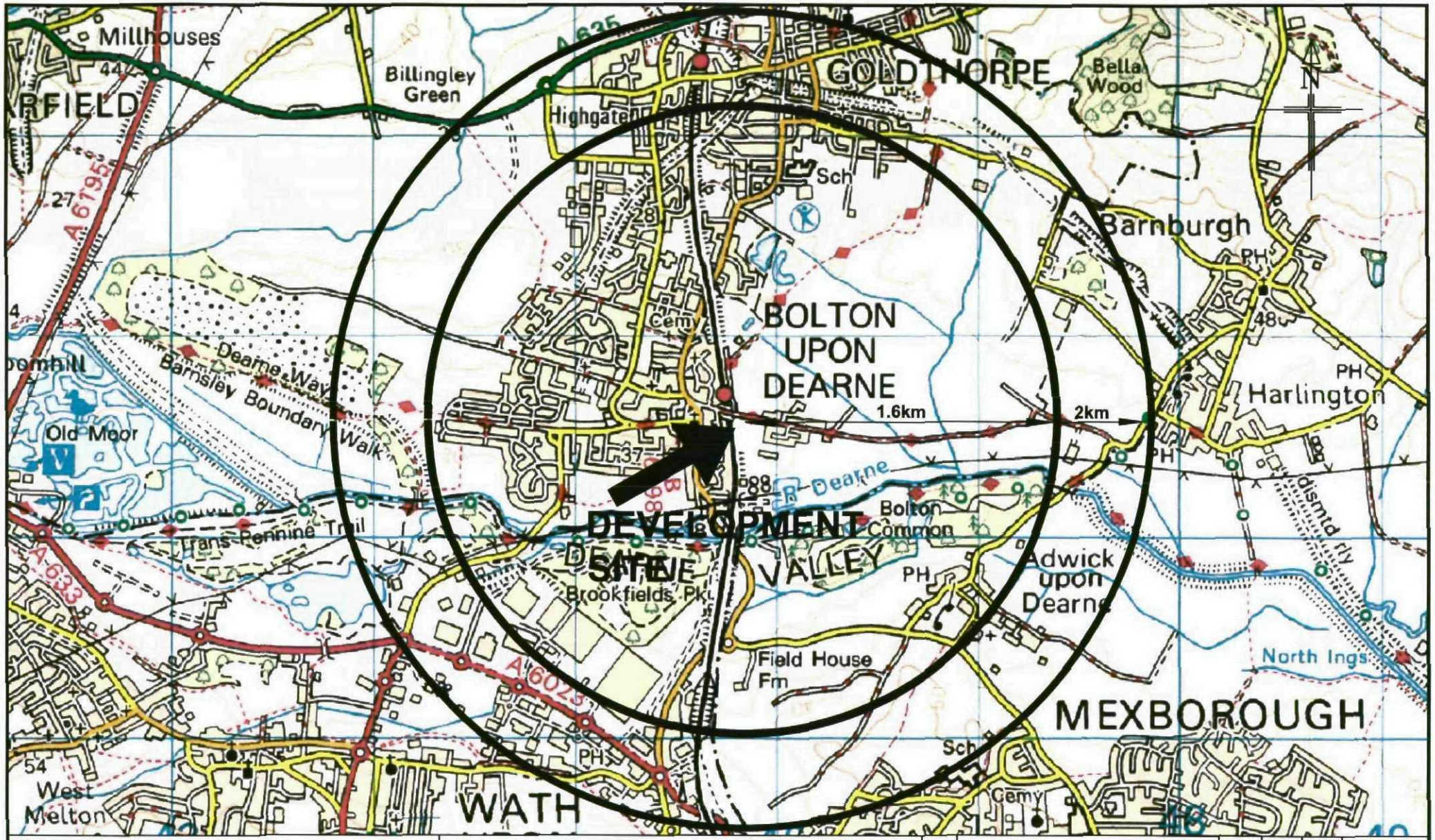


Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE		
BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite E8 Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201	Title	LOCAL FACILITIES IN THE VICINITY OF THE SITE		

Rev	Amendments	Drawn	Chkd	Appr	Date

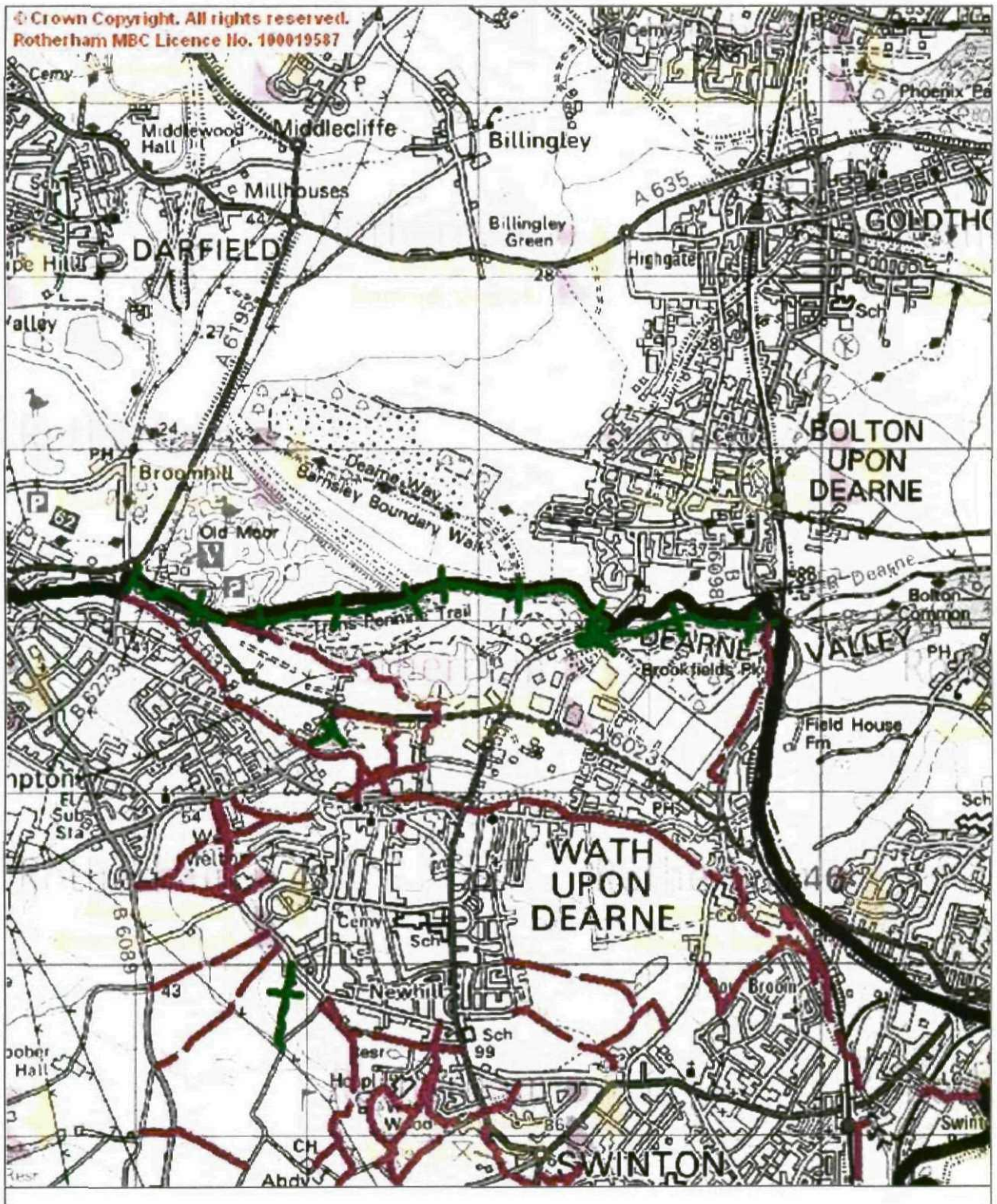
Scale 1:5,000 @ A3	Date JULY 2011	Doc Sheet No
Drawn ALH	Checked DJP	Approved DJP
Job No 11-235	Drawing No BGH5-01	Rev -

FILENAME



Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE			
BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite 8E, Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201 http://www.bryanghall.co.uk	Title	WALKING ISOCHRONES SHOWN AT 1.6KM AND 2KM DISTANCES			
		Rev	Amendments	Drawn	Chkd	Appr / Date
		Scale	1:25,000 @ A4	Date	JULY 2011	Doc Sheet No
		Drawn	ALH	Checked	DJP	Approved DJP
		Job No	11-235	Drawing No	BGH5-02	Rev –

FILENAME



Bolton On Dearne Walking Map

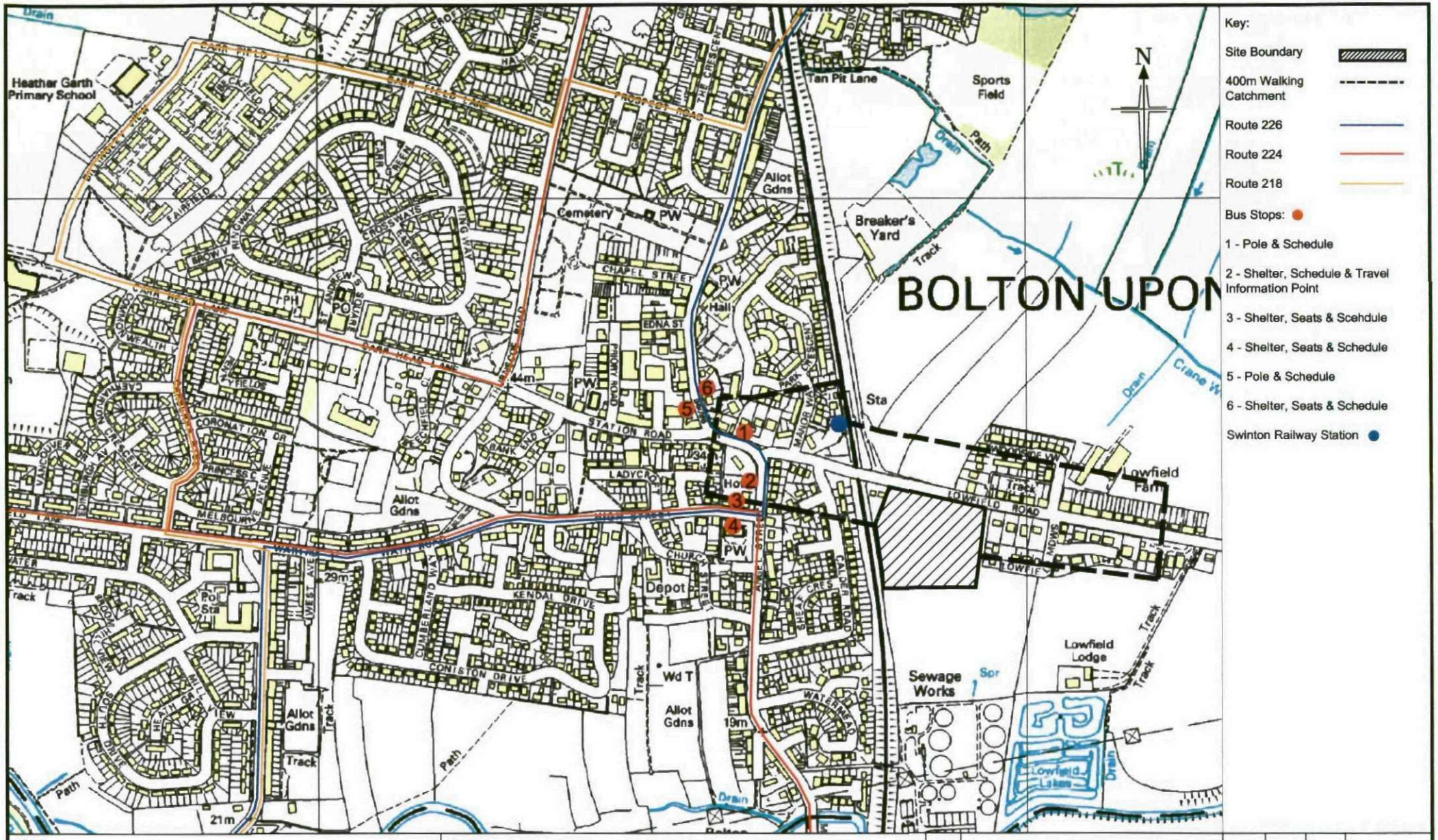
Rotherham Metropolitan Borough Council

Cartographic Legend



Public Footpaths
Public Bridleways
Restricted Byways
Rotherham District Boundary

APPENDIX BGH 6



Client GLEESON HOMES & REGENERATION

Project LOWFIELD ROAD
BOLTON UPON DEARNE

Title BUS FACILITIES AND BUS ROUTES IN THE VICINITY OF THE SITE

BRYAN · G · HALL
consulting civil & transportation planning engineers

Bryan G Hall Ltd.
Suite EB Joseph's Well
Hanover Walk
Leeds
LS3 1AB
Tel: +44(0)113 246 1555
Fax: +44(0)113 234 2201

Rev	Amendments	Drawn	Chkd	Appr	Date

Scale 1:5,000 @ A3	Date JULY 2011	Doc Sheet No
Drawn ALH	Checked NA	Approved NA
Job No 11-235	Drawing No BGH6-01	Rev –

FILENAME

A Summary of Bus Services in the Vicinity of the Site

Service Number	Route	Provider	Frequency
218	Barnsley – Darfield – Goldthorpe – Bolton – Manvers – Mexborough – Kilnhurst – Rawmarsh – Parkgate - Rotherham	Stagecoach	Monday to Saturday every 30 minutes during the daytime and every 60 minutes in the evening and on Sundays
224	Doncaster – Sprotbrough – High Melton – Harlington – Goldthorpe – Bolton - Mexborough	Stagecoach	Monday to Saturday every 30 minutes during the daytime and every 60 minutes in the evenings and on Sundays
226	Barnsley – Wombwell – Brampton – West Melton – Wath – Manvers – Bolton - Goldthorpe - Thurnscoe	Stagecoach	Monday to Saturday every 30 minutes during the daytime and evenings and every 60 minutes on Sundays

WELCOME
...to Stagecoach Yorkshire

Stagecoach Yorkshire operates an extensive network of bus services across the Dearne Valley including Rotherham and Doncaster

At Stagecoach Yorkshire we are continuously striving to improve your bus services. Listening to customer opinion and feedback means that we regularly review and evaluate the network to make sure it meets the needs of you, our customers.

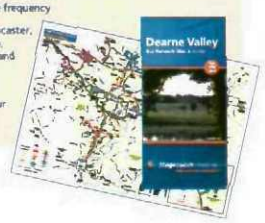
You told us that you wanted better buses that are more reliable and punctual so we've invested £3 million in 29 brand new, low floor easy access buses, created the Dearne Link and The Circle branded network of services, simplified routes and improved frequencies on many routes to achieve this.

Stagecoach Yorkshire is committed to delivering a reliable, clean and affordable service. If you have any comments or suggestions please contact our customer services by telephone on (01226) 202555 or by e-mail at yorkshire@stagecoachbus.com
Alternatively you can pick up one of our freepost Tell Us What You Think forms on the bus.

HOW TO USE
...your network map and guide

This network map and guide provides:

- An easy to read map of all the routes Stagecoach operates across the Dearne Valley, Rotherham and Doncaster.
- A list of all the bus route numbers, where each bus goes and the frequency.
- Maps of Doncaster, Mexborough, Rotherham and Wath town centres.
- Details of our great value tickets.



FOR MORE INFO
...contact us

We have produced this pocket sized, easy to use network map and guide to help you travel around the Dearne Valley using Stagecoach services. If you do need any further information you can:

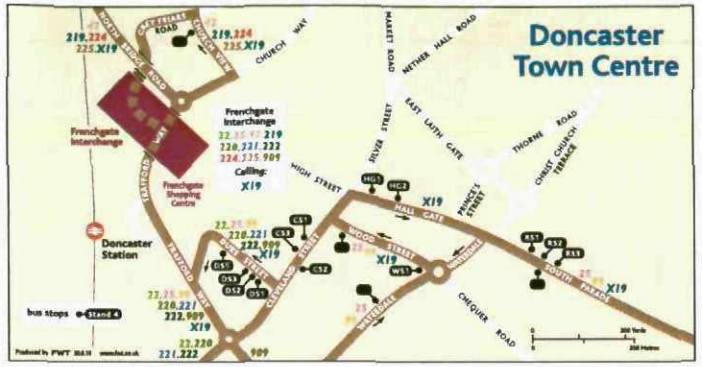
- Pick up timetables from the South Yorkshire travel information centres in Barnsley Interchange, Doncaster Frenchgate and Rotherham Interchange or your local travel information centre.
- Download timetables at www.travelsouthyorkshire.com or www.stagecoachbus.com/yorkshire
- Call Traveline on 01709 515151

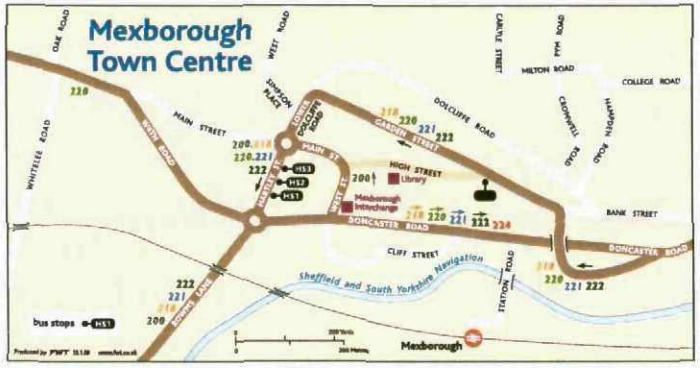
You can keep up to date with everything we're doing at www.stagecoachbus.com/yorkshire

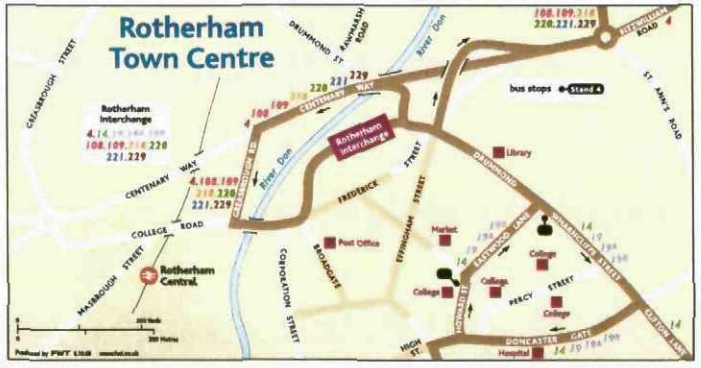
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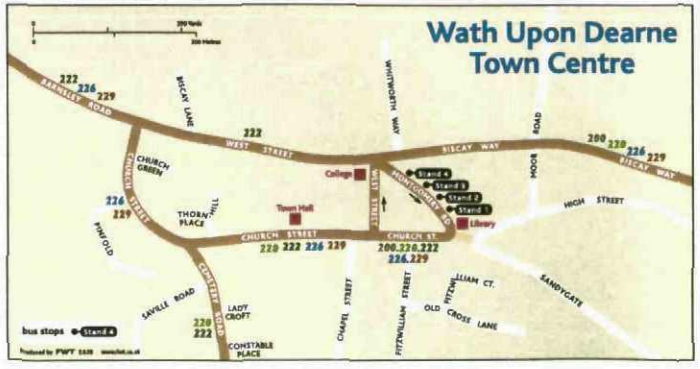


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buses around the Dearne Valley

service number	route	buses run every (mins) MON - SAT day	MON - SAT eves	SUN	NOTES
4	Rotherham - Ravenfield	–	60	60	–
14	Rotherham - Heringthorpe	–	60	60	–
19	Rotherham - Wickersley - Thurcroft - Laughton - Dinnington - North Anston - South Anston - Worksop	60	–	–	–
19A	Rotherham - Wickersley - Thurcroft - Laughton - Dinnington - North Anston - Woodsetts - Worksop	60	60	60	–
19B	Rotherham - Wickersley - Thurcroft - Laughton Common - Dinnington	30	–	–	–
22	Doncaster - Wadworth - Tickhill - Oldcotes - Langold - Carlton - Bassetlaw Hospital - Worksop	30	60	60	–
25	Doncaster - Bawtry Road - Bawtry - Bircotes - Harworth	30	60	60	–
29/X29	Robin Hood Airport - Bawtry - Bircotes - Harworth - Blyth - Barnby Moor - Retford	60	60	60	–
43	Doncaster - Scawsby - Cusworth - Doncaster	20	–	60	c
47	Barnsley - Worsbrough Dale - Birdwell - Hoyland - Platts Common - Jump - Hemingfield - Carlton Wood - Wombwell	60	–	–	–
68/68A	Barnsley - Stairfoot - Aldham House - Wombwell - Low Valley - Darfield - Middlecliffe - Great Houghton	60	–	–	–
69	Barnsley - Stairfoot - Aldham House - Wombwell - Low Valley - Darfield Estates	60	–	–	–
99	Doncaster - Bawtry Road - Bawtry - Scrooby - Ranskill - Torworth - Barnby Moor - Retford	60	60	–	–
108	Rotherham - Parkgate - Rawmarsh Circular	10	60	30	–
109	Rotherham - Parkgate - Rawmarsh Circular	10	–	30	–
200	Mexborough - Swinton - Manvers - Wath - Old Moor - Wombwell	30	30	30	a
218	Barnsley - Darfield - Goldthorpe - Bolton - Manvers - Mexborough - Kilnhurst - Rawmarsh - Parkgate - Rotherham	30	60	60	b
219	Barnsley - Darfield - Great Houghton - Thurnscoe - Goldthorpe - Scawsby - Doncaster	30	60	60	d
220	Rotherham - Parkgate - Rawmarsh - Wath - Manvers - Mexborough - Denaby - Conisbrough - Doncaster	30	30	60	–
221	Rotherham - Parkgate - Rawmarsh - Swinton - Mexborough - Windhill - Denaby - Conisbrough - Doncaster	30	60	60	–
222	Barnsley - Wombwell - Brampton - West Melton - Wath - Swinton - Mexborough - Denaby - Conisbrough - Doncaster	30	60	60	–
224	Doncaster - Sprotbrough - High Melton - Harlington - Goldthorpe - Bolton - Mexborough	30	60	60	–
225	Doncaster - Sprotbrough	30	–	–	–
226	Barnsley - Wombwell - Brampton - West Melton - Wath - Manvers - Bolton - Goldthorpe - Thurnscoe	30	30	60	–
229	Barnsley - Wombwell - Brampton - West Melton - Wath - Rawmarsh - Parkgate - Rotherham	30	60	60	–
909	Doncaster - Lakeside Village - Gunness - Scunthorpe	60	60	–	–
X19	Barnsley - Darfield - Goldthorpe - Scawsby - Doncaster - Bawtry Road - Robin Hood Airport	60	60	–	–
X30	Robin Hood Airport - Bawtry - Bircotes - Harworth - Oldcotes - Langold - Carlton - Worksop	60	60	60	–

Notes:
a Evening and Sunday journeys operate between Mexborough, Swinton, Manvers and Wath only.
b Evening and Sunday journeys operate between Mexborough, Highwoods & Rotherham Interchange only.
c Journeys that depart Doncaster after 0900 Monday to Saturday operate via Morrisons, York Road.
d Frequency 60 minutes between Goldthorpe and Doncaster.

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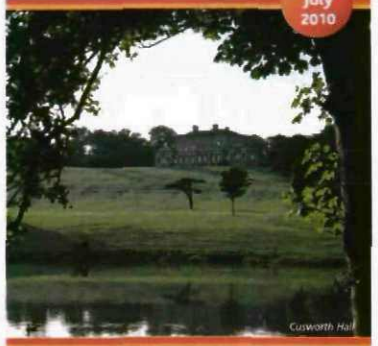
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Dearne Valley
Bus Network Map & Guide

from July 2010



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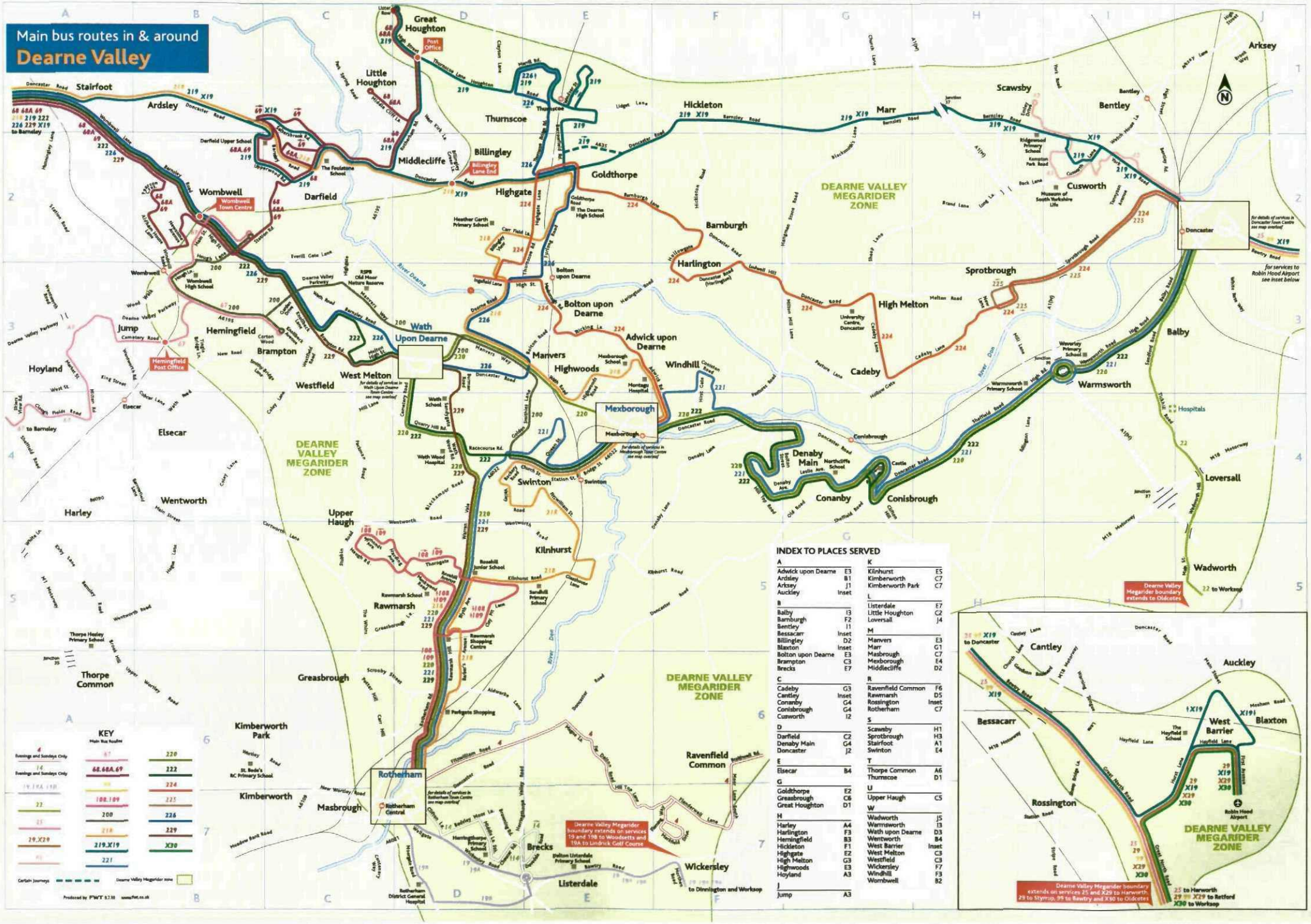
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Information correct at time of going to print
July 2010

FSC
Mixed Sources

Main bus routes in & around Dearne Valley



KEY

Main Bus Routes

4 Evenings and Sundays Only	67	220
16 Evenings and Sundays Only	68,68A,69	222
19,19A,19B	88	224
22	108,109	225
25	200	226
29,X29	218	229
93	219,X19	X30
	221	

Certain Journeys — Dearne Valley Megarider zone

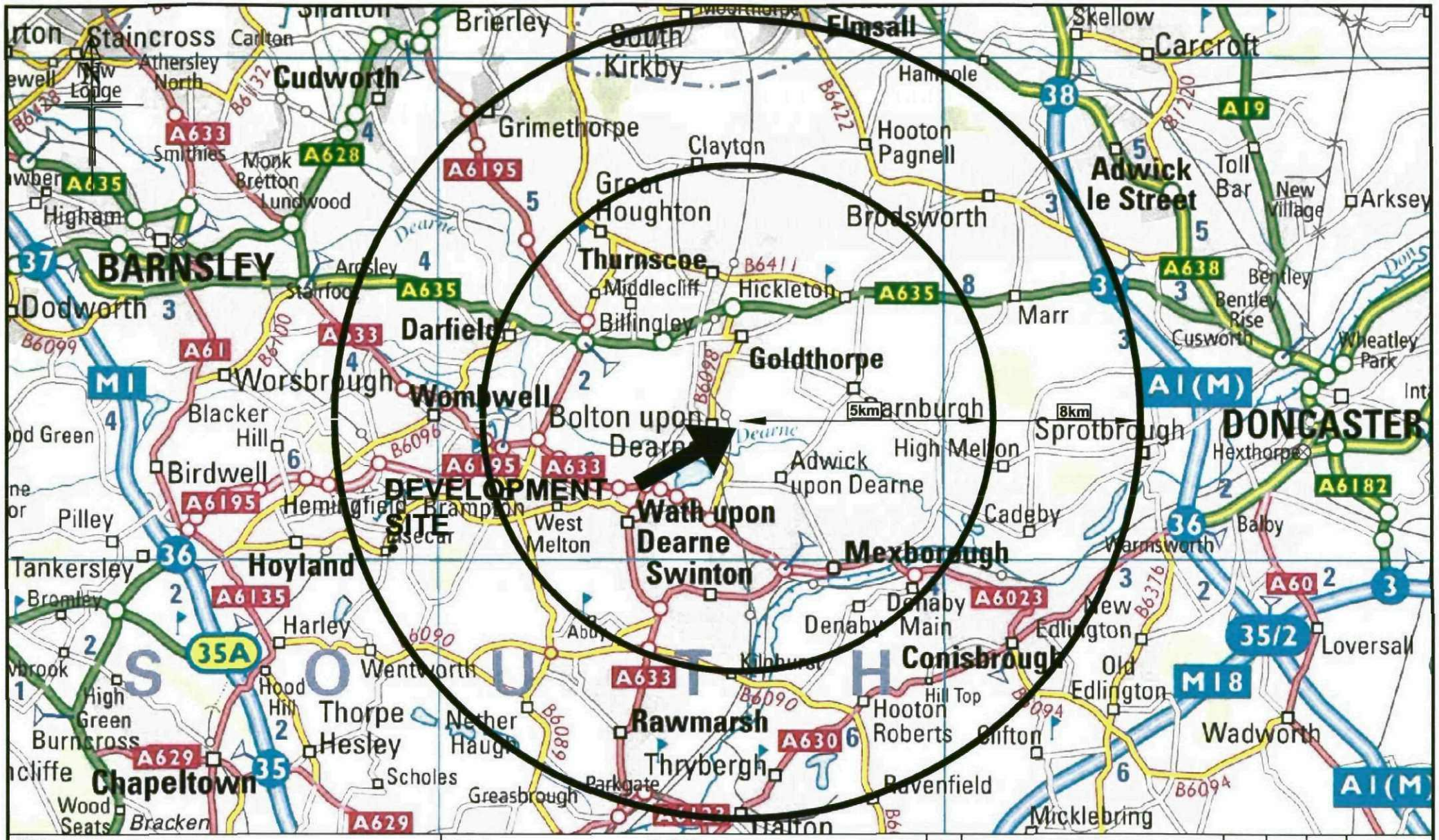
INDEX TO PLACES SERVED

A			**K**		
Adwick upon Dearne	E3		Kilnhurst	E5	
Ardsley	B1		Kimberworth	C7	
Arksey	J1		Kimberworth Park	C7	
Auckley	Inset		**L**		
B			Listerdale	E7	
Balby	I3		Little Houghton	C2	
Barnburgh	F2		Loversall	J4	
Bentley	I1		**M**		
Bessacarr	Inset		Manvers	E3	
Billingley	D2		Marr	G1	
Blaxton	Inset		Masbrough	C7	
Bolton upon Dearne	E3		Mexborough	E4	
Brampton	C3		Middlecliffe	D2	
Brecks	E7		**R**		
C			Ravenfield Common	F6	
Cadeby	G3		Rawmarsh	D5	
Cantley	Inset		Rossington	Inset	
Conanby	G4		Rotherham	C7	
Conisbrough	G4		**S**		
Cusworth	I2		Scawsby	H1	
D			Sprotbrough	H3	
Darfield	C2		Stairfoot	A1	
Denaby Main	G4		Swinton	E4	
Doncaster	J2		**T**		
E			Thorpe Common	A6	
Elsecar	B4		Thurnscoe	D1	
G			**U**		
Goldthorpe	E2		Upper Haugh	C5	
Greasbrough	C6		**W**		
Great Houghton	D1		Wadworth	J5	
H			Warmsworth	I3	
Harley	A4		Wath upon Dearne	D3	
Harlington	F3		Wentworth	B4	
Hemingfield	B3		West Barrier	Inset	
Hickleton	F1		West Melton	C3	
Highgate	E2		Westfield	C3	
High Melton	G3		Wickersley	F7	
Highwoods	E3		Windhill	F3	
Hoyland	A3		Wombwell	B2	
J					
Jump	A3				

Summary of Trains Serving Bolton on Dearne Railway Station

Train	Route	Operator	Frequency
Leeds to Sheffield	Leeds - Outwood - Wakefield Westgate - Sandal & Agbrigg - Fitzwilliam - Moorthorpe - Thurnscoe - Goldthorpe - Bolton on Dearne - Swinton - Rotherham Central -Meadowhall - Sheffield	Northern	Every 60 minutes

APPENDIX BGH 7



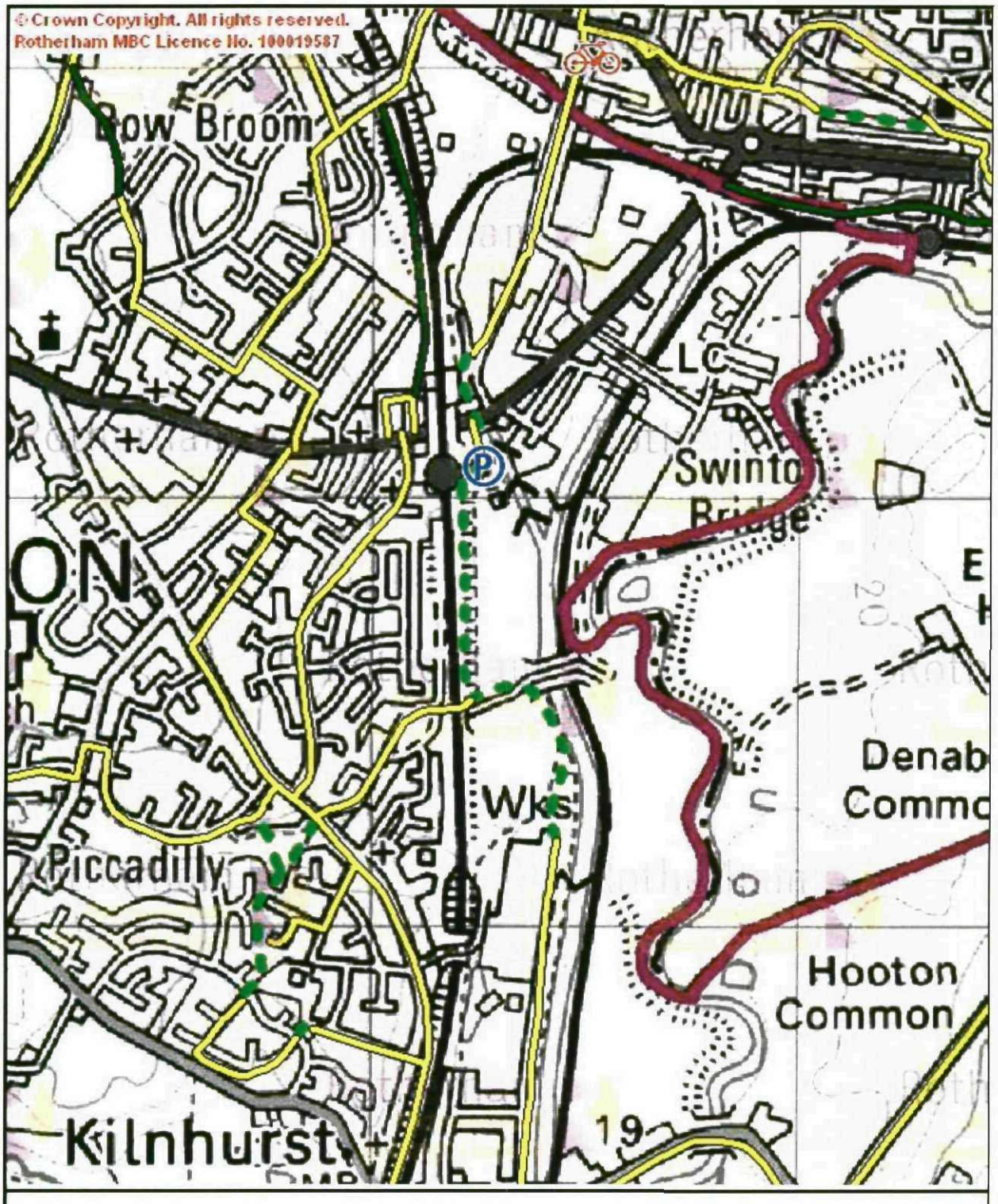
Client	GLEESON HOMES & REGENERATION				
	BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite 6E Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201 http://www.bryanghall.co.uk			
Project	LOWFIELD ROAD BOLTON UPON DEARNE				
Title	CYCLING ISOCHRONES SHOWN AT 5KM AND 8KM DISTANCES				
Rev	Amendments		Drawn	Chkd	Appr	Date
Scale	1:100,000 @ A4	Date	JULY 2011	Doc Sheet No		
Drawn	ALH	Checked	DJP	Approved	DJP	
Job No	11-235	Drawing No	BGH7-01	Rev	-	

FILENAME

National Route 62 to south and link to north.
Green Traffic Free Route.
Purple on Road Route.

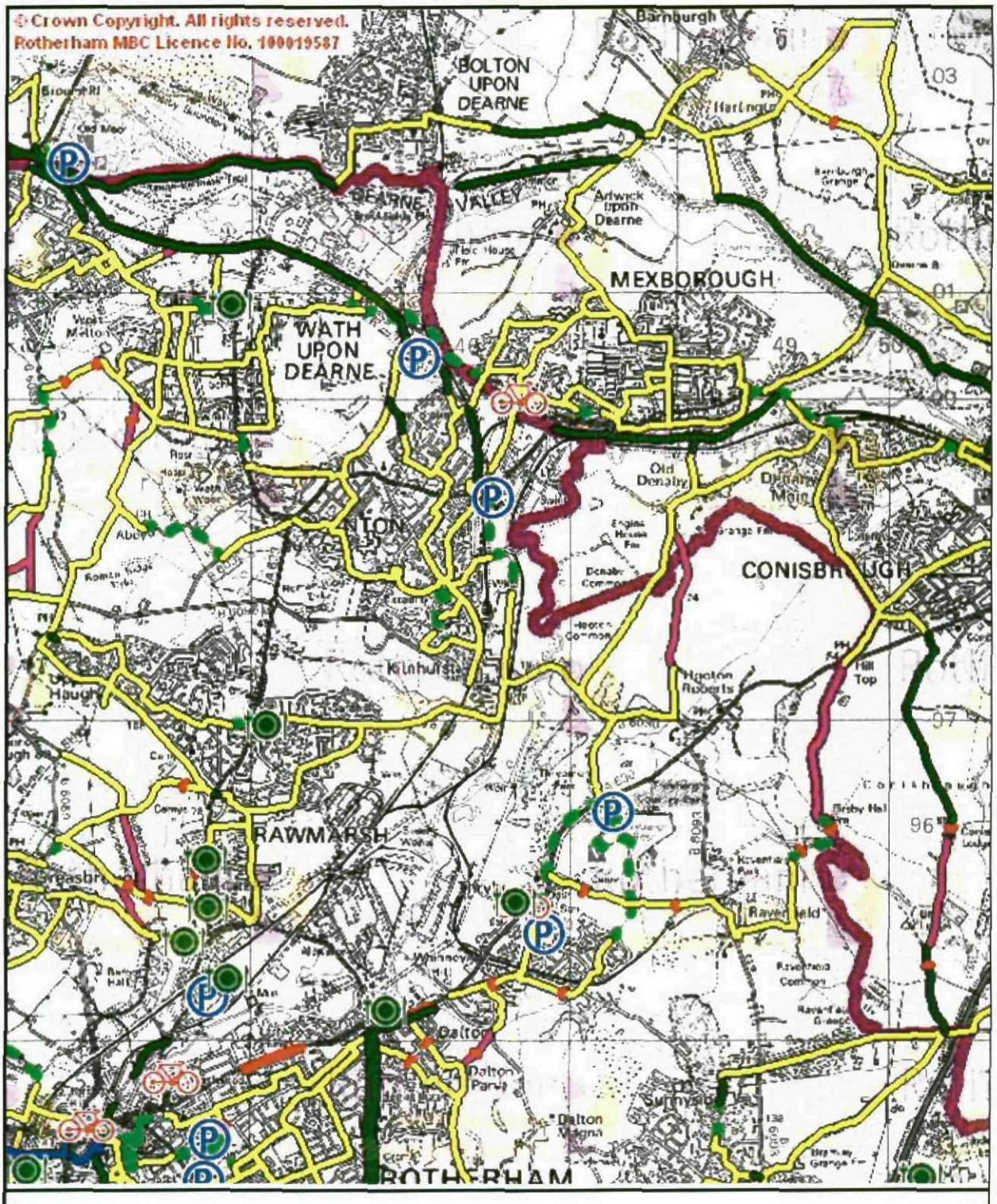


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Site Cycle Map

Rotherham Metropolitan Borough Council



Area Cycle Map

Rotherham Metropolitan Borough Council

PROPOSED RESIDENTIAL DEVELOPMENT
LOWFIELD ROAD
BOLTON UPON DEARNE
BARNSLEY

RESIDENTIAL TRAVEL PLAN

Bryan G Hall Ltd
Consulting Civil & Transportation
Planning Engineers
Suite E8
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Hanover Walk
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LS3 1AB

July 2011

Ref: 11-235-002.01

Planning Issue

Prepared by ..... Date .....
Aimee L Hanson

Checked by ..... Date .....
Neil Appleton

July 2011

Ref: 11-235.002.01

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1.0 INTRODUCTION

1.1 Background

1.1.1 This Residential Travel Plan forms part of a planning application submitted on behalf of Gleeson Homes & Regeneration for a residential development off Lowfield Road in the Bolton upon Dearne area of Barnsley. The proposed development consists of the erection of some 60 residential dwellings. A plan showing the location of the site in relation to the local highway network is attached at Appendix **TP1.**

1.1.2 The only vehicular access into the site will be from the southern kerbline of Lowfield Road as shown on the proposed Site Layout Plan also attached at Appendix **TP1.**

1.1.3 The purpose of this initial Residential Travel Plan is to put forward a specific collection of key targets and measures that can be developed and implemented and their effectiveness monitored by the Residential Travel Plan Co-ordinator of the Lowfield Road development. Delivery of the Residential Travel Plan will commence prior to the start of construction and will continue through marketing and sales and up to full occupation. The key measures as currently identified will be implemented and then following monitoring will be refined and developed to meet the specific needs of the residents. The Residential Travel Plan also contains details of the existing accessibility of the development site for travel by modes other than the private car.

1.1.4 The operation of the Residential Travel Plan, which will be made available to all residents, is a mechanism to provide incentives which will help persuade residents to travel by other modes of travel that have less environmental impact than the car. The Residential Travel Plan therefore begins with a review of existing travel patterns locally and the available opportunities for the use of other modes to the private single occupancy car journey. That information defines a starting point against which the success of the Residential Travel Plan is measured as part of the ongoing review process.

1.2 Policy

National Policy

1.2.1 In its White Paper "A New Deal for Transport", the Government identified that the responsibility for transport problems and solutions is to be shared between the private and public sectors. It identified the importance that the planning system could play in reducing the need to travel by car (particularly single occupancy journeys) by the careful planning of new developments in a sustainable manner.

1.2.2 The Department for Transport document 'Making Residential Travel Plans Work: Good Practice Guidelines for New development', October 2005, provides guidance on producing and developing Travels Plans for new residential development. It sets out that the national sustainability agenda and modernisation of the planning system have reinforced the important and positive role that travel planning, including for residential development, can play in achieving a wide range of national and local objectives. These include:

- Helping to reduce the need to travel and to cut congestion;
- Supporting mixed community and housing objectives, including development location, density, design and parking;
- Supporting social inclusion objectives, particularly through improvement of accessibility to and from new development; and
- Providing a mechanism through which ongoing sustainability appraisal and integration can be built into planning and implementation arrangements.

1.2.3 The document 'Good Practice Guidelines: Delivering Travel Plans through the Planning Process', published April 2009, aims to help all those involved in creating and implementing travel plans; local authorities, transport and travel plan officers, developers and consultants, understand the process involved and good practise steps for achieving successful and sustainable travel plans. It states *"Travel plans can be a key tool in achieving national, regional and local objectives to manage the demand for movement and improve accessibility for everyone."*

Local Policy

1.2.4 The Transport Act 2000 requires all local transport authorities in England, outside London, to prepare Local Transport Plans. The relevant local policy documentation in the context of this Transport Assessment is the Third South Yorkshire Local Transport Plan (LTP3) 2011 – 2015.

1.2.5 South Yorkshire's third Local Transport Plan (LTP3) has three component parts: the Transport Strategy, the Implementation Plan and the Annual Delivery Programme which will set out in detail the agreed prioritised delivery programme for the next financial year as well as briefly outlining the proposed four year programme.

1.2.6 The Transport Strategy has four main goals. The primary goal is to support the economic growth of the City Region. At the same time it aims to enhance social inclusion and health, reduce greenhouse gas emissions and maximise safety.

1.2.7 In translating the Transport Strategy into action, it will follow four cross-cutting principles:-

- **Squeeze more from existing assets**– in the current funding climate this principle will ensure assets are well managed and maintained and used to their fullest potential, minimising the need for major infrastructure work. It is key to this first Implementation Plan. Efforts will be targeted on the routes, locations, customer groups and issues we have identified from our evidence base as being particularly important;
- **Make our growth sustainable** – it will look to achieve economic growth while minimising the impact on the environment, reducing emissions wherever possible;
- **Give people choice** – it will enable people to make informed choices about whether and how they travel, through providing a range of transport links and services to match varying lifestyles; and
- **Encourage a change in travel culture** - facilitating a shift from car-dependency to more active and sustainable travel modes.

1.2.8 Relevant Transport strategy policies include:

- To improve connectivity between major Settlements;
- To focus new development along key public transport corridors and in places adjacent to existing shops and services;
- To apply parking policies to promote efficient car use, while remaining sensitive to the vulnerability of urban economies;
- To develop public transport that connects people to jobs and training in both urban and rural areas;
- To develop user-friendly public transport, covering all parts of SCR, with high quality of integration between different modes;
- To ensure public transport is accessible to all;
- To encourage active travel and develop high-quality cycling and walking networks; and
- To provide information and travel advice for the users of all modes of transport, so that they can make informed travel choices.

2.0 SITE ACCESSIBILITY

2.1 Pedestrian Accessibility

2.1.1 With regard to pedestrian accessibility more specific advice is set out in 'Guidelines for Providing for Journeys on Foot', which was published in 2000 by the Institution of Highways and Transportation. These guidelines note that walking accounts for over a quarter of all journeys and four-fifths of journeys less than one mile (1.6 kilometres).

2.1.2 The Guidelines also provide 'ideal' walk distances for various trip types and advise that the 'desirable' walking distance for commuting or walking to and from school is 500 metres, the 'acceptable' walking distance for commuting or walking to and from schools is 1.0 kilometre and the 'preferred maximum' walking distance is 2.0 kilometres.

2.1.3 As regards walk distances to retail outlets, the IHT Guidelines suggest a 'preferred maximum' walking distance to town centres of 800 metres. This advice is reflected in the Department for Transport, Local Government and the Regions in conjunction with CABE published 'Better places to live: By design – A companion guide to PPG3', September 2001. This suggests that:

> *"Having established the site's broad setting in terms of its relationship to a city, town or village centre, a good starting point is to examine the area within 10 minutes' (about 800m) walking distance of the site. This can help to identify the range of facilities which residents may access comfortably access on foot, as well as opportunities to reach more distant facilities by public transport."*

2.1.4 An accessibility study of the site has been carried out and the plan attached at Appendix **TP2** shows in detail the full range of facilities within 800 metres (10 minutes) walking distance of the site.

2.1.5 Pedestrian / cyclist access into the site will be provided from the main access off the southern kerb line of Lowfield Road. Footways are proposed on west side of the internal link road between the site and Lowfield Road and on both

sides of the main road through the site.

2.1.6 There is an existing footway on the north side of Lowfield Road and as part of the development proposals, a footway will be provided on the south side over the site frontage linking the site with Bolton on Dearne Railway Station, bus stops and the local facilities in Bolton upon Dearne to the west of the site. There are existing footways and dropped crossings along both sides of all other local roads between the site and these facilities.

2.1.7 A plan is provided at Appendix **TP2** which shows the straight-line 1.6km and 2.0km walking isochrones from the centre of the site along with a plan showing walking routes in Bolton upon Dearne.

2.2 Public Transport Accessibility

2.2.1 The Department of the Environment publication [1996] 'PPG13: A Guide to Better Practice' states that for trips over 3 miles (5 km), public transport is the main alternative mode of transport to the private car. It is recognised however that for public transport to be an attractive alternative mode of transport to the private car it needs to be easily accessible on foot.

2.2.2 The Institution of Highways and Transportation publication [1999] 'Planning for Public Transport recommends that residents of major new housing developments should not have to walk more than 400m (¼ mile) to their nearest bus stop but that this criterion has been hard to satisfy comprehensively and therefore it recognises that direct, frequent and easily understood services are more important than a few metres of walking distance.

2.2.3 The nearest bus stops are located on both sides of Angel Street approximately 380 metres from the centre of the site, within the recommended 400 metres walking distance. Both bus stops benefit from timetable information. These bus stops are served by bus number 226 which has a service frequency of two per hour Monday to Saturday all day and one per hour on Sundays and runs from

Barnsley to Thurnscoe via Manvers.

2.2.4 There are also bus stops located on High Street, approximately 430 metres from the centre of the site, slightly outside the recommended 400 metres walking distance. These stops are served by service numbers 224 and 226, which have a combined service frequency of four per hour Monday to Saturday all day and two per hour on Sundays. Bus number 224 runs from Doncaster to Mexborough via Goldthorpe, it also stops on Carr Head Lane adjacent to St Andrews Square where Bolton upon Dearnes main facilities are located which include a Medical Centre, Pharmacy, Cooperative Food Store and Post Office.

2.2.5 Bus number 218 also serves Bolton upon Dearne stopping at bus stops located on Dearne Road and Furlong Road, the closest of which are approximately 900 metres from the centre of the site. This bus has a service frequency of two per hour Monday to Saturday all day and one per hour on Sundays and runs from Barnsley to Rotherham via Manvers.

2.2.6 The Institution of Highways and Transportation publication 'Guidelines for Planning for Public Transport in Developments', March 1999, sets out that new developments should be located so that walking distances to the nearest railway station should be less than 800 metres.

2.2.7 The nearest railway station to the development site is Bolton on Dearne Railway Station, located approximately 350 metres walking distance from the centre of the site, which is well within the recommended 800 metres. The station has a car park with 26 spaces and secure cycle storage is available. The station has step free access coverage and a train is available every 60 minutes between Leeds and Sheffield.

2.2.8 Route maps and a summary of the bus services serving the stops in the vicinity of the site and a summary of the trains serving Bolton on Dearne Railway Station are given at Appendix **TP3**.

2.3 Cycle Accessibility

2.3.1 The Department of the Environment publication [1996] 'PPG13: A Guide to Better Practice' states that the bicycle is an ideal mode of transport for journeys under 8 kilometres. PPG13 [January 2011] states that cycling "has clear potential to substitute for short car trips, particularly those under 5km, and to form part of a longer journey by public transport."

2.3.2 As shown on the plan attached at Appendix **TP4** areas including Wath upon Dearne, Mexborough, Goldthorpe and Thurnscoe lie within 5km cycle catchment and Wombwell within the 8km catchment providing residents with a wealth of facilities and employment opportunities.

2.3.3 Bolton upon Dearne has a network of cycle routes and lanes as shown on the plans also attached at Appendix **TP4**. Route 62 of the National Cycle Network follows Dearne Road north bound then runs east along Lowfield Lane (the northern boundary of the site) where it links into the Trans Pennine Trail to the east of the site. Route 62 provides a traffic free route from the site in to Wath, Mexborough, Barnsley town centre and Doncaster town centre.

2.4 Accessibility to the Site by Car and Parking Provision

2.4.1 The only vehicular access into the development will be from Lowfield Road. The site is located within Bolton upon Dearne, a predominantly residential area approximately 14.0 kilometres to the south east of Barnsley town centre. Approximately 160 metres west of the proposed site access Lowfield Road forms a bridge over the railway line, at this point Lowfield Road is approximately 6.5 metres in width and has a footway on the north side only.

2.4.2 Lowfield Road forms a priority junction with the B6068 which is the main route through Bolton upon Dearne. The B6068 provides a link between the A623 and the A635. The A623 provides a direct route into Mexborough and provides access onto the A630 which is the main route into Rotherham town centre. The A635 can be described as a primary distributor type of road from which

there is direct access into Barnsley town centre, it also provides access onto the A1(M), the M1 Motorway at Junction 37 and the A19 which is the main route into Doncaster town centre. Accessibility to the site by car is therefore considered to be excellent due to its close proximity with Barnsley, Rotherham and Doncaster town centres and both the A1(M) and M1 Motorway.

2.4.3 Use of alternative means of transport will also be encouraged by a policy of car parking restraint that will be adopted within the development. Parking policies outlined in Government publications are based upon the principle of maximum provision rather than minimum. Parking provision within specific areas of the development will however have regard to the type and mix of properties.

3.0 INITIAL MODAL SPLIT AND TRANSPORT IMPACT

3.1 Prior to any travel surveys being carried out the development it is accepted practice to examine census data for the immediate area in which the development site is located in order to estimate what the likely modal split will be of the total person trips into and out of the site. The Lowfield Road site is situated within the Dearne South ward.

3.2 The National Statistics Census 2001 data for journeys to work for the ward of Dearne South has been obtained from the Neighbourhood Statistics web-site. This provides a percentage breakdown of the different modes of transport currently used to travel to work from this ward. From the same census data it has also been ascertained that, of the trips by car, 80% of these are single occupancy and 20% multi-occupancy. This has been based on the assumption that each multi-occupancy car carries one passenger. The base-line (without a Travel Plan) percentage modal splits are summarised below in Table 3.1 with the full Census data provided at Appendix **TP5**.

Table 3.1

National Statistics Census 2001 Ward Data

Dearne South

Travel to Work (KS15)

Modal Split	% Split
Pedestrians	18
Cyclist	2
Public Transport Users	11
Car	68
Motorcyclist	1
Total	100

3.3 In order to predict the level of vehicular trips that will be made as a result of the residential development prior to any travel planning measures being in place, the TRICS 2011(b) database has been utilised. Assuming the land-use category Residential – Houses Privately Owned, the 85th percentile peak hour

trip rates and resultant vehicular trips are shown in Table 3.2 below with the full TRICS data contained at Appendix **TP5**.

Table 3.2

85th Percentile Vehicle Trips

Assessment Period	Trip Rates per Unit			Trips for 60 Units		
	IN	OUT	2-WAY	IN	OUT	2-WAY
08:00 – 09:00	0.225	0.450	0.675	14	27	41
17:00 – 18:00	0.475	0.333	0.808	29	20	49

3.4 Using the base-line percentage modal split in Table 3.1 and the 85th percentile vehicular trips in Table 3.2, the morning and evening peak hour trips for each mode have been calculated and are shown in Table 3.3 below.

Table 3.3

AM and PM Peak Hour Modal Split

Peak Hour Modal Split	% Split	Trips			
		AM In	AM Out	PM In	PM Out
Pedestrians	18	4	7	8	5
Cyclist	2	1	1	1	1
Public Transport Users	11	2	5	5	3
Car	68	14	27	29	20
Motorcyclist	1	0	0	0	0
Total	100	21	40	43	29

3.5 The above modal splits will be used to agree reductions in car usage and achieve targets for alternative modes of transport as part of this Residential Travel Plan for the proposed development. This information can be compared with travel mode survey information for the proposed development once the site is fully occupied and travel patterns have been established.

4.0 OBJECTIVES / OVERALL STRATEGY

4.1 The overall objective of this Residential Travel Plan for the development is to reduce the number of car-borne trips to the site and surrounding area particularly during the highway network peak periods and those which involve single occupancy of the vehicle, thus providing a sustainable development.

4.2 One of the major benefits that arise from development of sites within urban areas is the opportunity to provide choice in the mode of transport. The availability and convenience of these alternative modes of transport, to the private car, can have an impact upon the travel patterns of residents. The Residential Travel Plan will focus on identifying the alternatives and in encouraging residents to be sustainable in their travel choices.

4.3 In order to achieve this overall objective the Residential Travel Plan shall therefore aim to:

- Provide adequate facilities on site from first occupation to encourage residents and visitors to use alternative modes of travel to the private car;
- Ensure that at the marketing and sales stage, all potential new residents are provided with sufficient information and advice to allow them to make reasoned choices with regard to sustainable travel both in visiting the site for viewing and upon taking up residence;
- Promote healthy lifestyles and sustainable local communities; and
- Ensure that an initial travel survey questionnaire is completed by all new residents to establish a base-line from which to encourage alternative travel patterns and monitor any changes.

4.4 The production of this Residential Travel Plan ideally represents a partnership approach between the applicant or developer, BMBC (Barnsley Metropolitan Borough Council) and SYPTE (the South Yorkshire Passenger Transport Executive) who are likely to make up the core of such a partnership, but other third parties such as car club providers and public transport operators may also be involved. In order to streamline the process as much as possible

BMBC can offer:

- Policy advice and guidance and technical information;
- Appropriate contacts and support for discussions with key third parties (such as SYPTE, car club operators and bus / rail operators);
- Information, relevant local data and support during Travel Plan preparation and advice on post implementation monitoring requirements; and
- Advice on appropriate modal split targets for specific areas.

4.5 In order that the Residential Travel Plan can be effective:

- The choice of measures will be chosen so as to work together as a single strategy aimed at delivering the Residential Travel Plan objectives; and
- The site layout and facilities will be designed to encourage and facilitate the provision and use of the travel plan measures chosen.

5.0 TRAVEL PLAN ADMINISTRATION AND PROMOTION

5.1 Residential Travel Plan Co-ordinator

5.1.1 The role of the Residential Travel Plan Co-ordinator will be fulfilled as the development is constructed, marketed and occupied. This role may sit within any management company established for the development. The Residential Travel Plan Co-ordinator needs to be involved at all of the following stages of the development:

1. Prior to start of any work on site
2. First marketing of the development and preparation of advertisements
3. The sales office
4. At completion of sale
5. At initial occupation (provision of Travel Information Pack)
6. Changes of occupation

5.1.2 The developer will appoint a temporary Residential Travel Plan Co-ordinator from within its own organisation prior to any works starting on site. This way advice on sustainable travel alternatives will be made available to the work force in the manner as described in Section 6.8. The permanent Residential Travel Plan Co-ordinator will be appointed 6 months prior to first occupation, in order to commence with the implementation of measures prior to first occupation. The Developer will fund the role of Residential Travel Plan Co-ordinator for all stages of the development (1-6). The Residential Travel Plan Co-ordinator shall remain for at least 4 years after full occupation. As details of the Residential Travel Plan Co-ordinator are not yet available, below are the details for the person with ultimate responsibility for the development.

Steve Gamble, Gleeson Homes & Regeneration

Address: 6 Europa Court, Sheffield Business Park, Sheffield, S9 1XE.

Telephone: 0114 2612917

5.1.3 It is unlikely that the Residential Travel Plan Co-ordinator will be based permanently on site and at the present time the Developer has not decided exactly how the role will be provided. Given that there is a now a formal

requirement to provide a Travel Plan Co-ordinator for all new substantial residential developments in the Barnsley area it may be that the Developer will join with other house builders to fund a travel plan co-ordination role that covers more than one development. Therefore upon appointment the contact details and a full specification of the role of the Residential Travel Plan Co-ordinator will be provided to the appropriate officer at BMBC to demonstrate that delivery of the Residential Travel Plan has commenced and to seek help and support available.

5.1.4 Whilst the implementation of travel plan measures in line with those set out within this initial Residential Travel Plan will start from the marketing and sales stage, the Residential Travel Plan Co-ordinator will be required to circulate, as part of the Travel Information Pack, a travel survey questionnaire to all residents upon occupation of each unit. The results of the initial travel survey will then assist the Residential Travel Plan Co-ordinator in refining and developing the measures to suit the specific needs of the particular residents living at the development. BMBC requires that the travel patterns as surveyed are monitored against the base-line modal split and agreed targets and that a review of the Residential Travel Plan be made in light of the findings of the initial survey.

5.1.5 The primary responsibilities of the Residential Travel Plan Co-ordinator will be:

- To implement, monitor, maintain and develop the Residential Travel Plan and to manage the budget provided by the Developer;
- To develop a series of leaflets to summarise site specific sustainable travel options. These leaflets will be provided to new residents as part of the Travel Information Pack;
- To retain an awareness of local and national transport policies and programmes so as to ensure that the Residential Travel Plan remains fresh and that BMBC and service providers remain aware of the needs of residents;
- To assemble and maintain current public transport timetable and fare information and ensure this is made readily available to residents;

- To establish a car sharing scheme and encourage residents to embrace it where practically possible;
- To encourage residents to walk to public transport, nearby amenities and schools;
- To encourage residents living in reasonable proximity to their work place, school or other leisure destination to cycle;
- To keep the workforce on site during the construction period informed and updated with details of sustainable travel opportunities;
- To set annual targets for the percentages of trips by each mode of travel;
- To monitor the effectiveness of the Residential Travel Plan on an annual basis and compare usage of the different modes of travel to the modal split targets identified; and
- To ensure that targets are being met and if they are not being met, they will be addressed through agreed travel plan mitigation with BMBC for which funding is being provided if necessary.

5.1.6 The Residential Travel Plan Co-ordinator will be obliged to work with the appropriate officer at BMBC, and SYPTE who will offer support and advice regarding the many initiatives for sustainable travel available within the Barnsley area. The appropriate officer at BMBC and SYPTE are able to provide posters, leaflets and timetables for display on notice boards / display units in the sales office and any communal areas.

5.1.7 Whilst the Residential Travel Plan Co-ordinator will be employed by the Developer and therefore directly answerable to that organisation, it is also essential that the Residential Travel Plan Co-ordinator reports effectively to BMBC. The best way of achieving this will be to arrange regular annual meetings with these main stakeholders but also to include other bodies as required; such as SYPTE, the bus operators and local School Travel Plan Co-ordinators. The meetings will be organised such that every second meeting corresponds with the reporting of the annual monitoring exercise.

5.1.8 The Residential Travel Plan Co-ordinator will be able to offer residents advice upon the following:

- The development of the Residential Travel Plan;
- Bus and train service schedule and fare information, etc;
- Cycle travel from the site;
- Walking/pedestrian routes from and around the site; and
- Any car sharing schemes.

5.1.9 The Residential Travel Plan Co-ordinator will ensure that all of the necessary systems relating to the Residential Travel Plan, e.g. data collection and recording, residents travel database, travel questionnaires, etc, are established, maintained and regularly updated.

5.1.10 The Residential Travel Plan Co-ordinator will liaise with officers of BMBC responsible for walking, cycling and public transport as required, and ensuring maximum advantage is being taken of sustainable alternatives for travel.

5.1.11 The Residential Travel Plan Co-ordinator will remain in post for at least 4 years after full occupation of the site but this role will continue to be part of any Management Company's responsibilities. Whilst funding of the role and formal monitoring will cease at this point the Management Company will continue to monitor/review the car sharing scheme, the use of cycle and motor cycle parking and will be available as a point of contact to provide up to date information to residents with regards to sustainable transport facilities and initiatives. If there is no management company for the development the Residential Travel Plan Co-ordinator will, after the formal role ends, hand over elements of the Residential Travel Plan to any Residents Group.

5.2 General Marketing and Communication Strategy

5.2.1 If the Residential Travel Plan is to be effective, it is vital that all individuals have easy access to a range of information which allows them to make an informed decision on the way they travel. They must also be made fully aware as to why the Residential Travel Plan has been developed (e.g. the effect

travel has on our lives and the environment), and subsequently the range of benefits it can deliver. This is particularly important in respect of residential travel planning where the destinations are much more diverse and therefore the most effective means of influencing travel behaviour is through proactive promotion and encouragement of existing opportunities.

5.2.2 The Residential Travel Plan Co-ordinator will be responsible for the overall Travel Plan marketing and communication strategy including putting together all relevant information regarding more sustainable forms and modes of travel.

5.3 Setting up a Residents Group

5.3.1 The Residential Travel Plan Co-ordinator will canvass support for the formation of a Residents Group. Assuming sufficient interest is shown, the Residential Travel Plan Co-ordinator will then set up a Residents Group and co-ordinate its meetings. The Residents Group will then provide a forum through which the Residential Travel Plan Co-ordinator can pass on information relating to sustainable transport.

5.3.2 If a successful Residents Group can be formed and sustained, this could then become the vehicle for continued travel planning at the development when the formal role of Residential Travel Plan Co-ordinator comes to an end, 4 years after full occupation of the development.

5.4 Funding

5.4.1 Funding is necessary to achieve the initiatives of the Residential Travel Plan which will include as a minimum those stated within this framework. It is required to provide annual monitoring and traffic counts, preparation of the Travel Information Packs, marketing the Residential Travel Plan, the Residential Travel Plan Co-ordinator's time. The Residential Travel Plan Co-ordinator will be responsible for managing the budget provided for travel planning measures but will be accountable to the Developer for ongoing expenditure.

5.4.2 The Developer will fund the initial measures as set out within this Residential Travel Plan. The developer will also fund the role of Residential Travel Plan Co-ordinator and the ongoing travel planning measures, this funding will continue from the appointment of the Residential Travel Plan Co-ordinator until 4 years following full occupation of the development. Funding will be provided to the Residential Travel Plan Co-ordinator on an annual basis based on the actual number of units occupied that year.

5.4.3 In addition the developer will provide funding for the monitoring of the Residential Travel Plan including travel surveys and traffic counts from the start of formal monitoring until 4 years following full occupation. Appropriate amounts of funding will be agreed with BMBC and made part of a Section 106 agreement.

6.0 MEASURES / ACTIONS

6.1 General

6.1.1 The following sections outline the specific measures that will be introduced within the initial Residential Travel Plan as implementation of the listed measures, which include awareness initiatives and infrastructure provision, is at the core of the travel plan proposals.

6.1.2 The travel plan measures described will be regularly monitored and reviewed as necessary. These measures should not be considered to be fixed, nor are they necessarily an exhaustive list of measures that may be implemented. The success of the Residential Travel Plan will depend upon the Residential Travel Plan Co-ordinator being free to investigate all potential travel initiatives and adapt the Residential Travel Plan to the evolving circumstances.

6.1.3 Ultimate responsibility lies with the developer who must ensure that the site is designed and constructed in such a way as to maximise trips by sustainable modes of transport and minimise vehicular trips to the site.

6.2 Public Transport

6.2.1 The Residential Travel Plan Co-ordinator will positively market and promote the use of bus and rail services to all residents in an effort to encourage the use of public transport. It is assumed that most new residents of the development will have access to the internet and the Travel Plan Co-ordinator shall ensure that the residents are aware of the relevant internet links to access travel information including train and bus timetables.

6.2.2 South Yorkshire Passenger Transport Executive (SYPTE) is responsible for the co-ordination of public transport in South Yorkshire. It is accountable to the Passenger Transport Authority, which is made up of nominated elected members from the local authorities of Barnsley, Doncaster, Rotherham and Sheffield.

6.2.3 SYPTE is responsible for developing the network and services across the county. Its roles include:

- Providing bus stops and their facilities (e.g. timetable information),
- Running five Park & Ride sites,
- Providing bus services in rural communities;
- Information, awareness and advice to people and organisations about using public transport,
- Providing Traveline - the internet and phone service for finding out when and where to use public transport,
- Providing YourNextBus - the mobile phone texting service for finding out when your next bus is actually going to come,
- Making available South Yorkshire tickets, such as the TravelMaster.

6.2.4 Bus information, maps and journey planners are available on the Stagecoach, Travel South Yorkshire and Transport Direct websites:

- www.stagecoachbus.com/localdefault.aspx;
- www.travelsouthyorkshire.com;
- www.transportdirect.info/.

6.2.5 Travel South Yorkshire also operate a YourNextBus text service:

- Text the unique eight digit bus stop number to 64422, South Yorkshire's official YourNextBus text number;
- Within a few seconds a text will be received informing the user of live bus times for the next four buses calling at that stop.

6.2.6 The following are also available for information about bus and train options in Barnsley and South Yorkshire:

- Call Traveline Yorkshire on 01709 515151.
- Visit one of Barnsley's Travel Information Centres.

6.2.7 The Travel Plan Co-ordinator will provide a simple checklist of all useful information relating to public transport and this will be provided to new residents as part of the Travel Information Pack. The information will also be

available in marketing and sales literature in order that prospective residents can access the site for viewings using public transport.

6.3 Walking

6.3.1 As part of the development proposals a footway will be provided on the south side of Lowfield Road. Footways are also proposed on west side of the internal link road between the site and Lowfield Road and on both sides of the main spine road through the site.

6.3.2 The Residential Travel Plan Co-ordinator will encourage the residents of the development to walk to local facilities by providing residents with information and advice concerning safe pedestrian routes to and from the development. This information will be provided in the Travel Information Pack and on the general website.

6.3.3 The Residential Travel Plan Co-ordinator will make residents aware of the health benefits associated with walking and consideration will be given to the provision of personal attack alarms and also umbrellas to encourage residents to walk for all or part of their journey.

6.3.4 Residents will also be made aware through the Residential Travel Plan of the nationwide on-line walk buddy scheme that is available at www.walkbudi.com . Registration with the scheme is free and the aim is to match individuals who live and work in similar locations in order that they can share the walk to work or educational facilities together.

6.3.5 The Residential Travel Plan Co-ordinator will promote www.walkit.com as the free online walking journey planner. An example of a walk-it output is attached at Appendix **TP6**.

6.4 Cycling

6.4.1 The site is accessible by cycle from the local highway network and dedicated cycle storage will be provided at every dwelling. Cycle storage will be an

integral part of the design of each dwelling and if a house has no direct access to the garden (shed) or garage without going through the house, cycle storage will be provided at the entrance to the building.

6.4.2 Residents will be provided with information and advice concerning safe cycle routes to and from the development. A way of encouraging cycling particularly for novices is to organise a series of Breakfast Clubs where new cyclists are introduced to experienced riders in order to gain confidence and useful information. The Residential Travel Plan Co-ordinator will consider the implementation of such meetings to encourage more residents to use this mode of transport on a regular basis. It is acknowledged that this may be difficult to organise within a private residential development and therefore information on established cycle groups and clubs will be provided to residents within the Travel Information Pack.

6.4.3 The Residential Travel Plan Co-ordinator will approach local cycle shops in an attempt to negotiate a discount for residents of the development for purchasing bicycles and accessories.

6.4.4 The Residential Travel Plan Co-ordinator will also make residents aware of the nationwide on-line bike buddy scheme that is available at www.cyclebudi.com. Again registration with the scheme is free and the aim is to match individuals who live and work in similar locations in order that they can share the cycle to work together. This is a sister scheme to the walk buddy scheme.

6.4.5 The Barnsley Cycling Map is also available on-line at http://www.barnsley.gov.uk/barnsley-cycle-routes.

6.5 Powered Two Wheelers (PTWs)

6.5.1 The Government has recognised that PTWs have a part to play in an integrated transport policy and is encouraging Local Authorities to consider the needs of these vehicles within their Local Transport Plans. The use of these vehicles will be promoted by the Residential Travel Plan Co-ordinator and

motorcycle parking will be provided within the site in line with BMBC's policy.

6.5.2 PTWs have advantages over cars in terms of flexibility and affordability. They can make more efficient use of road space in congested town and city centres and provide an alternative for people on low incomes and those living in rural areas.

6.5.3 There are various national groups that represent the owners and riders of PTWs including MAG UK (www.mag-uk.org), the British Motorcyclists' Federation (www.bmf.co.uk), the Motor Cycle Industry Association (www.mcia.co.uk) and the Institute of Advanced Motorcyclists (www.iam.org.uk).

6.6 Car Sharing

6.6.1 Car sharing represents a relatively convenient form of travel whilst offering a significant potential to reduce overall private mileage of residents.

6.6.2 The Residential Travel Plan Co-ordinator will look into the formation of an informal car sharing scheme at the development. The regular travel needs of residents will be identified through the initial travel survey which will enable the establishment of a database enabling residents having the same destination to be identified, promoting multiple occupancy car journeys. The Residential Travel Plan Co-ordinator will devise an incentive scheme to encourage people to take part in car sharing. This could include vouchers for leisure activities given to the people who carry out the greatest number of car sharing journeys over a given period of time.

6.6.3 The Travel Plan Co-ordinator will promote Car sharing in Travel Welcome Packs and at any residents meetings.

6.6.4 In addition to any on-site based car sharing scheme, the Residential Travel Plan Co-ordinator will inform residents of the web-based national Lift Share scheme, details of which can also be found at www.liftshare.org. This scheme

also operates in the same manner as the Cycle and Walk Buddy schemes described earlier.

6.7 Reducing the Need to Travel

6.7.1 Broadband wireless internet provision is now widely available through a standard telephone line and this facility allows residents to work or study from home and also takes advantage of a wide range of home shopping opportunities.

6.7.2 In order to reduce the need to travel, the Residential Travel Plan Co-ordinator will promote to all residents the advantages that internet use and home delivery services can provide in terms of reducing the number of trips to and from the development particularly during peak periods on the local highway network.

6.8 Construction Phases

6.8.1 Whilst the permanent Residential Travel Plan Coordinator will not formally be in post until six months prior to first occupation, the Developer will, prior to work starting on site, appoint a temporary Travel Plan Co-ordinator from within its own organisation and therefore provide the opportunity to influence the travel patterns of those working on site. The temporary Travel Plan Co-ordinator will remain in post until the permanent Travel Plan Co-ordinator is appointed and will liaise with the permanent Travel Plan Co-ordinator regarding the systems already set up to keep the workforce informed.

6.8.2 The Residential Travel Plan Co-ordinator, whether the temporary or permanent post holder, will provide details of sustainable travel to the workforce possibly by carrying out a series of 'Toolbox Talks'. Secure cycle parking will be available in any site compound and sustainable travel information will be displayed on a notice board in a communal area of the site compound that is accessible by all personnel on site i.e. the canteen or mess room.

6.8.3 The Residential Travel Plan Co-ordinator will work in conjunction with the Site Manager in order to minimise as far as is practicable the number of deliveries/commercial goods vehicle trips to and from the site.

6.8.4 As construction work will continue for several years after the appointment of the permanent Residential Travel Plan Co-ordinator, the responsibility of ensuring that the workforce is kept informed about sustainable travel will become that of the permanent Residential Travel Plan Co-ordinator as identified in paragraph 5.1.5.

7.0 TARGETS

7.1 Planning Policy Guidance 13 (DfT 2011) sets out that Travel Plans *"should have measurable outputs which might relate to targets in the local transport plan, and should set out the arrangements for monitoring the progress of the plan, as well as the arrangements for enforcement, in the event that agreed objectives are not met."*. The Residential Travel Plan targets to be achieved within 4 years of full occupation are therefore tabulated below. There is a requirement that these targets are achieved within 4 years of full occupation and maintained thereafter for the life of the development.

Table 7.1

Residential Travel Plan Targets

Travel Plan Targets	
Target Code	**Target Details**
T1	Reduction in the total number of cars accessing the site during peak hours by 10%
T2	No more than 50% of all peak hour trips to and from the site by single occupancy journeys
T3	14% of peak hour journeys to be by public transport
T4	4% of peak hour journeys to be by cycle
T5	18% of peak hour journeys to be on foot

7.2 Targets T2 – T5 have been applied to the base-line modal splits and resultant trips by all modes and both the base-line modal splits and the target modal splits along with the resultant trips are shown tabulated below. Of the base-line modal split, an overall 68% of trips are made by car with 54% of the total being single occupancy trips and the remaining 14% multi-occupancy.

Table 7.2

AM and PM Peak Hour Base-line Modal Split and following 4 years of Full Occupation

Mode of Travel	Base-line % Split	No of Two Way Trips		% Split after 4 years	No of Two Way Trips	
		AM	PM		AM	PM
Pedestrians	18	4	7	18	4	7
Cyclist	2	1	1	4	2	2
Public Transport Users	11	2	5	14	9	10
Car - single occupancy	54	33	39	49	30	35
Car - multi-occupancy	14	9	10	14	9	10
Motorcycle / Scooter	1	0	0	1	0	0
Total	100	61	72	100	61	72

7.3 Any additional specific but reasonable targets should be agreed with BMBC to overcome any site specific issues with regards to travelling to/from the site.

7.4 It is acknowledged that targets for private residential developments may be difficult to introduce and enforce because of the individual nature of the development. Therefore targets should be seen to be encouraged as far as possible with the emphasis on highlighting the existing alternative modes of travel.

8.0 IMPLEMENTATION

8.1 This initial Residential Travel Plan identifies the key measures which are to be subsequently adopted within the Residential Travel Plan and then refined and developed to reflect the specific requirements of the particular occupiers of the residential development.

8.2 The Residential Travel Plan Co-ordinator will implement measures to ensure that the Residential Travel Plan is effectively promoted and marketed. Sustainable travel alternatives and accessibility information will be provided to all new residents prior to them taking up residence at the site to ensure that they are aware of the alternatives available before the private car becomes the automatic mode of choice. Residents will be provided with Travel Information Packs and these will include a section on sustainable transport and provide assistance, information and contacts to allow new residents to fully explore the possible options.

8.3 Other initial measures that will implemented by the Residential Travel Plan Co-ordinator include:

- Information provided on any internet site for residents including up to date public transport information, cycling and walking initiatives and all relevant links;
- Promotion of the car sharing schemes, public transport, cycling and walking with the Travel Information Pack; and
- Development of sustainable transport information sheets for Travel Information Packs, visitor packs and marketing and sales literature.

9.0 MONITORING, REVIEW AND SANCTIONS

9.1 To ensure the objectives and targets set out in this initial Residential Travel Plan are achieved, it will be necessary to monitor progress and take proportionate action where issues are identified through the planning process. A programme of monitoring and review will be implemented by the Residential Travel Plan Co-ordinator to generate information by which the success of the Residential Travel Plan can be evaluated. BMBC requires that the Residential Travel Plan be monitored against the agreed targets and then reviewed in the light of the findings.

9.2 Each Travel Information Pack will contain a travel survey questionnaire to enable the Residential Travel Plan Co-ordinator to obtain an initial picture of travel patterns to and from the development for work, education, shopping and leisure purposes. Following the completion of 20 questionnaires or a year after first occupation whichever is sooner, prepare a summary of the responses for discussion with the appropriate officer at the Council with a view to refining the measures / actions in line with the requirements of residents.

9.3 The Residential Travel Plan Co-ordinator will offer new residents an incentive to complete the survey by being entered into a free draw with a sustainable travel themed first prize such as a new bicycle or vouchers for cycling accessories. Monitoring will then be carried out annually thereafter. The Residential Travel Plan Co-ordinator will devise a standard survey form for this purpose and agree its format with BMBC.

9.4 It will be the responsibility of the Residential Travel Plan Co-ordinator to achieve at least a 75% response rate to each annual survey. The most effective way of achieving the required response rate will be by arranging a short home visit to complete the questionnaire rather than relying on residents returning a questionnaire that has been simply posted to them.

9.5 Following the completion of each annual survey, the Residential Travel Plan will be reviewed in conjunction with the appropriate officer at the council. In particular the annual review will look at how effective the plan is being in meeting the targets of modal shift or modal use that have been set. Annual targets will be set so progress can be monitored on an annual basis. The travel to work survey results are to be submitted to BMBC.

9.6 In addition to this way of monitoring travel to work patterns, a fully classified multi modal survey of the site will be undertaken within the morning peak hour (08:00 – 09:00) by an independent survey company to record the number of arrivals and the mode of transport used. This will be undertaken once the site is at least 75% occupied and monitoring will continue on an annual basis.

9.7 The targets for the residential development will be monitored for as long as the Residential Travel Plan Co-ordinator is in place, at least 4 years after full occupation.

9.8 The Residential Travel Plan Co-ordinator will be responsible for the provision of an annual monitoring report, which shall be produced within 1 month of the annual surveys being undertaken. The reports will need to include the survey data, any proposed revisions to the Residential Travel Plan and the annual action plans for the next 12 months. The action plan for the Residential Travel Plan must contain an annual programme of measures designed to help achieve the travel plan targets on travel modal share. It should clearly set out the tasks involved, the person(s) responsible and dates by which the measures will be achieved over the next 12 months.

9.9 Whilst the major objective of the Residential Travel Plan will be to effect a reduction in the dependence on private cars (particularly single occupancy journeys) for work/learning based trips, a less direct objective of the Residential Travel Plan will be to increase residents and visitor awareness of the environmental implications of travel mode choice. Awareness is less easy to monitor, although one indicator will be the general response to the

introduction of the Residential Travel Plan measured by the feedback from the residents as the strategy evolves.

9.10 Monitoring will involve the regular collection of analytical "hard" data and "soft" data in the form of resident feedback. The Residential Travel Plan Co-ordinator will therefore in addition to carrying out annual travel surveys:

(i) Monitor the take up of any site based car-sharing scheme and the already established web-based schemes;

(ii) Monitor the level of usage of the cycle stands to establish demands; and

(iii) Record comments made by residents and visitors on the operation of the Residential Travel Plan.

9.11 Information gathered through this more informal monitoring process will be recorded and used through the subsequent annual review process, this information will also be included within the annual monitoring report.

9.12 A meeting will be held with BMBC following the production of each annual monitoring report, at which the conclusions made within the monitoring report will be discussed and further measures agreed and implemented prior to the meeting. As stated in paragraph 5.1.7, meetings regarding the progress of the Residential Travel Plan will be held with BMBC annually.

9.13 Should it be found that the agreed targets as set out in Section 6.0 of this Residential Travel Plan have been satisfactorily met, then this will continue to be monitored on the basis outlined above.

9.14 Conversely should it be found that the agreed targets are not being met then the Residential Travel Plan Co-ordinator shall:

- Consider the extent of the non compliance with the agreed targets;
- Consider measures which can be initially implemented, as recommended by residents, which can achieve a relatively rapid modal shift away from private car usage;

- Decide upon what longer term measures are necessary to implement, set a time period for their implementation and review their effectiveness on an agreed basis; and
- Formally advise BMBC on the level of non compliance with the agreed targets, provide information on the extent of the impact of this and make recommendations to BMBC on site-specific measures necessary to achieve the agreed targets. Such site-specific measures will be funded by the developer.

9.15 Where it has been found that the agreed targets are not being met and therefore other measures are required, it will be necessary to carry out monitoring more frequently to ensure that these additional measures are being effective. At the meeting where additional measures are agreed upon, a more frequent regime of monitoring and reporting will also be agreed and then implemented by the Residential Travel Plan Co-ordinator. Once it has been demonstrated that any additional measures are being effective in reducing car trips and meeting modal shift targets, annual monitoring can be resumed.

10.0 ACTION PLAN

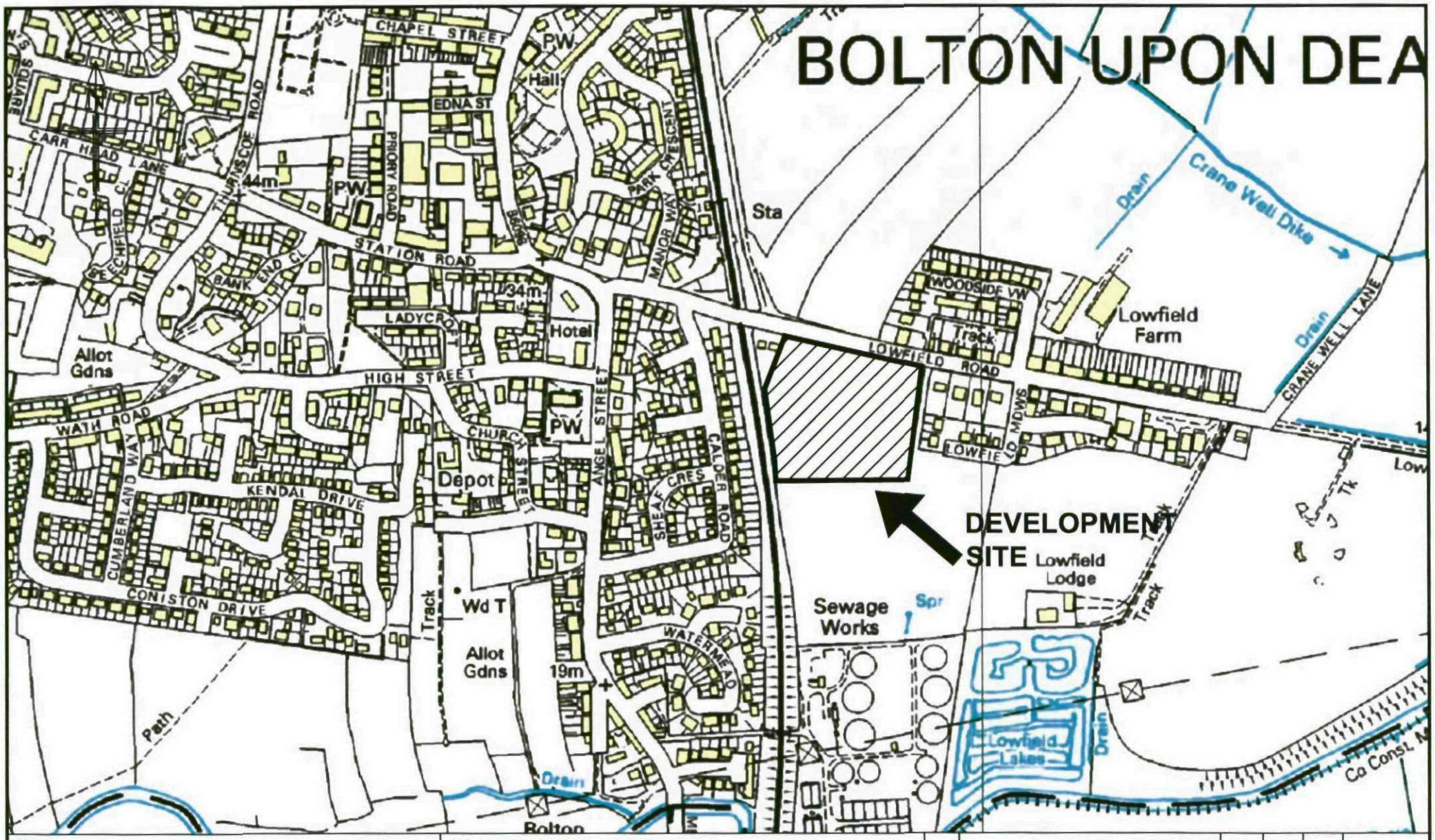
10.1 The Residential Travel Plan will contain an Action Plan which will be reviewed annually following the residents' travel survey. The Action Plan will contain an annual programme of measures designed to achieve the targets on travel modal share. It should clearly set out the tasks involved, person responsible and a date by which this will be achieved. The initial goal of the approved Residential Travel Plan, prior to first occupation, is to implement the measures and opportunities for sustainable travel as identified within this Travel Plan.

10.2 It will be the responsibility of the Residential Travel Plan Co-ordinator to manage the Action Plan over the periods between annual reviews and ensure that the tasks are being carried out to the agreed programme. At every annual anniversary following first occupation, the Residential Travel Plan must be reviewed in cooperation with relevant officers at BMBC and the annual Action Plan prepared and agreed.

10.3 Below is the initial Action Plan up to first occupation when responsibilities may then be taken over by the Residential Travel Plan Co-ordinator appointed by the site management company. Following the analysis and summarising of the first 20 travel pattern survey questionnaires or one year after first occupation, whichever happens sooner, the Travel Plan and Action Plan will be reviewed and possibly expanded to include particular measures, monitoring and initiatives, which will be agreed with the relevant officer at the Council.

INITIAL ACTION PLAN		
ACTION	**DATE**	**RESPONSIBILITY**
Appoint temporary Residential Travel Plan Co-ordinator from within the house builder's own organisation	Prior to any works commencing on site	Developer
Appoint permanent Travel Plan Co-ordinator and pass on his/her details to Relevant officer at the Council	6 months prior to first occupation	Developer
Liaison with SYPTE regarding, posters, leaflets and timetable information	Prior to marketing	Developer & Residential Travel Plan Co-ordinator
Display sustainable transport information in Marketing Suite	Prior to opening of Marketing Suite	Residential Travel Plan Co-ordinator
Produce Travel Information Packs	Prior to first occupation	Residential Travel Plan Co-ordinator
Prepare Residents' Travel Survey proforma and agree with relevant officer at BMBC	Prior to first occupation	Residential Travel Plan Co-ordinator
Distribute and collect complete initial Travel Survey	Following first occupation and then annually thereafter for at least 4 years after full occupation	Residential Travel Plan Co-ordinator
Implement, Review and Monitor Residential Travel Plan and Action Plan with relevant officers at BMBC.	Following completion of first 20 travel surveys or one year after first occupation whichever is sooner and annually thereafter for at least 4 years after full occupation	Residential Travel Plan Co-ordinator and relevant officers at BMBC
Arrange AM and PM peak mulit-modal traffic surveys at Site Access	Within 12 months of initial occupation and annually thereafter for at least 4 years after full occupation	Residential Travel Plan Co-ordinator

APPENDIX TP 1



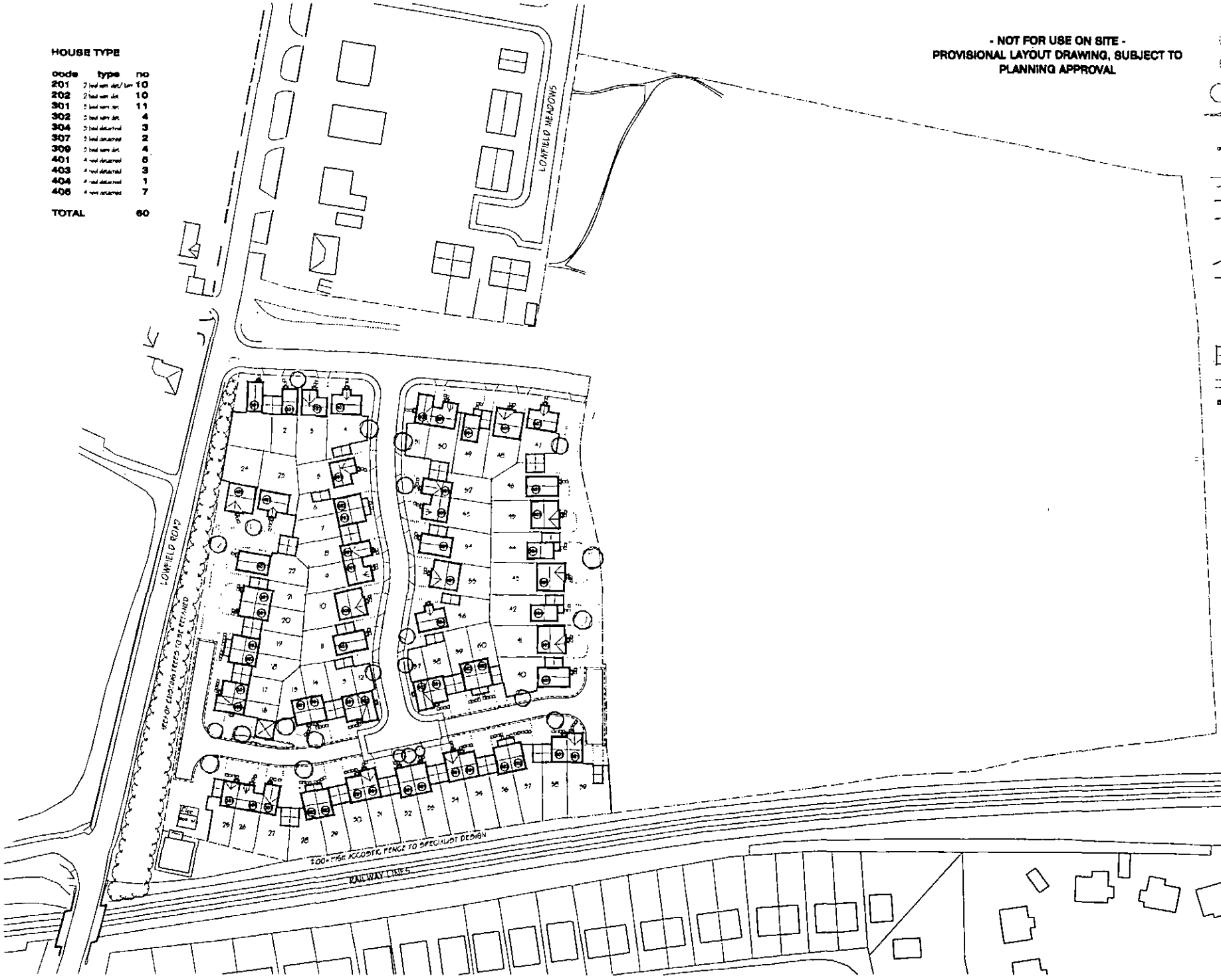
Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE			
BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite 8E Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201 http://www.bryanghall.co.uk	Title	SITE LOCATION PLAN IN RELATION TO THE LOCAL HIGHWAY NETWORK	Rev	Amendments	Drawn / Chkd / Appr / Date
				Scale 1:1,000 @ A4	Date JULY 2011	Doc Sheet No
				Drawn ALH	Checked DJP	Approved DJP
				Job No 11-235	Drawing No TP1-01	Rev –

FILENAME

HOUSE TYPE

code	type	no
201	2 bed semi det/ terr	10
202	2 bed semi det.	10
301	3 bed semi det.	11
302	3 bed semi det.	4
304	3 bed detached	3
307	3 bed detached	2
309	3 bed semi det.	4
401	4 bed detached	5
403	4 bed detached	3
404	4 bed detached	1
405	4 bed detached	7
TOTAL		**60**

- NOT FOR USE ON SITE -
PROVISIONAL LAYOUT DRAWING, SUBJECT TO PLANNING APPROVAL



Existing trees to be removed

Existing trees to be retained and protected during construction to British Standard 5837:1991.

Areas of new tree planting see schedule for species

New shrub / ground cover planting

Grass to front garden

Paving slab square pattern to mark threshold for principle entrance. Gradient not to exceed 1 in 12 for maximum 5 00m length

Private drives

1.80m high screen wall

5 W treated vertical screen fence 1.80m high (100 x 22mm boards with 22mm gaps, 5No. 75 x 150mm rails, 100 x 100mm posts @ 1.875m centres).

As above, height reduced to 1.20m

Plot division fence, post & wire

House type code reference number

Plot number

Material code reference refer to schedule

Canopy location

Porches over

Proposed floor levels subject to a tolerance of +/- 0.15m

gleeson

Richard Ward Design

Chartered Architectural Technologists
Architectural Design & Development Consultant

Richard S. Ward M.C.I.A.T.
Telephone 01604 410943

2, Barrons Close
Weston Favell
Northampton NN3 3PB

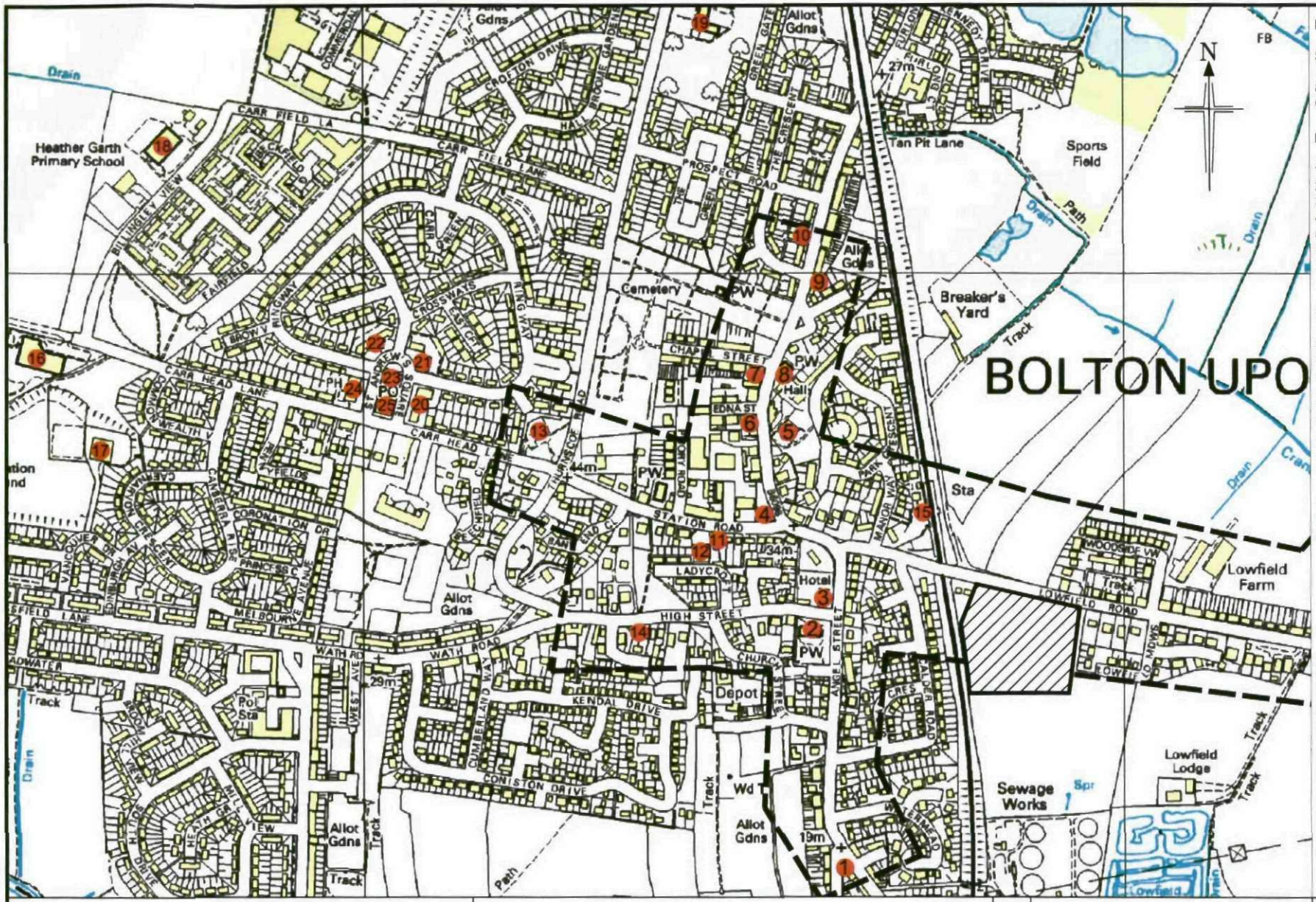
LOWFIELD ROAD
BOLTON ON DEARNE

planning layout

GLEESON
HOMES & REGENERATION

Scale	1:500 at A1
Date	18.07.11
Drwg No	944/2A

APPENDIX TP 2

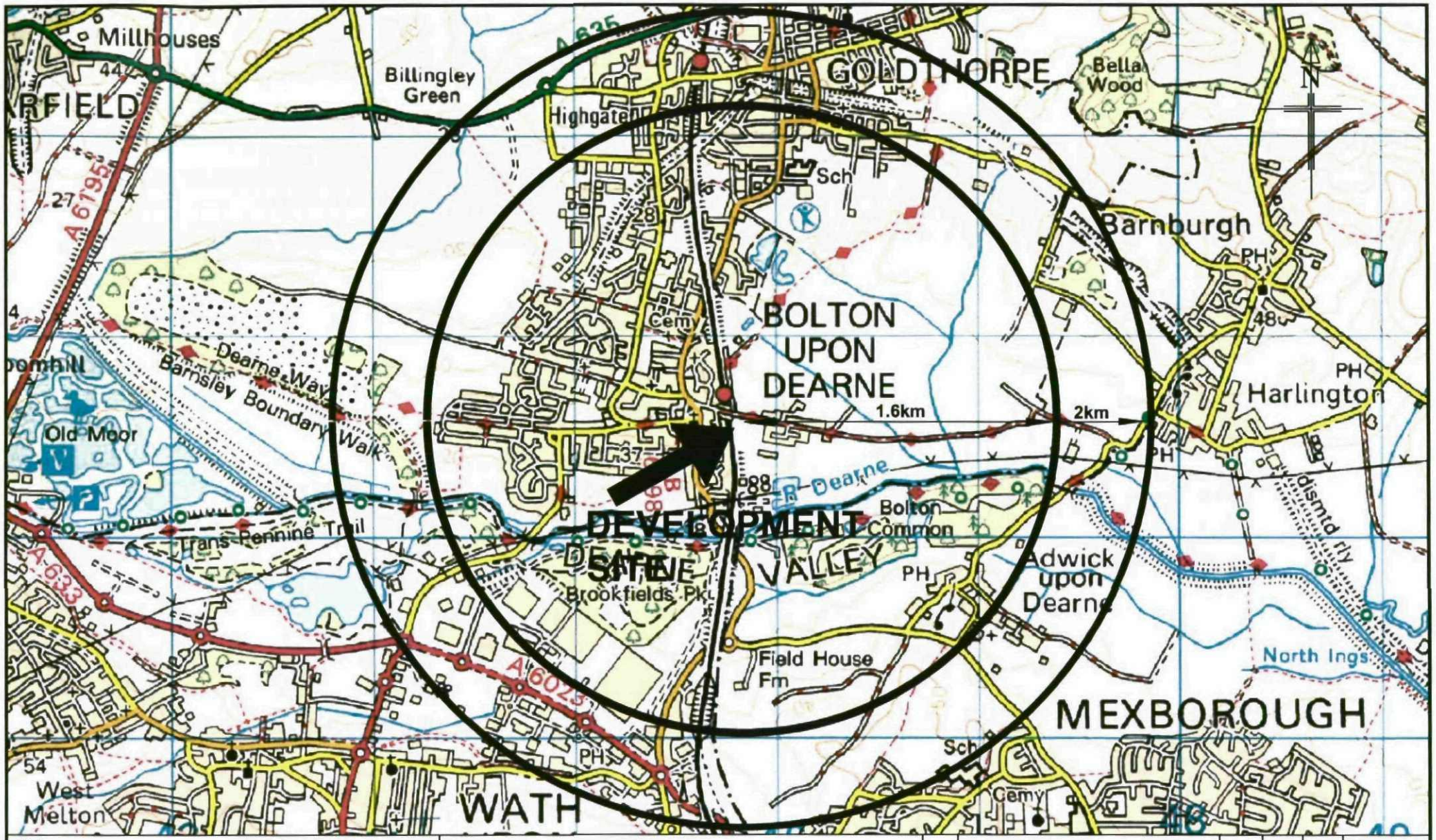


Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE		
BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite E8 Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201	Title	LOCAL FACILITIES IN THE VICINITY OF THE SITE		

Rev	Amendments	Drawn	Chkd	Appr	Date

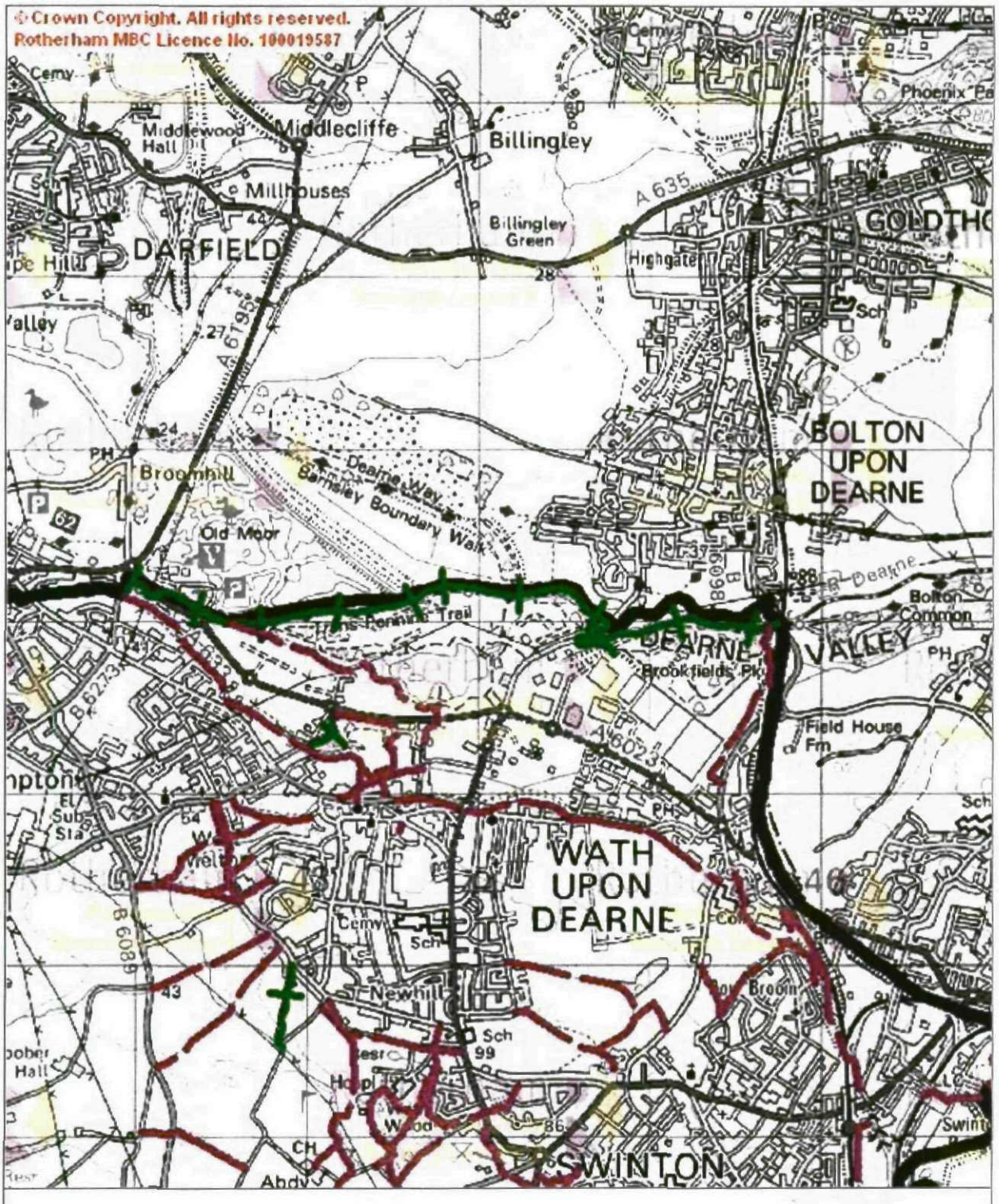
Scale 1:5,000 @ A3	Date JULY 2011	Doc Sheet No
Drawn ALH	Checked DJP	Approved DJP
Job No 11-235	Drawing No TP2-01	Rev -

FILENAME



Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE				
BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite B2 Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201 http://www.bryanghall.co.uk	Title	WALKING ISOCHRONES SHOWN AT 1.6KM AND 2KM DISTANCES	Rev	Amendments	Drawn / Chkd / Appr	Date
				Scale	1:25,000 @ A4	Date JULY 2011	Doc Sheet No
				Drawn	ALH	Checked DJP	Approved DJP
				Job No	11-235	Drawing No TP2-02	Rev –

FILENAME



Bolton On Dearne Walking Map

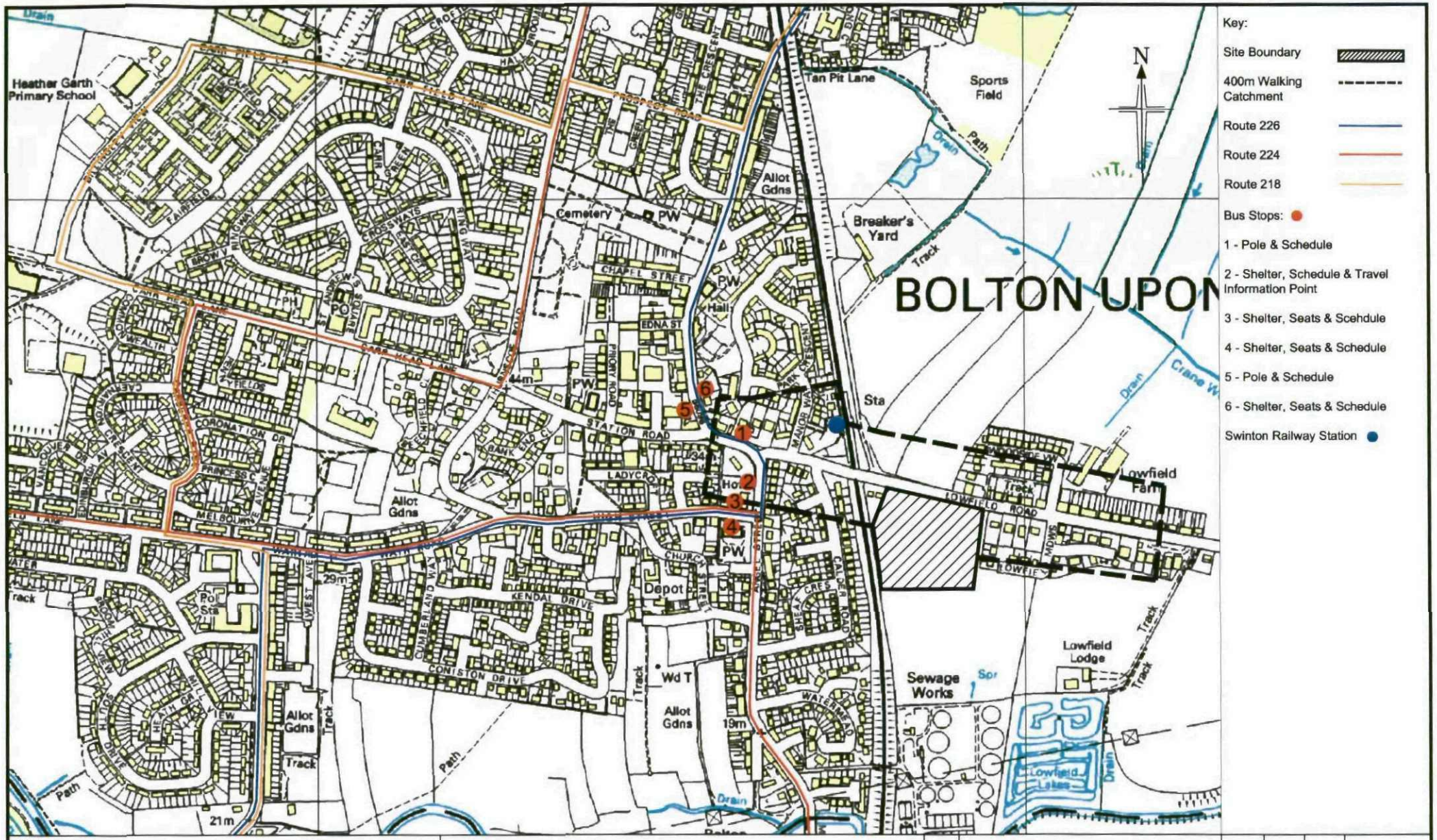
Rotherham Metropolitan Borough Council

Cartographic Legend



Public Footpaths
Public Bridleways
Restricted Byways
Rotherham District Boundary

APPENDIX TP 3



Client GLEESON HOMES & REGENERATION

Project LOWFIELD ROAD
BOLTON UPON DEARNE

Title BUS FACILITIES AND BUS ROUTES IN THE VICINITY OF THE SITE

BRYAN · G · HALL
consulting civil & transportation planning engineers

Bryan G Hall Ltd.
Suite E8 Joseph's Well
Hanover Walk
Leeds
LS3 1AB
Tel: +44(0)113 246 1555
Fax: +44(0)113 234 2201

Rev	Amendments	Drawn	Chkd	Appr	Date

Scale 1:5,000 @ A3	Date JULY 2011	Doc Sheet No
Drawn ALH	Checked NA	Approved NA
Job No 11-235	Drawing No TP3-01	Rev –

FILENAME

A Summary of Bus Services in the Vicinity of the Site

Service Number	Route	Provider	Frequency
218	Barnsley – Darfield – Goldthorpe – Bolton – Manvers – Mexborough – Kilnhurst – Rawmarsh – Parkgate - Rotherham	Stagecoach	Monday to Saturday every 30 minutes during the daytime and every 60 minutes in the evening and on Sundays
224	Doncaster – Sprotbrough – High Melton – Harlington – Goldthorpe – Bolton - Mexborough	Stagecoach	Monday to Saturday every 30 minutes during the daytime and every 60 minutes in the evenings and on Sundays
226	Barnsley – Wombwell – Brampton – West Melton – Wath – Manvers – Bolton - Goldthorpe - Thurnscoe	Stagecoach	Monday to Saturday every 30 minutes during the daytime and evenings and every 60 minutes on Sundays

WELCOME

...to Stagecoach Yorkshire

Stagecoach Yorkshire operates an extensive network of bus services across the Dearne Valley including Rotherham and Doncaster.

At Stagecoach Yorkshire we are continuously striving to improve your bus services. Listening to customer opinion and feedback means that we regularly review and evaluate the network to make sure it meets the needs of you, our customers.

You told us that you wanted better buses that are more reliable and punctual so we've invested £3 million in 29 brand new, low floor easy access buses, created the Dearne Link and The Circle branded network of services, simplified routes and improved frequencies on many routes to achieve this.

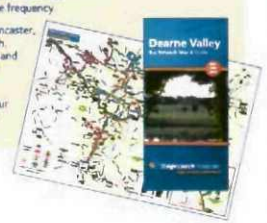
Stagecoach Yorkshire is committed to delivering a reliable, clean and affordable service. If you have any comments or suggestions please contact our customer services by telephone on (01226) 202555 or by e-mail at **yorkshire@stagecoachbus.com**
Alternatively you can pick up one of our freepost Tell Us What You Think forms on the bus.

HOW TO USE

...your network map and guide

This network map and guide provides:

- An easy to read map of all the routes Stagecoach operates across the Dearne Valley, Rotherham and Doncaster.
- A list of all the bus route numbers, where each bus goes and the frequency.
- Maps of Doncaster, Mexborough, Rotherham and Wath town centres.
- Details of our great value tickets.



FOR MORE INFO

...contact us

We have produced this pocket sized, easy to use network map and guide to help you travel around the Dearne Valley using Stagecoach services. If you do need any further information you can:

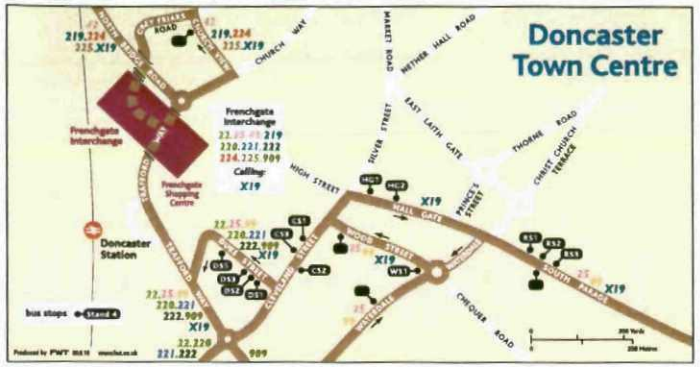
- Pick up timetables from the South Yorkshire travel information centres in Barnsley Interchange, Doncaster Frenchgate and Rotherham Interchange or your local travel information centre.
- Download timetables at **www.travelsouthyorkshire.com** or **www.stagecoachbus.com/yorkshire**
- Call Traveline on **01709 515151**

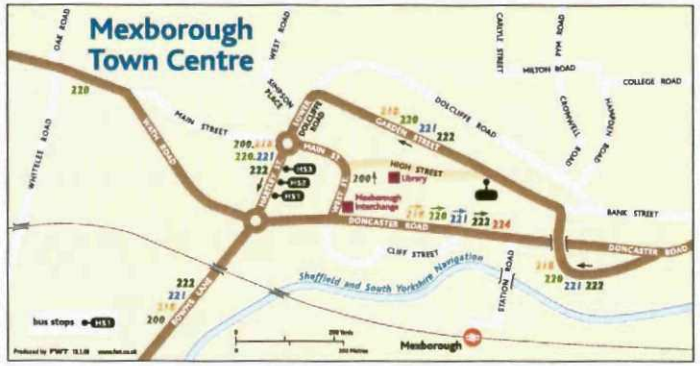
You can keep up to date with everything we're doing at **www.stagecoachbus.com/yorkshire**

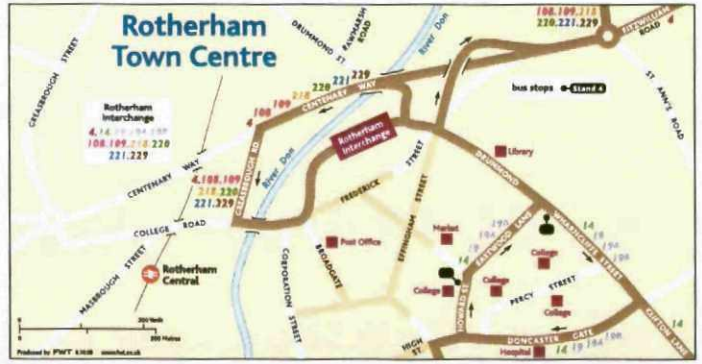
We look forward to welcoming you on board!

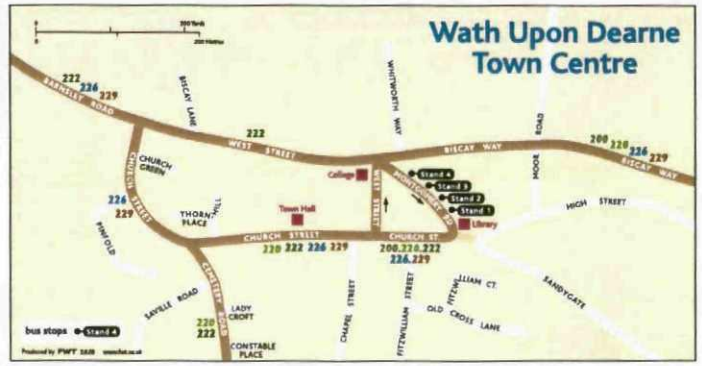


Stagecoach YORKSHIRE









buses around the Dearne Valley

service number	route	buses run every (mins) MON - SAT day	MON - SAT eves	SUN	NOTES
4	Rotherham - Kimberworth	–	60	60	–
14	Rotherham - Herringthorpe	–	60	60	–
19	Rotherham - Wickersley - Thurcroft - Laughton - Dinnington - North Anston - South Anston - Worksop	60	–	–	–
19A	Rotherham - Wickersley - Thurcroft - Laughton - Dinnington - North Anston - Woodsetts - Worksop	60	60	60	–
19B	Rotherham - Wickersley - Thurcroft - Laughton Common - Dinnington	30	–	–	–
22	Doncaster - Wadworth - Tickhill - Oldcotes - Langold - Carlton - Bessedaw Hospital - Worksop	30	60	60	–
25	Doncaster - Bawtry Road - Bawtry - Bircotes - Harworth	30	60	60	–
29/X29	Robin Hood Airport - Bawtry - Bircotes - Harworth - Blyth - Barnby Moor - Retford	60	60	60	–
42	Doncaster - Scawsby - Cusworth - Doncaster	30	–	60	c
67	Barnsley - Worsbrough Dale - Birdwell - Hoyland - Platts Common - Jump - Hemingfield - Carcon Wood - Wombwell	60	–	–	–
68/68A	Barnsley - Stairfoot - Aldham House - Wombwell - Low Valley - Darfield - Middlecliffe - Great Houghton	60	–	–	–
69	Barnsley - Stairfoot - Aldham House - Wombwell - Low Valley - Darfield Estates	60	–	–	–
99	Doncaster - Bawtry Road - Bawtry - Scrooby - Ranskill - Torworth - Barnby Moor - Retford	60	60	–	–
108	Rotherham - Parkgate - Rawmarsh Circular	10	60	30	–
109	Rotherham - Parkgate - Rawmarsh Circular	10	–	30	–
200	Mexborough - Swinton - Manvers - Wath - Old Moor - Wombwell	30	30	30	a
218	Barnsley - Darfield - Goldthorpe - Bolton - Manvers - Mexborough - Kilnhurst - Rawmarsh - Parkgate - Rotherham	30	60	60	b
219	Barnsley - Darfield - Great Houghton - Thurnscoe - Goldthorpe - Scawsby - Doncaster	30	60	60	d
220	Rotherham - Parkgate - Rawmarsh - Wath - Manvers - Mexborough - Denaby - Conisbrough - Doncaster	30	30	60	–
221	Rotherham - Parkgate - Rawmarsh - Swinton - Mexborough - Windhill - Denaby - Conisbrough - Doncaster	30	60	60	–
222	Barnsley - Wombwell - Brampton - West Melton - Wath - Swinton - Mexborough - Denaby - Conisbrough - Doncaster	30	60	60	–
224	Doncaster - Sprotbrough - High Melton - Harlington - Goldthorpe - Bolton - Mexborough	30	60	60	–
225	Doncaster - Sprotbrough	30	–	–	–
226	Barnsley - Wombwell - Brampton - West Melton - Wath - Manvers - Bolton - Goldthorpe - Thurnscoe	30	30	60	–
229	Barnsley - Wombwell - Brampton - West Melton - Wath - Rawmarsh - Parkgate - Rotherham	30	60	60	–
909	Doncaster - Lakeside Village - Guinness - Scunthorpe	60	60	–	–
X19	Barnsley - Darfield - Goldthorpe - Scawsby - Doncaster - Bawtry Road - Robin Hood Airport	60	60	–	–
X30	Robin Hood Airport - Bawtry - Bircotes - Harworth - Oldcotes - Langold - Carlton - Worksop	60	60	60	–

Notes: a Evening and Sunday journeys operate between Mexborough, Swinton, Manvers and Wath only.
b Evening and Sunday journeys operate between Mexborough, Highwoods & Rotherham Interchange only.
c Journeys that depart Doncaster after 0900 Monday to Saturday operate via Morrisons, York Road.
d Frequency 60 minutes between Goldthorpe and Doncaster.

tickets to go...

Simply buy from your driver in cash

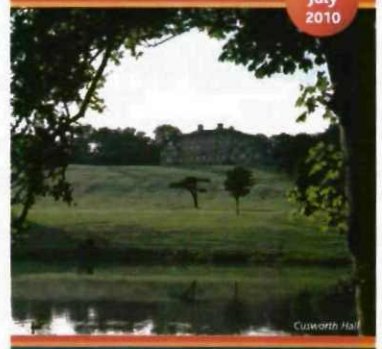
Dearne Valley megarider	£10.50	Enjoy 7 day's UNLIMITED TRAVEL across the Dearne Valley
Dearne Valley dayrider	£3.70	Enjoy one day UNLIMITED TRAVEL across the Dearne Valley
Barnsley megarider PLUS	£11	Enjoy 7 day's UNLIMITED TRAVEL anywhere in Barnsley (Zones 1&2)
Explorer	£5	Enjoy one day UNLIMITED TRAVEL across Nottinghamshire, Derbyshire, South Yorkshire, West Yorkshire and Gainsborough and on Sheffield Supertram
megarider gold	£17	Enjoy 7 day's UNLIMITED TRAVEL across Nottinghamshire, Derbyshire, South Yorkshire, West Yorkshire and Gainsborough and on Sheffield Supertram

Save up to 15%* when you buy online
For more information visit
www.buymymegarider.com
*Saving calculated on a 52 week Dearne Valley megarider

Dearne Valley

Bus Network Map & Guide

from July 2010



Stagecoach YORKSHIRE
stagecoachbus.com/yorkshire

Stagecoach YORKSHIRE

stagecoachbus.com/yorkshire
Stagecoach Yorkshire
Customer Services
Unit 4 Eldon Arcade
Barnsley
S70 2JP
tel: **01226 202555**

traveline
public transport info
01709 515 151
www.traveline.org.uk

Travel South Yorkshire
travelsouthyorkshire.com

We do our best to make your expectations but occasionally things can go wrong. If you feel we have failed you in some way, please write in the first instance to the address above.
If you then remain unhappy with our response, you can write to:
The Bus Appeals Body, PO Box 2450,
Stoke-on-Trent, ST4 9EW.
This is an independent organisation that will review your complaint.

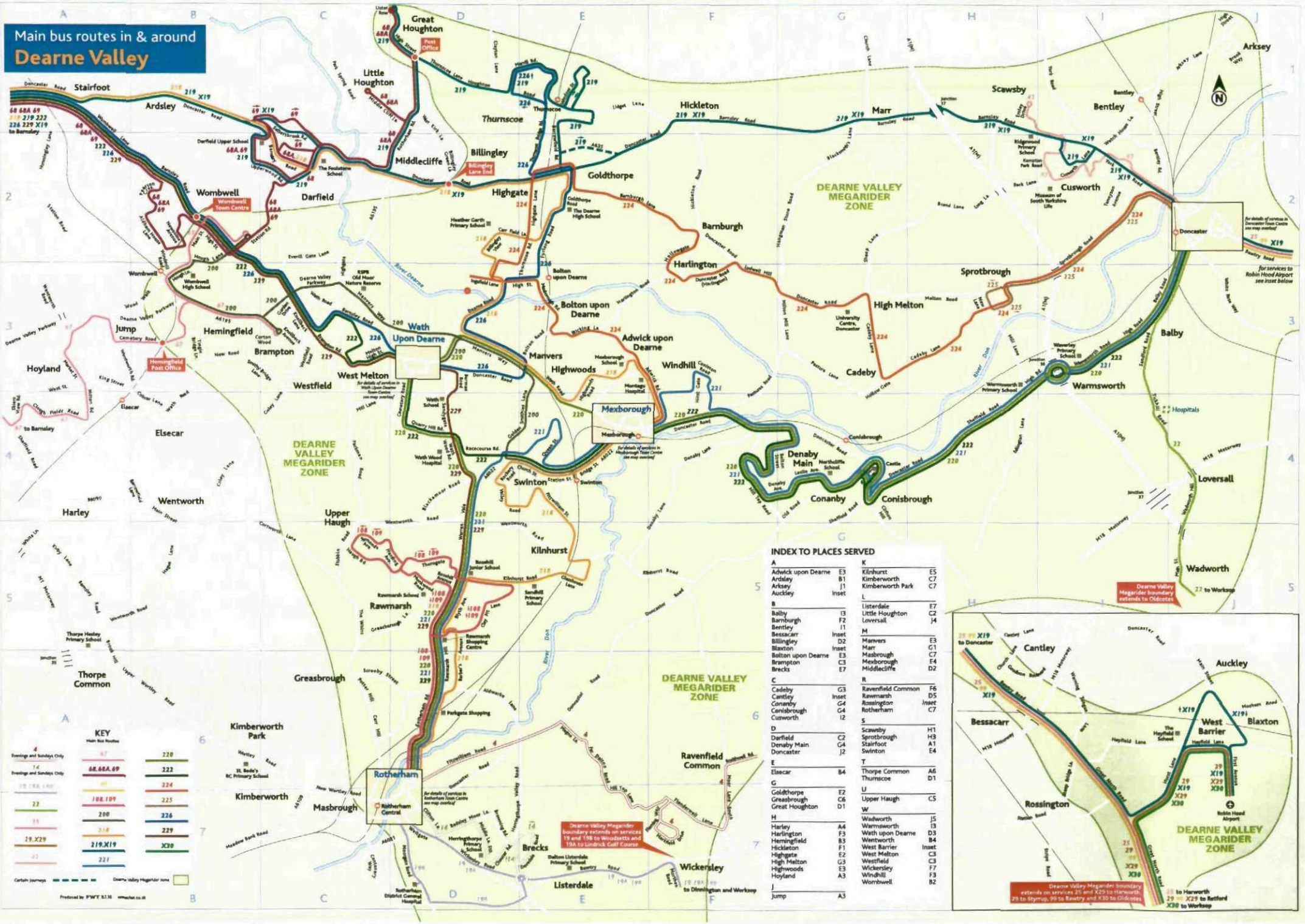
Please consider the environment and recycle this leaflet.

Cover Photograph: Courtesy of Doncaster Council

FSC Mixed Sources

Information correct at time of going to print July 2010

Main bus routes in & around Dearne Valley



KEY

Main Bus Routes

4 Evenings and Sundays Only	67	220
14 Evenings and Sundays Only	68, 68A, 69	222
18, 18A, 18B	98	224
22	108, 109	225
33	200	226
218	219, X19	229
29, X29	221	X30
42		

Certain journeys

Dearne Valley Megarider zone

Produced by PWT 12.16 www.pwt.co.uk

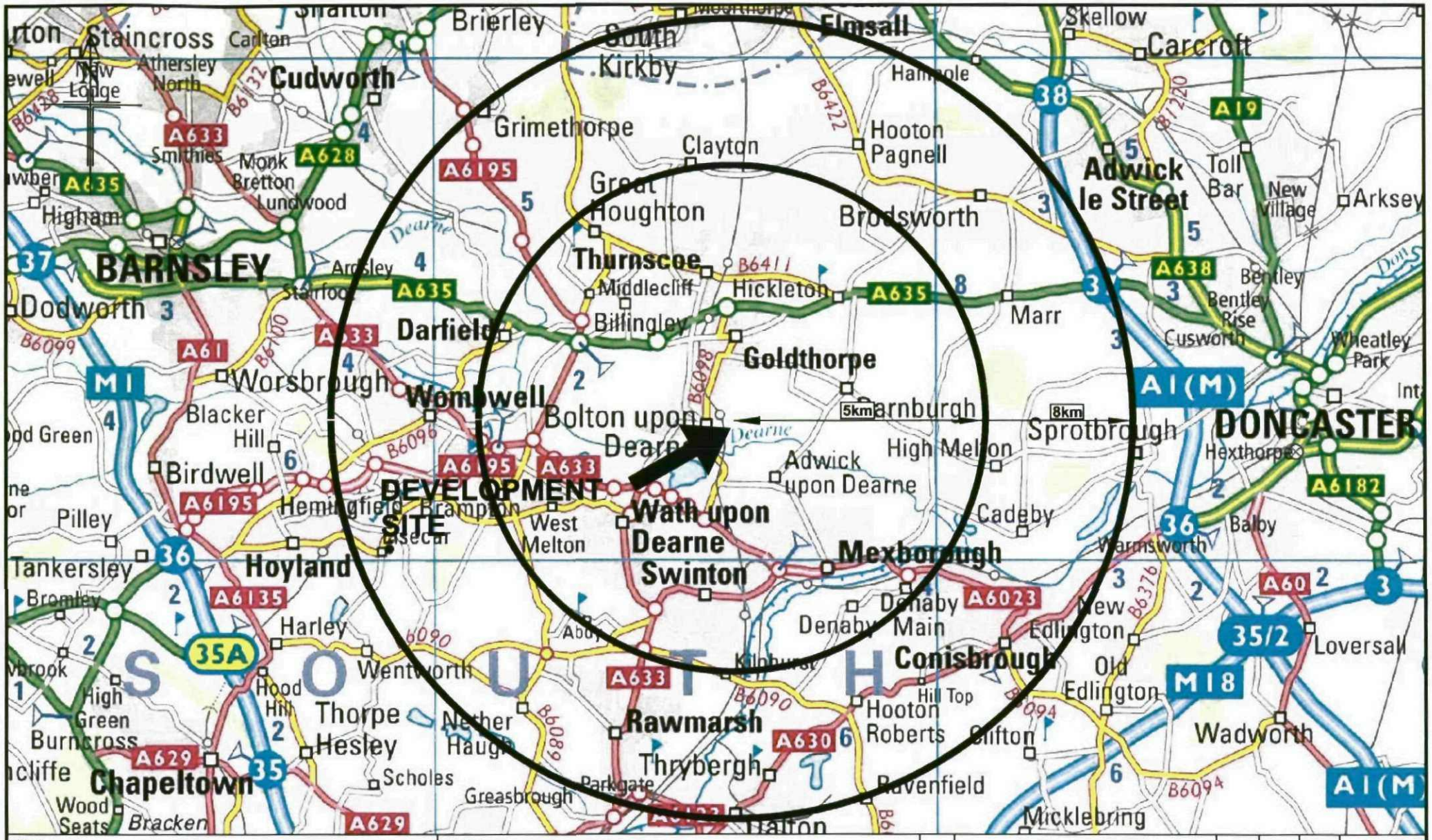
INDEX TO PLACES SERVED

A			**K**		
Adwick upon Dearne	E3		Kilnhurst	E5	
Ardsley	B1		Kimberworth	C7	
Arksey	J1		Kimberworth Park	C7	
Auckley	Inset		**L**		
B			Listerdale	E7	
Balby	I3		Little Houghton	C2	
Barnburgh	F2		Loversall	J4	
Bentley	I1		**M**		
Bessacarr	Inset		Manvers	E3	
Billingley	D2		Marr	G1	
Blaxton	Inset		Masbrough	C7	
Bolton upon Dearne	E3		Mexborough	E4	
Brampton	C3		Middlecliffe	D2	
Brecks	E7		**R**		
C			Ravenfield Common	F6	
Cadeby	G3		Rawmarsh	D5	
Cantley	Inset		*Rossington*	*Inset*	
Conanby	*G4*		Rotherham	C7	
Conisbrough	G4		**S**		
Cusworth	I2		Scawsby	H1	
D			Sprotbrough	H3	
Darfield	C2		Stairfoot	A1	
Denaby Main	G4		Swinton	E4	
Doncaster	J2		**T**		
E			Thorpe Common	A6	
Elsecar	B4		Thurnscoe	D1	
G			**U**		
Goldthorpe	E2		Upper Haugh	C5	
Greasbrough	C6		**W**		
Great Houghton	D1		Wadworth	J5	
H			Warmsworth	I3	
Harley	A4		Wath upon Dearne	D3	
Harlington	F3		Wentworth	B4	
Hemingfield	B3		West Barrier	Inset	
Hickleton	F1		West Melton	C3	
Highgate	E2		Westfield	C3	
High Melton	G3		Wickersley	F7	
Highwoods	E3		Windhill	F3	
Hoyland	A3		Wombwell	B2	
J					
Jump	A3				

Summary of Trains Serving Bolton on Dearne Railway Station

Train	Route	Operator	Frequency
Leeds to Sheffield	Leeds - Outwood - Wakefield Westgate - Sandal & Agbrigg - Fitzwilliam - Moorthorpe - Thurnscoe - Goldthorpe - Bolton on Dearne - Swinton - Rotherham Central -Meadowhall - Sheffield	Northern	Every 60 minutes

APPENDIX TP 4



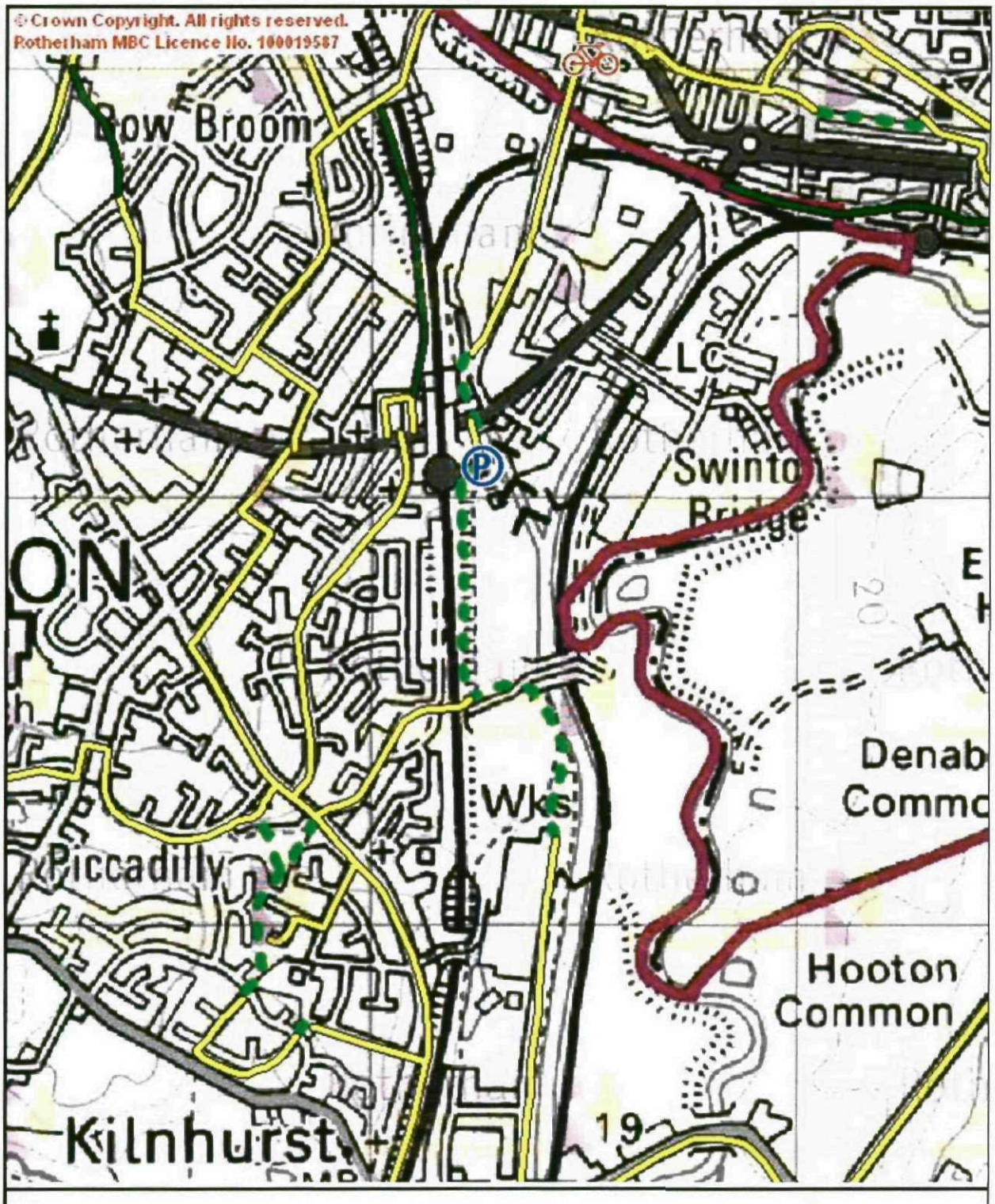
Client	GLEESON HOMES & REGENERATION	Project	LOWFIELD ROAD BOLTON UPON DEARNE	Rev	Amendments	Drawn / Chkd / Appr / Date
BRYAN · G · HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd. Suite 6E Joseph's Well Hanover Walk Leeds LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201 http://www.bryanghall.co.uk	Title	CYCLING ISOCHRONES SHOWN AT 5KM AND 8KM DISTANCES	Scale: 1:100,000 @ A4	Date: JULY 2011	Doc Sheet No
				Drawn: ALH	Checked: DJP	Approved: DJP
				Job No: 11-235	Drawing No: TP4-01	Rev: -

FILENAME

National Route 62 to south and link to north.
Green Traffic Free Route.
Purple on Road Route.

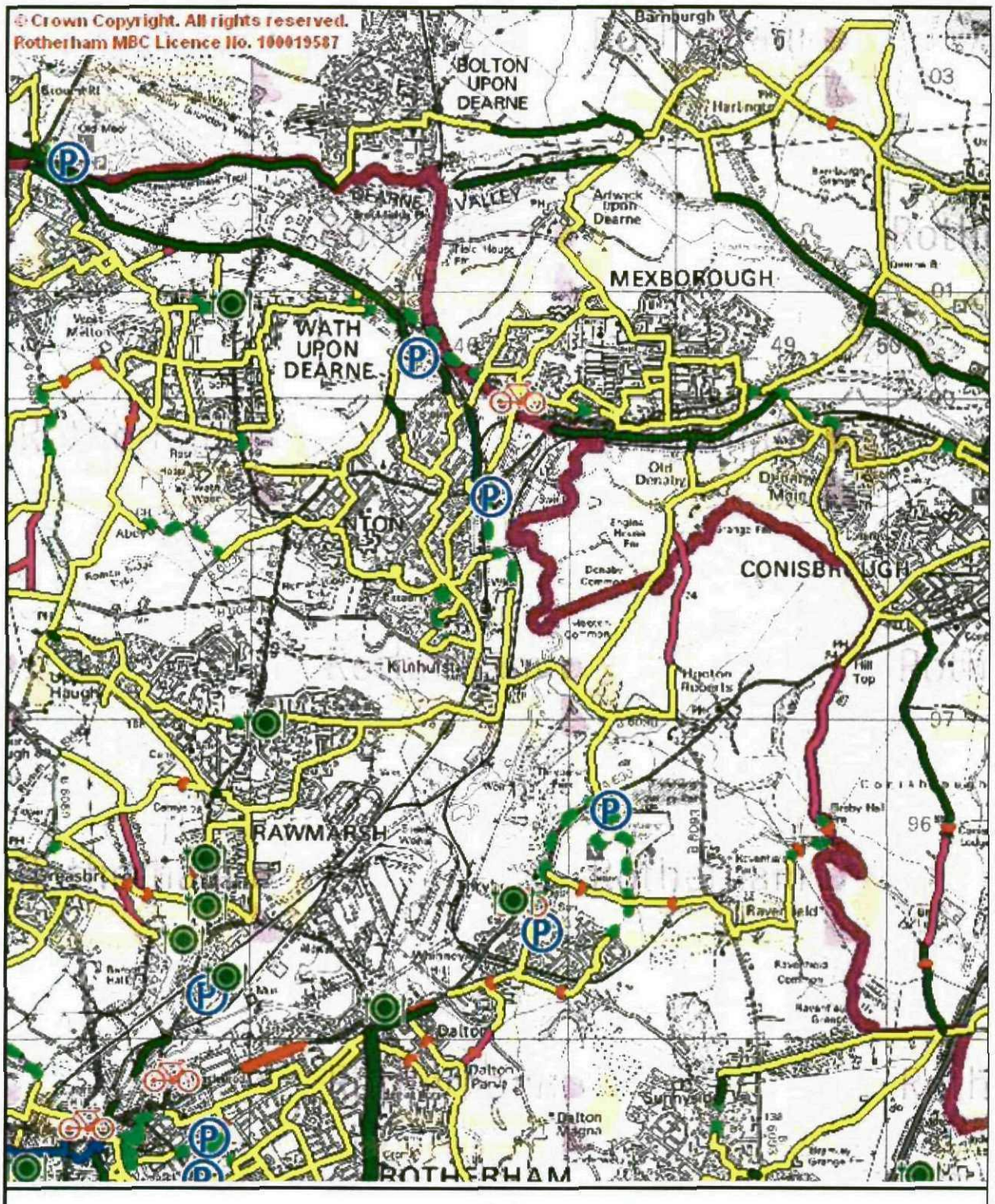


Sustrans is the UK's leading sustainable transport charity
Sustrans is a registered charity no. 326550 (England and Wales) SCO39263 (Scotland)



Site Cycle Map

Rotherham Metropolitan Borough Council



Area Cycle Map

Rotherham Metropolitan Borough Council

APPENDIX TP 5

Neighbourhood Statistics

Office for National Statistics

Original URL: http://www.neighbourhood.statistics.gov.uk/dissemination/LeadTableView.do?a=7&b=6174488&c=S63+8JF&d=14&e=16&f=63& g=362601&i=1001x1003x1004x1005&l=125& o=1&m=0&r=0&s=1311247677625&enc=1

Method of Travel to Work - Resident Population (UV39)
Period: Apr01

Area: Dearne South (Ward)

		Dearne South	Barnsley (Metropolitan District)	Yorkshire and The Humber	England
All People (Persons)[1]	Count	[2] 8,161	157,569	3,574,331	35,532,091
Works mainly at or from home (Persons)[1]	Count	[2] 292	6,577	184,181	2,055,224
Underground, metro, light rail or tram (Persons)[1]	Count	[2] 3	58	7,839	709,386
Train (Persons)[1]	Count	[2] 72	1,042	31,830	950,023
Bus, minibus or coach (Persons)[1]	Count	[2] 288	7,002	228,839	1,685,361
Taxi or minicab (Persons)[1]	Count	[2] 15	399	11,624	116,503
Driving a car or van (Persons)[1]	Count	[2] 2,245	53,529	1,226,371	12,324,166
Passenger in a car or van (Persons)[1]	Count	[2] 453	7,982	159,789	1,370,685
Motorcycle, scooter or moped (Persons)[1]	Count	[2] 41	1,002	20,865	249,456
Bicycle (Persons)[1]	Count	[2] 55	734	63,384	634,588
On foot (Persons)[1]	Count	[2] 576	10,186	238,491	2,241,901
Other (Persons)[1]	Count	[2] 14	251	9,626	104,205
Not currently working (Persons)[1]	Count	[2] 4,107	68,807	1,391,492	13,090,593

Last Updated: 18 November 2004
Source: Office for National Statistics

Notes

1 National Statistics

2 The boundary of the geographic area to which this value relates has since been modified.

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TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	**SOUTH EAST**		
	BD	BEDFORDSHIRE	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	2 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	2 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	3 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 20 to 99 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/03 to 05/09/10

Selected survey days:

Monday	4 days
Tuesday	6 days
Wednesday	2 days
Thursday	2 days
Friday	2 days

Selected survey types:

Manual count	16 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	12
No Sub Category	4

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES

Ranking Type: **ARRIVALS** Time Range: 08:00-09:00
WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.
15th Percentile = No. **14 (**)**
85th Percentile = No. **3 (**)**

Median Values
Arrivals: 0.138
Departures: 0.339
Totals: 0.476

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Arrivals)			Travel Plan
							Arrivals	Departures	Totals	
1	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.321	0.405	0.726	
2	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.317	0.537	0.854	
3 **	**CB-03-A-03**	**SEMI DETACHED, WORKINGTO**	**CUMBRIA**	**40**	**Thu**	**20/11/08**	**0.225**	**0.450**	**0.675**	
4	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.200	0.100	0.300	
5	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.183	0.366	0.549	
6	LC-03-A-22	BUNGALOWS, BLACKPOOL	LANCASHIRE	98	Tue	18/10/05	0.173	0.337	0.510	
7	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.173	0.173	0.346	
8	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.152	0.418	0.570	
9	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.123	0.260	0.383	
10	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.113	0.465	0.578	
11	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.104	0.333	0.437	
12	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.104	0.416	0.520	
13	DC-03-A-01	DETACHED, POOLE	DORSET	51	Wed	16/07/08	0.098	0.373	0.471	
14 **	**CW-03-A-02**	**SEMI D./DETATCHED, TRURO**	**CORNWALL**	**73**	**Tue**	**18/09/07**	**0.096**	**0.329**	**0.425**	
15	CB-03-A-02	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Mon	20/06/05	0.075	0.425	0.500	
16	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.071	0.333	0.404	

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	BD	BEDFORDSHIRE	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
05	**EAST MIDLANDS**		
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	NY	NORTH YORKSHIRE	2 days
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	CB	CUMBRIA	3 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 20 to 99 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/03 to 05/09/10

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Manual count	16 days
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Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	12
No Sub Category	4

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES

Ranking Type: **DEPARTURES** Time Range: 08:00-09:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **14 (**)**

85th Percentile = No. **3 (**)**

Median Values

Arrivals: 0.141
Departures: 0.369
Totals: 0.510

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Departures)			Travel Plan
							Arrivals	Departures	Totals	
1	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.317	0.537	0.854	
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16	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.200	0.100	0.300	

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	BD	BEDFORDSHIRE	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
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Manual count	16 days
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Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

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No Sub Category	4

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES

Ranking Type: **ARRIVALS** Time Range: 17:00-18:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **14 (**)**

85th Percentile = No. **3 (**)**

Median Values

Arrivals: 0.390
Departures: 0.255
Totals: 0.645

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Arrivals)			Travel Plan
							Arrivals	Departures	Totals	
1	CB-03-A-02	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Mon	20/06/05	0.525	0.400	0.925	
2	DC-03-A-01	DETACHED, POOLE	DORSET	51	Wed	16/07/08	0.510	0.333	0.843	
3 **	**CB-03-A-03**	**SEMI DETACHED, WORKINGTO**	**CUMBRIA**	**40**	**Thu**	**20/11/08**	**0.475**	**0.250**	**0.725**	
4	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.458	0.229	0.687	
5	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.437	0.169	0.606	
6	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.425	0.219	0.644	
7	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.411	0.137	0.548	
8	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.405	0.369	0.774	
9	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.374	0.141	0.515	
10	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.354	0.207	0.561	
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14 **	**BD-03-A-02**	**SEMI DETACHED, LUTON**	**BEDFORDSHIRE**	**82**	**Tue**	**06/07/04**	**0.232**	**0.268**	**0.500**	
15	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.154	0.231	0.385	
16	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.100	0.150	0.250	

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

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RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES

Ranking Type: **DEPARTURES** Time Range: 17:00-18:00

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15th Percentile = No. **14 (**)**

85th Percentile = No. **3 (**)**

Median Values

Arrivals: 0.389
Departures: 0.213
Totals: 0.603

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Departures)			Travel Plan
							Arrivals	Departures	Totals	
1	CB-03-A-02	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Mon	20/06/05	0.525	0.400	0.925	
2	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.405	0.369	0.774	
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8	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.425	0.219	0.644	
9	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.354	0.207	0.561	
10	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.342	0.203	0.545	
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16	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.411	0.137	0.548	

APPENDIX TP 6

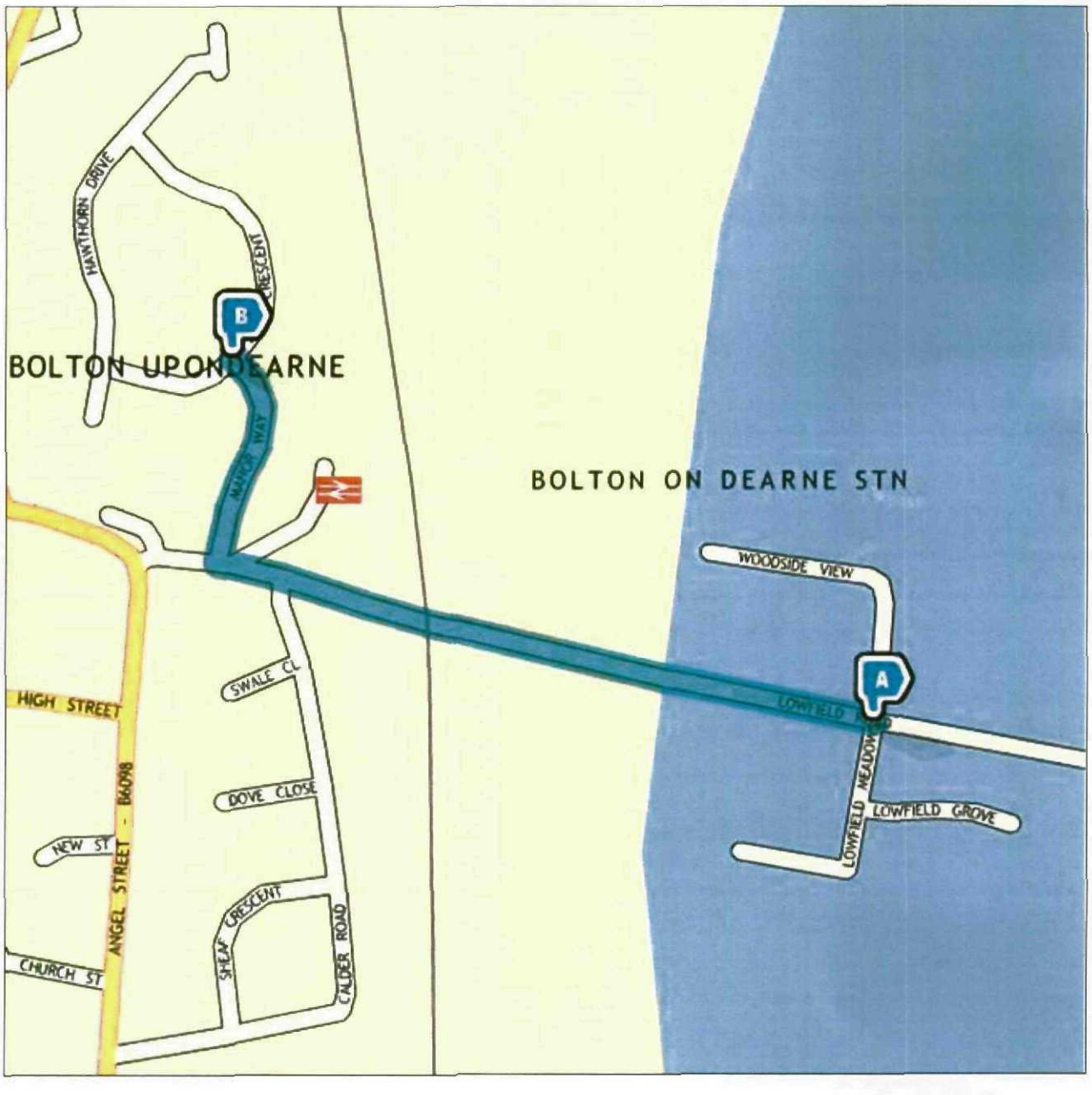
walkit.com
THE URBAN WALKING ROUTE PLANNER

Sheffield walking directions from S63 8JF to S63 8NY

0.3 miles, 6 mins, 29 Cal (med pace)

Distance	Time	Calories	CO_2 Saved
0.3 miles	4 mins (fast)	32 Cal (fast)	0.03 kg tram
0.5 km	6 mins (med)	29 Cal (med)	0.08 kg car
715 steps	9 mins (slow)	28 Cal (slow)	0.05 kg bus

Print Link Walk here often?



1. Start out along LOWFIELD ROAD, heading west.

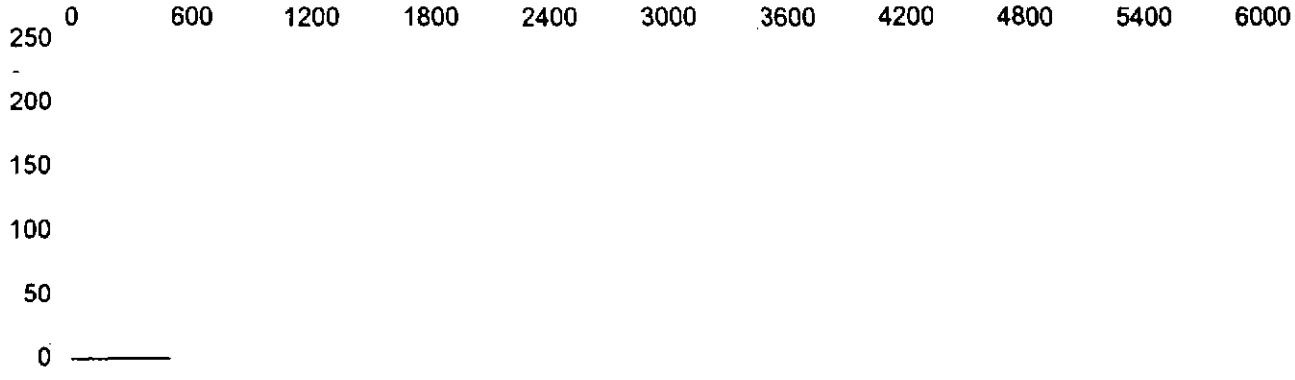
---

2. After 1/2 kilometre turn right onto MANOR WAY, heading north.

---

3. You will reach your destination 150 metres along MANOR WAY.

Hill Profile

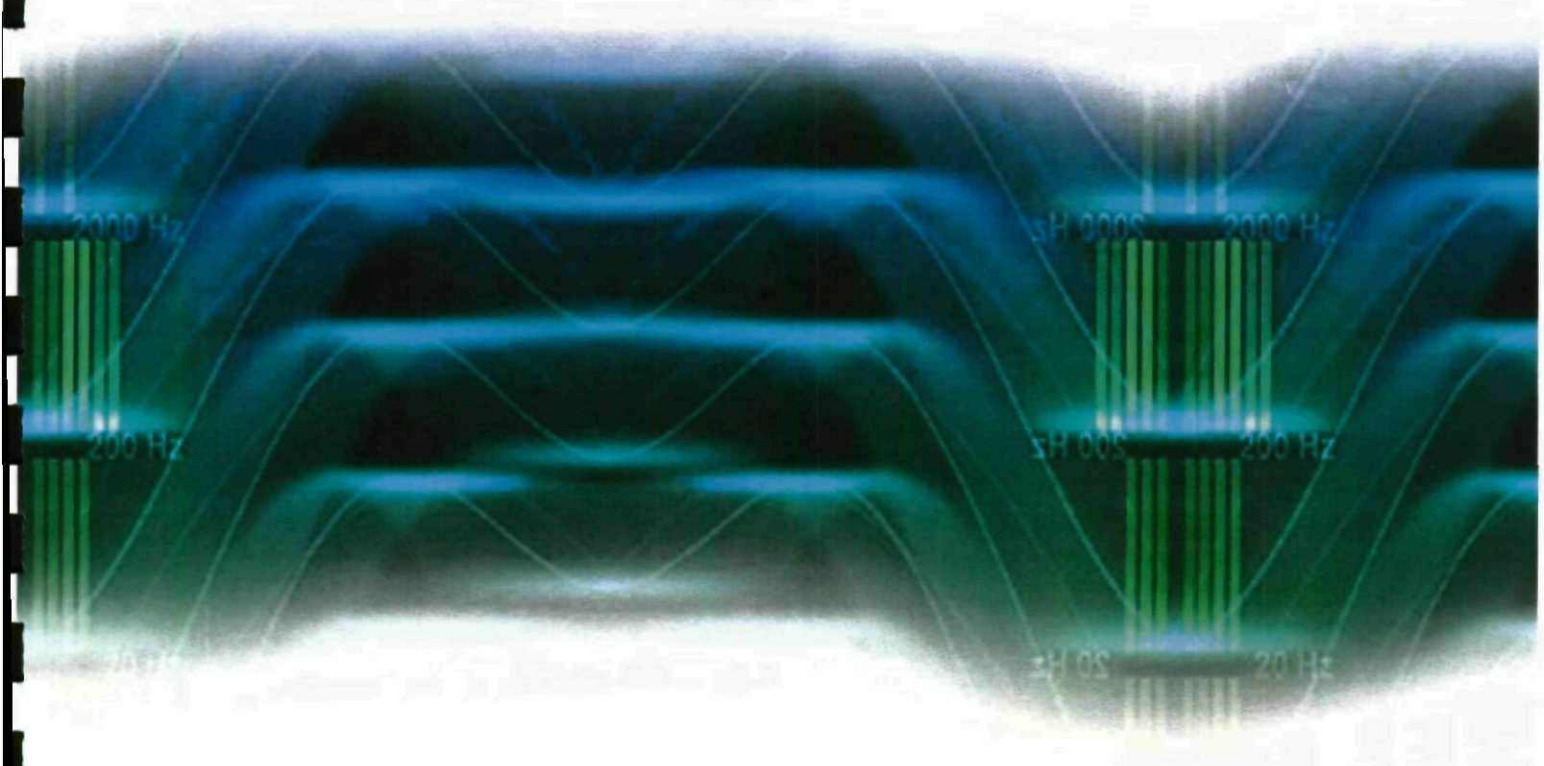


Noise and Vibration Assessment for a Proposed residential development at Lowfield Road, Bolton-Upon-Dearne

Report ref.
RK712/11196

Date
July 2011

Issued to
Gleeson Regeneration & Homes



Issued by
Rob Kirkaldy BSc (Hons) AMIOA
Consultant

Spectrum
ACOUSTIC CONSULTANTS

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Appendix A: Existing Site Location Plan with Measurement Positions

Appendix B: Proposed Scheme Layout

Appendix C: Noise Logger Charts and Environmental Noise Record Sheets

Appendix D: Logged Vibration VDV raw data

Appendix E: Rail Movements through Bolton-Upon-Dearne

1. INTRODUCTION

Gleeson Regeneration and Homes has commissioned Spectrum Acoustic Consultants to complete a noise and vibration assessment for a proposed residential development at land off Lowfield Road, Bolton-Upon-Dearne. The proposal involves developing the site by constructing 60 houses.

The assessment includes the results and observations taken from a noise and vibration measurement survey completed at the site from Wednesday 13 to Thursday 14 July 2011.

The measurement and assessment of noise was completed in accordance with Planning Policy Guidance 24: Planning and noise (PPG24). The vibration measurements and assessment are in accordance with BS6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than blasting.*

A façade sound insulation specification has also been provided, in connection with the noise assessment.

2. SITE DESCRIPTION

The site is situated on disused land adjacent to Lowfield Road, which runs along the northern boundary of the site in Bolton-Upon-Dearne, Yorkshire. A railway line is situated along the western boundary of the site which runs from Sheffield to Leeds. Bolton-Upon-Dearne station is located less than 100 meters from the site to the north. There are a number of existing residential properties immediately beyond the railway line further to the west of the site. There are also a number of other existing residential properties immediately to the north east of the site, located off Lowfield road.

Approximately 250 meters to the south of the site is a water treatment plant, although noise emanating from this is not audible at the proposed development site.

Occasional road traffic noise from vehicles along Lowfield Road is audible at the site, however, the dominant noise source affecting the site is from rail movements from passenger and freight trains along the adjacent railway line.

The existing site location plan, showing noise and vibration measurement positions, is shown on the Google Earth plan included in Appendix A. The proposed scheme layout plan is also included in Appendix B.

3. CRITERIA FOR ACCEPTABILITY

3.1 PLANNING POLICY GUIDANCE 24: PLANNING AND NOISE

Planning Policy Guidance 24: Planning and noise (PPG24) is central government guidance on the use of planning powers to minimise the adverse impact of noise.

It outlines the considerations to be taken into account in determining planning applications both for noise-sensitive developments and for those activities which will generate noise. In the case of residential developments, PPG24 introduces the concept of Noise Exposure Categories (NEC) and advocates their use to provide a method for assessing the suitability of land. PPG24 also advises on the use of conditions to minimise the impact of noise.

For proposed residential use, PPG24 sets out a precise, quantifiable process to assist the Local Authority in determining the application.

Four NECs are defined which rate the importance of noise when considering permission for a new residential development. The advice for each category is given below in Table 1.

NEC	Description
A	Noise need not be considered as a determining factor in granting planning permission, although the noise level at the high end of the category should not be regarded as a desirable level.
B	Noise should be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise.
C	Planning permission should not normally be granted. Where it is considered that permission should be given, for example because there are no alternative quieter sites available, conditions should be imposed to ensure a commensurate level of protection against noise.
D	Planning permission should normally be refused.

Table 1: Description of NECs

The noise levels corresponding to each category is given in Table 2.

Noise Levels Corresponding To The Noise Exposure Categories For New Dwellings $L_{Aeq,T}$ dB					
Noise Source		Noise Exposure Category A	B	C	D
Road traffic:	0700-2300	<55	55-63	63-72	>72
	2300-0700	<45	45-57	57-66	>66
Rail traffic:	0700-2300	<55	55-66	66-74	>74
	2300-0700	<45	45-59	59-66	>66
Air traffic:	0700-2300	<57	57-66	66-72	>72
	2300-0700	<48	48-57	57-66	>66
Mixed sources:	0700-2300	<55	55-63	63-72	>72
	2300-0700	<45	45-57	57-66	>66

Table 2: Noise level ranges for each NEC (free field noise levels)

Where maximum noise levels (measured as L_{ASmax}) regularly exceed 82 dB during the night, PPG24 states the site should be classified as NEC C, unless otherwise in NEC D by virtue of the $L_{Aeq,8hr}$.

3.2 BS8233:1999 SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS. CODE OF PRACTICE

PPG24 refers to BS8233 "Sound insulation and noise reduction for buildings – code of practice" in relation to specifying acceptable indoor and outdoor noise levels. Therefore, complying with BS8233 is, in turn, in accordance with the guidance in PPG24.

BS8233 advises that the main criteria are to provide reasonable resting/sleeping conditions in bedrooms, and good listening conditions in other rooms.

BS8233 recommends internal noise levels in bedrooms at night of $L_{Aeq,8\ hour}$ 30-35 dB and L_{AFmax} 45 dB. In living areas during the day, this should be $L_{Aeq,16\ hour}$ 30-40 dB.

BS8233 also suggests that as well as protection for the building, noise levels in gardens and balconies should be considered. Whilst this is a secondary concern, it advises a guideline of $L_{Aeq,16\ hour}$ of no more than 55 dB during the day.

These guidelines levels are a reflection of those set out in "Guidelines for Community Noise - World Health Organization, 1999" (WHO). WHO sets out these values as table 4.1, and lists them as being Guideline values for community noise. The preface to WHO states that community noise includes road, rail and air traffic, industries, construction and public work, and the neighbourhood.

3.3 BS6472-1:2008 "GUIDE TO EVALUATION OF HUMAN EXPOSURE TO VIBRATION IN BUILDINGS. VIBRATION SOURCES OTHER THAN BLASTING"

The acceptability of vibration on the proposed development site has been assessed in accordance with BS6472-1:2008 'Guide to the Evaluation of Human Exposure to Vibration in Buildings'. This Standard uses the concept of Vibration Dose Value (VDV) to classify exposure to vibration in terms of an adverse comment rating. Vibration dose value takes account of both vibration level and duration of vibration, thereby giving additional weight to vibration levels that are frequent, or continuous.

Table 3 provides the vibration dose values above which various degrees of adverse comment may be expected in residential houses, as taken from this Standard.

Vibration dose values ($m/s^{1.75}$) above which various degrees of adverse comment may be expected in office buildings			
Place and time	**Low probability of adverse comment [1] $m/s^{1.75}$**	**Adverse comment possible $m/s^{1.75}$**	**Adverse comment probable [2] $m/s^{1.75}$**
Residential buildings 16 h day	0.2 to 0.4	0.4 to 0.8	0.8 to 1.6
Residential buildings 8 h night	0.1 to 0.2	0.2 to 0.4	0.4 to 0.8

Table 3: Rating of VDV values in accordance with table 1 of BS6472-1 2008

Notes: 1 Below this range adverse comment is not expected
2 Above this range adverse comment is very likely

4. NOISE AND VIBRATION SURVEY

4.1 MEASUREMENT PROCEDURE

Noise and vibration measurements were completed at the site from the 13 to 14 July 2011. These were typical working weekdays. Throughout the survey, weather conditions were mild and dry with low wind speeds.

The parameters recorded during the noise measurement survey included LAeq and LAFmax. In addition, a full range of statistical parameters (LA10, LA90 etc.) were also recorded. Both overall and octave band measurements were also stored for later analysis.

For the duration of the survey, remote noise loggers were utilised for recording continuous 5-minute periods measurements at position 1 and 2. Attended measurements were also conducted during the afternoon and night time periods at positions 3 and 4. The noise measurement locations are detailed as follows:

Position 1 – 3m above ground representative of the proposed plot 25 façade facing the railway line at the far north west corner of the site

Position 2 – 1.5m above ground representative of the proposed plot 24 façade facing Lowfield Road at the far north east corner of the site

Position 3 – 1.5m above ground representative of the proposed plot 47 façade facing Lowfield Road at the far south east corner of the site

Position 4 – 1.5m above ground representative of the proposed plot 39 façade facing Lowfield Road at the far south west corner of the site

Vibration measurements were taken at Position 1 at ground level.

A site location plan, showing the noise and vibration measurement positions, is shown on the plan included in Appendix A. A proposed scheme layout plan is included in Appendix B.

4.2 MEASUREMENT EQUIPMENT

The following equipment was used during the survey:

- Bruel & Kjaer Type 2260 Sound Level Meter s/n 2120238
- Bruel & Kjaer type 4189 Microphone s/n 2385826
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 2115516

- Bruel & Kjaer Type 2260 Sound Level Meter s/n 2027587
- Bruel & Kjaer Type 4189 Microphone s/n 2643123
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 2229825

- Bruel & Kjaer Type 2238 Sound Level Meter s/n 2562704
- Bruel & Kjaer Type 4188 Microphone s/n 2565535
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 2586661

- Svan 958 Type 1 Sound & Vibration Analyser s/n 15173
- Dytran tri-axial accelerometer Type 3233a s/n 415

Before and after the survey, the sound level meters were field-calibrated in accordance with the manufacturer's guidelines, and no significant drift was observed. The meter, microphone and field calibrator are laboratory calibrated biennially in accordance with UKAS procedures or to traceable National Standards.

4.3 RESULTS AND OBSERVATIONS

Noise levels at the site are dominated by occasional rail movements from passenger and freight trains on the adjacent railway line. Other audible sources include road traffic noise from Lowfield Road and other surrounding roads.

Graphical representations of the daytime and night time noise logger profiles at position 1 and 2, are included in Appendix C of this report.

A summary of the noise data taken at position 1 and 2 over each period of the daytime and night time, is included in table 4. At positions 1 and 2, the overall daytime 0700-2300 L_{Aeq} noise level has been taken from the average of both the daytime noise measurement periods. Note that PPG 24 requires noise measurements to be conducted at a height of 1.5m above ground. Measurements taken at position 1 were at 3m height, therefore the measured noise levels at this position are a conservative over-estimate.

PPG 24 states that if L_{Amax} values regularly exceed 82dB at night, the site is automatically classified as NEC C, unless it is otherwise in NEC D. World Health Organisation (WHO) guidelines for community noise, define regular as not more than 10-15 events per night. Therefore the L_{Amax} levels for the night time period have been sorted from highest to lowest. It is then possible to read off the 10-15th highest L_{Amax} level during the night which is regarded as being typical. These typical highest L_{Amax} values for the night-time period obtained in this survey are shown in table 4.

Position	Time Period	Noise level over period (dB)		
		L_{Aeq}	L_{AFmax} [2]	L_{ASmax} [2]
1	Daytime 1300-2300	58	-	-
	Daytime 0700-1100	55	-	-
	Daytime 0700-2300 [1]	58	-	-
	Night time 2300-0700	56	80	79
2	Daytime 1230-2300	51	-	-
	Daytime 0700-1100	52	-	-
	Daytime 0700-2300 [1]	51	-	-
	Night time 2300-0700	47	68	65

Table 4: Summary of noise data recorded from loggers

Notes: 1 Daytime 0700-2300 taken from log average over periods 1 and 2
2 The L_{Amax} data is only relevant to the night time period

Site noise levels, established at position 1, are L_{Aeq}, 16 hour 58dB during the day and L_{Aeq}, 8 hour 56dB during the night.

Site noise levels, established at position 2, are L_{Aeq}, 16 hour 51dB during the day and L_{Aeq}, 8 hour 47dB during the night.

Environmental noise record sheets detailing the attended measurements at positions 3 and 4 during the daytime and night time periods are included in Appendix C. The measured noise levels at these locations were typically below L_{Aeq}, 16 hour 55dB during the day and L_{Aeq}, 8 hour 45dB during the night.

During the night time period, maximum noise levels did not regularly exceed L_{ASmax} 82dB at any of the measurement positions across the site. At position 1, L_{ASmax} levels only exceeded 82dB 3 times during night time.

The full list VDV measurement data is detailed in Appendix D. The VDV levels were very low and during the survey period vibration from trains was not subjectively perceptible.

5. ASSESSMENT OF NOISE AND VIBRATION LEVELS

5.1 NOISE

Noise levels at the site are dominated by rail movements. Accordingly, the 'rail traffic' NEC classification should be applied in line with PPG24

The aspect of the site represented by position 1 is in NEC B for both the daytime and night time periods. For NEC B, PPG24 states *"Noise should be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise."*

The aspect of the site represented by position 2 is in NEC A during the daytime and NEC B during the night time period. For NEC A, PPG24 states *"Noise need not be considered as a determining factor in granting planning permission, although the noise level at the high end of the category should not be regarded as a desirable level."*

The overall daytime (16 hour) and night time (8-hour) L_{Aeq} values, together with the night time L_{AFmax} level, which will be used for the specification of facade sound insulation requirements, will be taken from the measurements taken at positions 1 and 2.

A mitigation scheme is provided in section 6 that satisfies internal noise levels in accordance with BS 8233:1999 requirements.

5.2 VIBRATION

Each train event generates a similar level of vibration. Therefore as vibration has been measured from each train event, the 16 hour and 8 hour VDV can be calculated as the samples of each event are known using equation 2 of BS6472-1:2008. The logged VDV data is listed in Appendix D. The number of rail movements through Bolton-Upon-Dearne station advised by Network rail is also included in Appendix E.

Train Details Type	Calculated VDV $m.s^{1.75}$		
	X	Y	Z
Daytime (07:00-23:00)	0.01	0.01	0.03
Night-time (23:00-07:00)	0.01	0.02	0.03

Table 5: Day and night calculated VDVs based on the measured levels from individual train pass events

The measured VDVs detailed in the above table are very low and are significantly below the range which indicates a low probability of adverse comment.

6. MITIGATION

6.1 NUMERIC SPECIFICATION OF FAÇADE SOUND INSULATION

Internal noise levels can be calculated from the measured site external noise level, taking into account the size and construction of the elements of the building façade, including glazing and ventilation. BS8233 sets out a method of calculating the internal noise levels, based on the external noise levels, areas of wall, glazing and ventilator.

The proposed sound insulation scheme will be designed to meet the recommendations of BS8233 $L_{Aeq,16\ hour}$ 35dB for living rooms during the day (between the good and reasonable standard) and the good standard of $L_{Aeq,8\ hour}$ 30dB for bedrooms during the night time.

The BS8233 defined requirement for L_{AFmax} values in bedrooms at night, is that individual events should not regularly exceed 45dB.

The façade insulation requirements for the living rooms and bedrooms, based on $L_{Aeq,16\ hour}$ during the daytime and $L_{Aeq,8\ hour}$ during the night time are detailed in table 6 as follows:

Position	Parameter	Room	External Noise Level dB(A)	Indoor target dB (A)	Reduction Required dB(A)
Plots 25-39 facing the railway line represented by position 1	LAeq,16 hour LAeq,8 hour LAFmax	Living Room Bedrooms Bedrooms	58 56 80	35 30 45	23 26 35
All other properties represented by position 2	LAeq,16 hour LAeq,8 hour LAFmax	Living Room Bedrooms Bedrooms	51 47 68	35 30 45	16 17 23

Table 6: Numeric sound insulation requirements for sensitive rooms in each property

Note: Sensitive rooms are living rooms and bedrooms

Therefore for properties along the west boundary of the site which face the railway line, an overall required reduction of 23dB(A) will be used for living rooms, and 35dB(A) for bedrooms when recommending a façade specification.

For all other properties, an overall required reduction of 16dB(A) will be used for living rooms, and 23dB(A) for bedrooms when recommending a façade specification.

6.2 MATERIALS SPECIFICATION

Based on the required overall façade sound insulation (column 5 'Reduction Required' in table 6 above), an individual sound insulation specification has been determined for the three main elements of the façade (window, wall and ventilator). Spectrum has had extensive experience in providing façade sound insulation specifications for residential developments. The specification listed below is typical for a site of this nature. It should be noted that the performance of the window may be lower than the overall façade requirement, as the wall element provides a higher sound insulation performance to compensate.

Table 7 below details the sound insulation specification for all the proposed properties at the development.

Property	Room	Wall type	Window Performance Rw+Ctr dB	Vent Performance Dn,e,w+Ctr dB
Plots 25-39 facing the railway line	Living Rooms	Brick/block	25	32
	Bedrooms	Brick/block	34	44
All other properties	Living Rooms	Brick/block	25	32
	Bedrooms	Brick/block	25	32

Table 7: Sound insulation specification for the proposed development site

For plots 25-39 that face the adjacent railway line, acoustic performances in living rooms which also benefit from screening, can be achieved by standard double glazing (typically this can be achieved by a double glazed unit comprising 4mm float glass with a 12mm cavity and another layer of 4mm float glass), together with 2 hit or miss trickle ventilators (rated at Dn,e w + Ctr 32dB). Acoustic performances in bedrooms can be achieved by acoustic double glazing (typically this can be achieved by a double glazed unit comprising 10mm float glass with a 12mm cavity and another layer of 6.4mm float glass), together with an acoustic air brick ventilator (rated at Dn,e w + Ctr 44dB).

For all other properties, acoustic performances in living rooms and bedrooms can be achieved by standard double glazing (typically this can be achieved by a double glazed unit comprising 4mm float glass with a 12mm cavity and another layer of 4mm float glass), together with 2 hit or miss trickle ventilators (rated at Dn,e w + Ctr 32dB).

6.3 OUTDOOR AMENITY AREAS

The gardens in plots 25-39 directly face the adjacent railway line. In view of this, a 2m high acoustic barrier fence should be constructed as close the railway line as possible, at the top of the bund which runs up to the line. This will give the nominal reduction required and will reduce noise levels in rear gardens to below the recommended guideline of 55dB(A), as advised in BS 8233.

Noise levels in the gardens of the remaining properties will be below the recommended guideline of 55dB(A), as advised in BS 8233.

7. CONCLUSIONS

Gleeson Regeneration and Homes has commissioned Spectrum Acoustic Consultants to complete a noise and vibration assessment for a proposed residential development at land off Lowfield Road, Bolton-Upon-Dearne.

This report provides an assessment of site noise and determines sound insulation requirements by reference to Planning Policy Guidance 24: Planning and noise (PPG 24), BS 8233:1999 Sound insulation and noise reduction for buildings. Code of practice and Guidelines for Community Noise - World Health Organization, 1999 (WHO).

This report also provides an assessment of site vibration levels by reference to BS6472-1:2008 "guide to evaluation of human exposure to vibration in buildings. vibration sources other than blasting".

Rail noise is the dominant noise source at the proposed development site. Properties 25-39 along the boundary with the railway line are in NEC B, as defined by PPG 24 for both the daytime and night time periods. All other properties at the proposed development are in NEC A during the daytime and NEC B during the night time. A mitigation scheme is provided that satisfies internal and external noise levels in accordance with the national amenity guidelines.

The measured VDV levels at the site are very low, and are significantly below the range which indicates a low probability of adverse comment.

8. SUPPLIERS

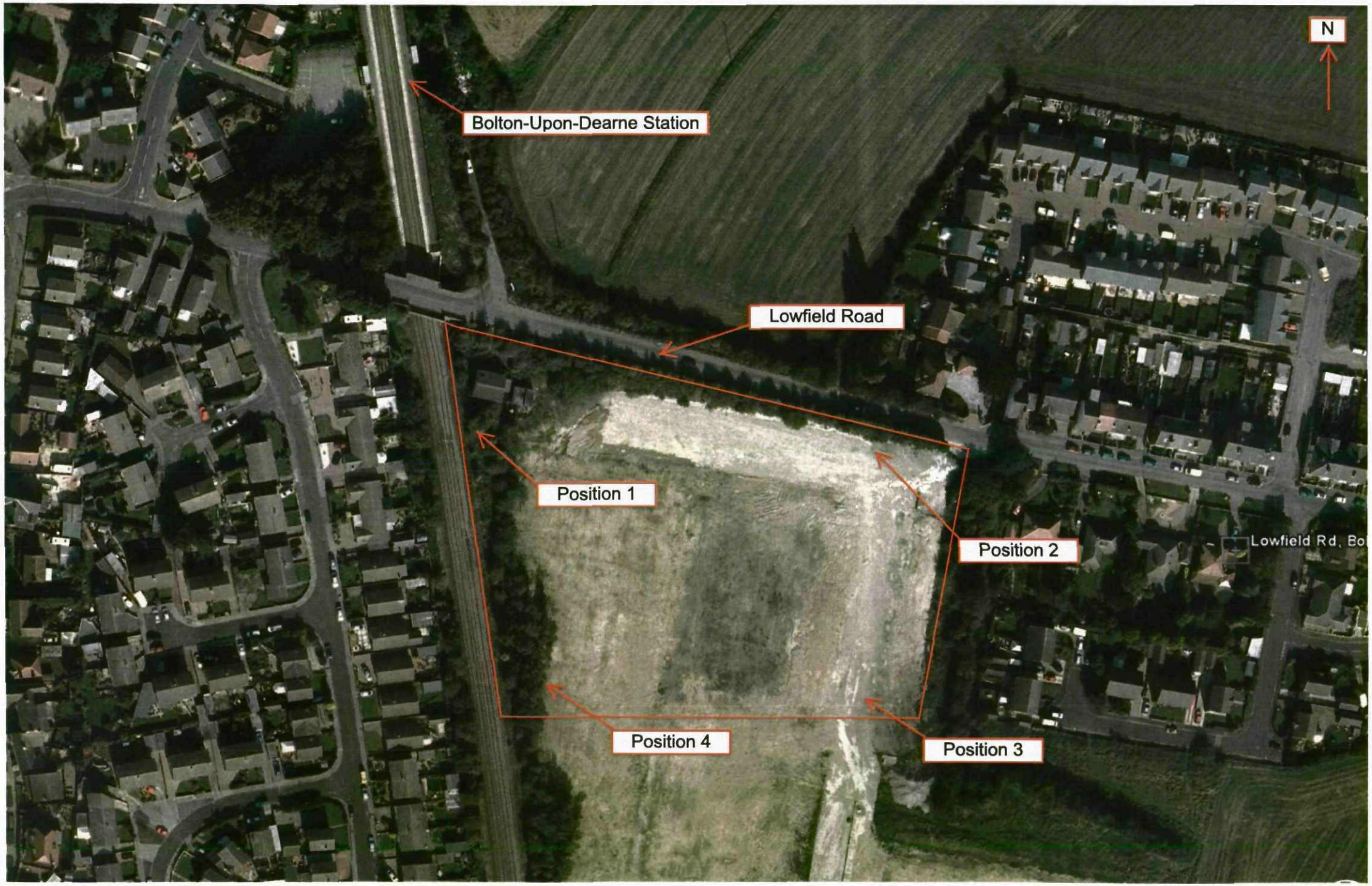
Where required, acoustic glazing, together with proprietary acoustic and standard ventilation systems, designed specifically for the purpose of incorporating into a façade or whole-building ventilation scheme, are available from the following suppliers:

Supplier	Product	Phone Number
Pilkington Glass	Acoustic Laminate Glass	01744 692000
Titon	Sonair Acoustic Wall vents	01206 713800
Passivent Ltd	Passivent Acoustic wall vents	01732 355519
Rytons	Acoustic AirCore vent	01536 511874
Silavent	Acoustic wall vents	01252 878272
Greenwood window vents	Through-frame ventilation units	01903 777137

Report Code: A/D/EH

APPENDIX A

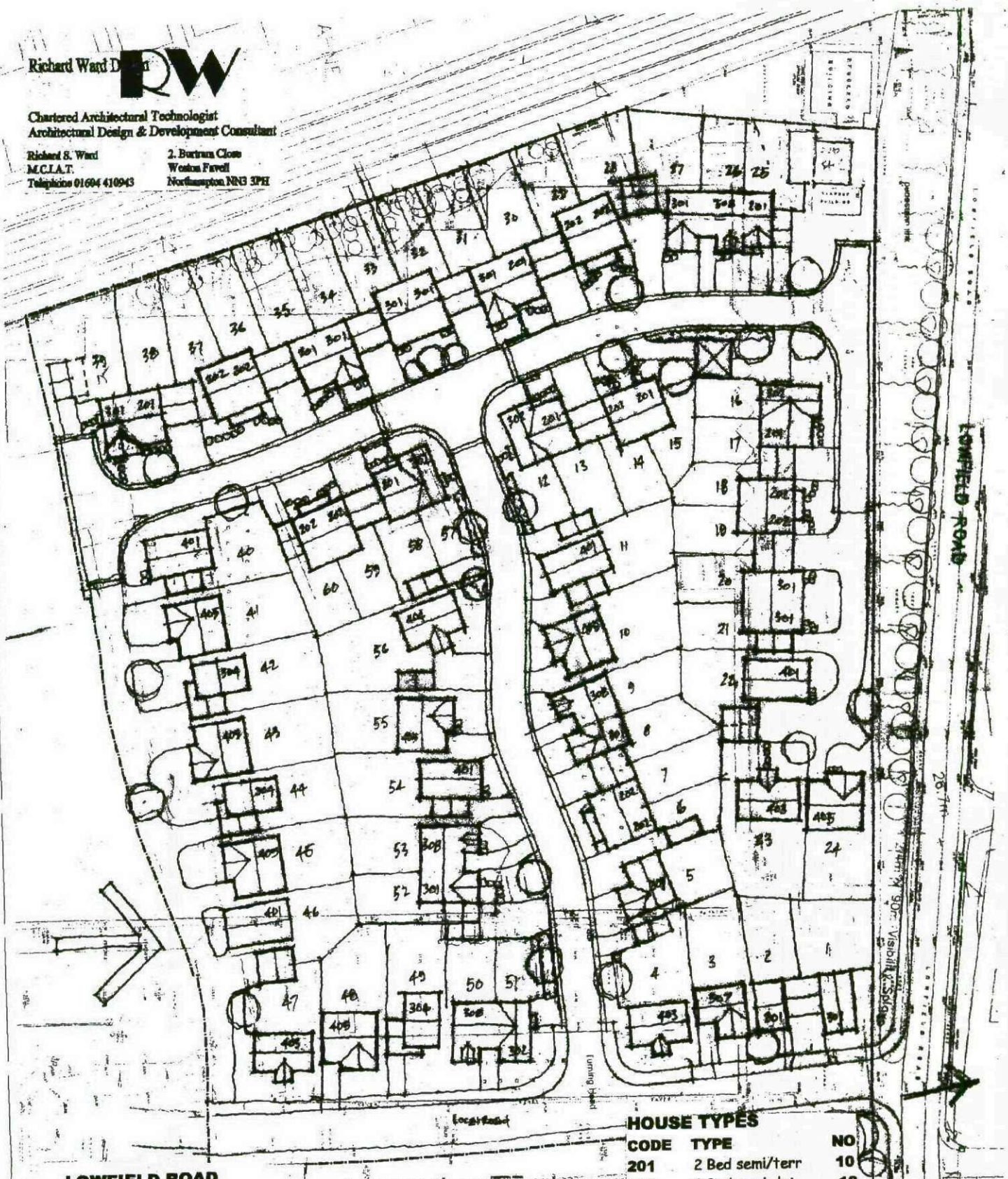
Existing Site Location Plan with Measurement Positions


N
Bolton-Upon-Dearne Station
Lowfield Road
Position 1
Position 2
Position 3
Position 4
Lowfield Rd, Bo

APPENDIX B

Proposed Scheme Layout

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RW
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Architectural Design & Development Consultant
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LOWFIELD ROAD
BOLTON UPON DEARNE

Sketch layout

GLEESON REGENERATION AND HOMES

Scale	Date	Dwg No.
1:500 @ A3	30.03.11	344-01a

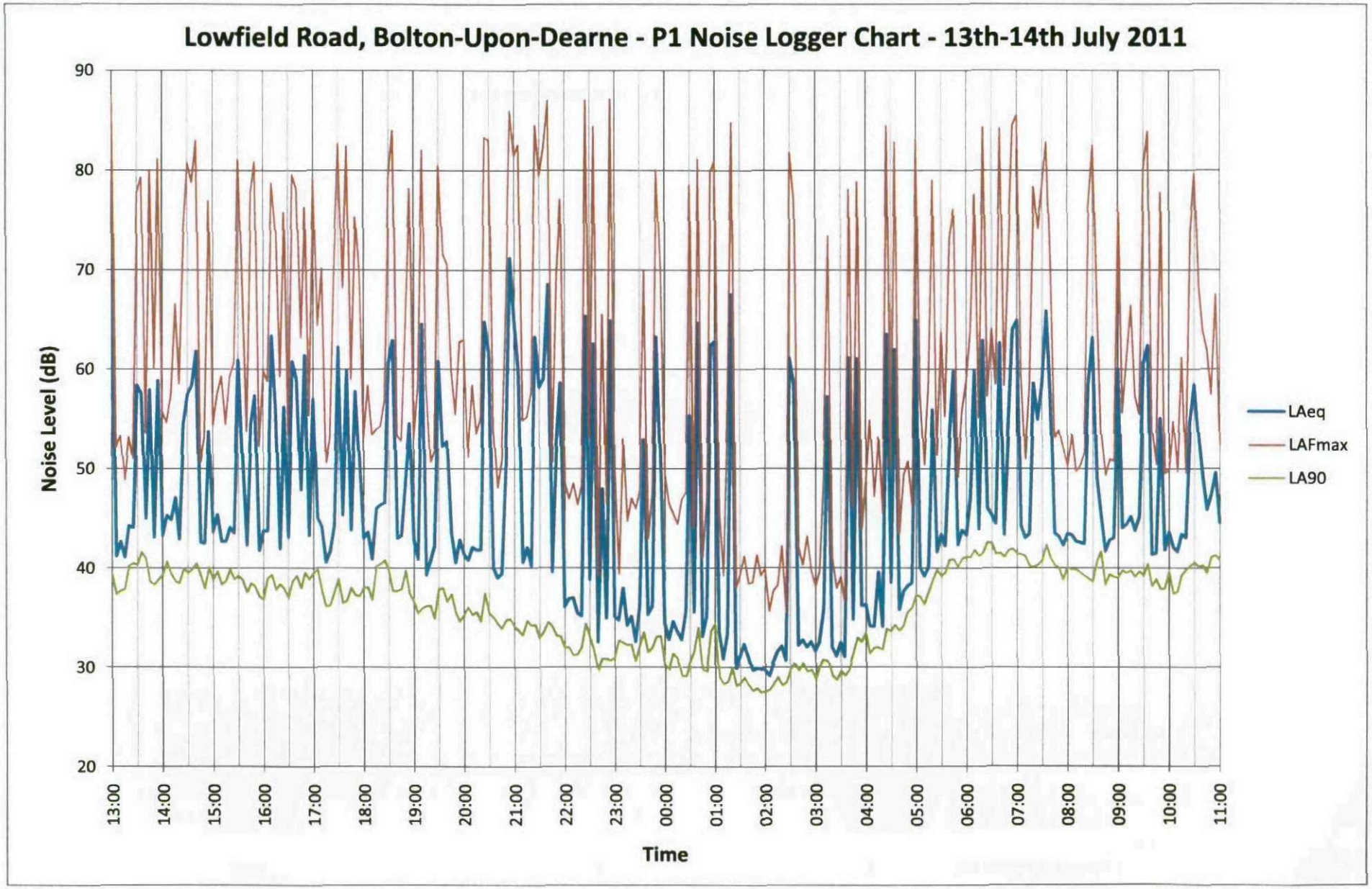
Revision a Client amendments 3.4.11

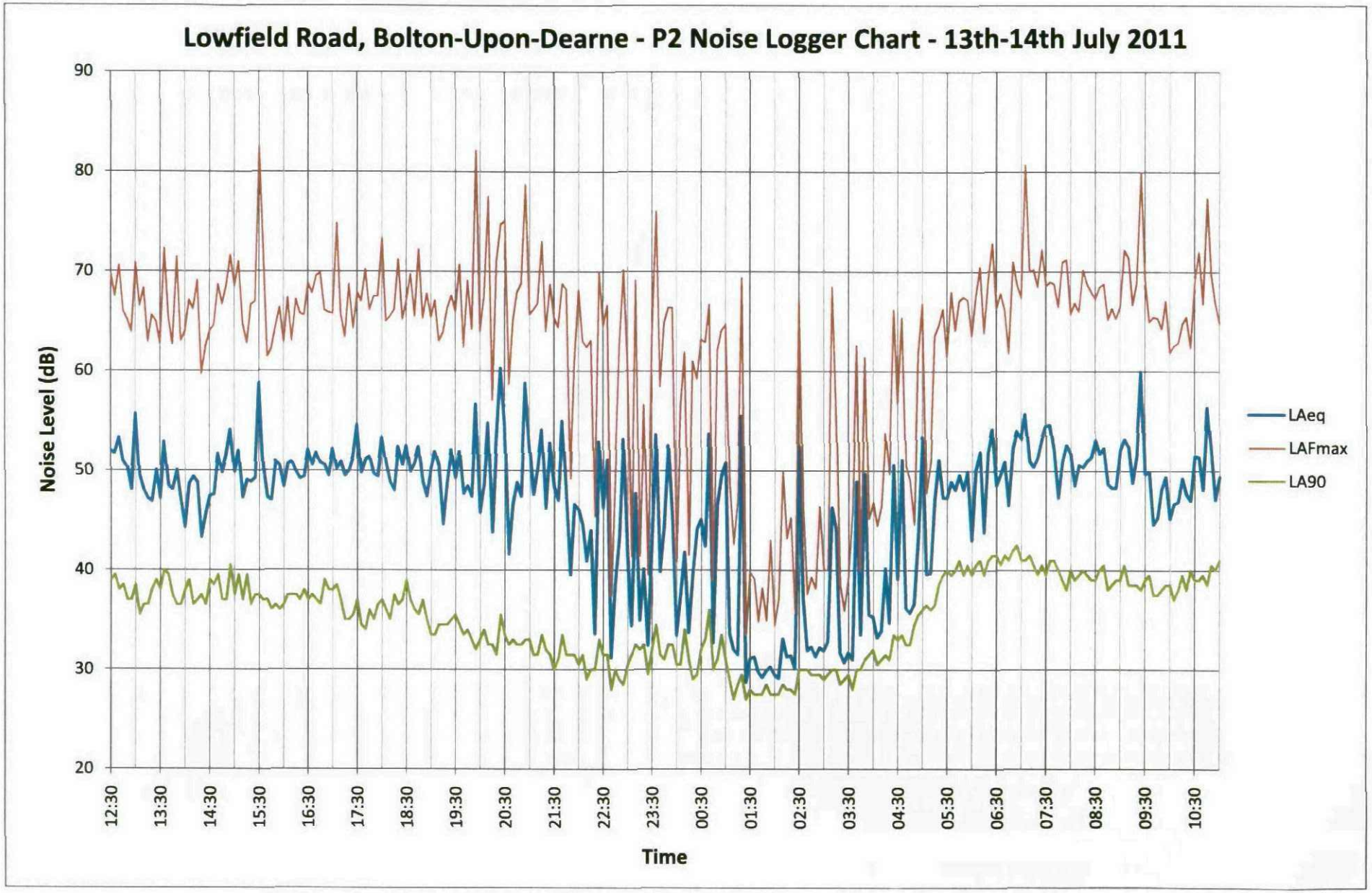
HOUSE TYPES

CODE	TYPE	NO
201	2 Bed semi/terr	10
202	2 Bed semi-det	10
301	3 Bed semi-det	11
302	3 Bed semi-det	4
304	3 Bed detached	3
307	3 Bed detached	2
308	3 Bed semi-det	4
401	4 Bed detached	5
403/4	4 Bed detached	4
405	4 Bed detached	7
	TOTAL	**60**

APPENDIX C

Noise Logger Charts and Environmental Noise Record Sheets


Lowfield Road, Bolton-Upon-Dearne - P1 Noise Logger Chart - 13th-14th July 2011
Noise Level (dB)
90
80
70
60
50
40
30
20
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
Time
LAeq
LAFmax
LA90


Lowfield Road, Bolton-Upon-Dearne - P2 Noise Logger Chart - 13th-14th July 2011
Noise Level (dB)
90
80
70
60
50
40
30
20
12:30
13:30
14:30
15:30
16:30
17:30
18:30
19:30
20:30
21:30
22:30
23:30
00:30
01:30
02:30
03:30
04:30
05:30
06:30
07:30
08:30
09:30
10:30
Time
LAeq
LAFmax
LA90

ENVIRONMENTAL NOISE RECORD SHEET

Location: Position 3 – Far south east corner of site
Date: 13/07/2011
Calibration Times: 13:00, 16:00, 23:00, 00:30

Project: Lowfield Road, Bolton-Upon-Dearne
Instrumentation: B&K 2260
Plant Operating Condition: -

Date	Time		Weather			Noise Level dB(A)						Comments (Including description of noise (eg whine, hiss, rumble, impact, vehicle rain, vegetation, or animal noise).
	Start	Dur'n (Min)	Wind Speed m/s	Wind Dir'n	Cloud (%)	L10	L50	L90	LMAX	LMIN	LAeq	
13/07/2011	13:33	15	Low	-	100	47	42	39	60	37	45	Occasional road traffic, passenger train, wind in trees
13/07/2011	14:31	15	Low	-	100	48	41	39	66	36	48	Occasional road traffic, passenger train, wind in trees
13/07/2011	15:14	15	Low	-	100	45	40	38	64	36	42	Occasional road traffic, passenger train, wind in trees
13/07/2011	23:04	15	Low	-	100	38	35	33	51	30	37	Occasional road traffic, passenger train
13/07/2011	23:37	15	Low	-	100	44	36	33	61	30	43	Occasional road traffic, passenger train

Date	Time	LAeq dB(A)	Octave Band Pressure Level									Comments
			31	63	125	250	500	1k	2k	4k	8k	
13/07/2011	13:33 – 13:48	45	63	57	50	44	39	40	37	30	22	As above
13/07/2011	14:31 – 14:46	48	62	57	52	46	42	45	39	32	24	"
13/07/2011	15:14 – 15:29	42	62	55	47	40	37	37	33	28	19	"
13/07/2011	23:04 – 23:19	37	44	49	41	32	32	34	28	17	12	"
13/07/2011	23:37 – 23:52	43	49	50	48	40	38	39	36	27	15	"

ENVIRONMENTAL NOISE RECORD SHEET

Location: Position 4 – Far south west corner of site
Date: 13/07/2011
Calibration Times: 13:00, 16:00, 23:00, 00:30

Project: *Lowfield Road, Bolton-Upon-Dearne*
Instrumentation: B&K 2260
Plant Operating Condition: -

Date	Time		Weather			Noise Level dB(A)						Comments (Including description of noise (eg whine, hiss, rumble, impact, vehicle rain, vegetation, or animal noise).
	Start	Dur'n (Min)	Wind Speed m/s	Wind Dir'n	Cloud (%)	L10	L50	L90	LMAX	LMIN	LAeq	
13/07/2011	13:56	15	Low	-	100	45	40	38	71	35	47	Occasional road traffic, passenger train, wind in trees
13/07/2011	14:55	15	Low	-	100	46	41	38	69	36	46	Occasional road traffic, passenger train, wind in trees
13/07/2011	15:39	15	Low	-	100	44	40	37	70	34	46	Occasional road traffic, passenger train, wind in trees
13/07/2011	23:23	15	Low	-	100	35	32	30	49	29	34	Occasional road traffic, passenger train
13/07/2011	23:53	15	Low	-	100	51	34	30	74	27	53	Occasional road traffic, passenger + freight train

Date	Time	LAeq dB(A)	Octave Band Pressure Level									Comments
			31	63	125	250	500	1k	2k	4k	8k	
13/07/2011	13:56 – 14:11	47	60	54	51	40	43	42	38	35	29	As above
13/07/2011	14:55 – 15:10	46	59	56	48	40	40	39	37	33	28	"
13/07/2011	15:39 – 15:54	46	59	54	49	41	42	41	38	34	28	"
13/07/2011	23:23 – 23:38	34	43	47	37	28	30	31	23	16	14	"
13/07/2011	23:53 – 00:08	53	60	60	60	48	49	47	43	38	28	"

APPENDIX D

Logged Vibration VDV raw data

The logged VDV data is shown as follows:

Measurement No.	Time and date	Measured VDV $m/s^{1.75}$		
		x	y	z
1	13/07/2011 13:07:08	0.005	0.011	0.029
2	13/07/2011 13:12:08	0.001	0.001	0.001
3	13/07/2011 13:17:08	0.001	0.001	0.001
4	13/07/2011 13:22:08	0.001	0.001	0.001
5	13/07/2011 13:27:08	0.001	0.001	0.001
6	13/07/2011 13:32:08	0.001	0.001	0.001
7	13/07/2011 13:37:08	0.005	0.007	0.019
8	13/07/2011 13:42:08	0.005	0.009	0.022
9	13/07/2011 13:47:08	0.001	0.001	0.001
10	13/07/2011 13:52:08	0.004	0.005	0.009
11	13/07/2011 13:57:08	0.001	0.001	0.001
12	13/07/2011 14:02:08	0.001	0.001	0.001
13	13/07/2011 14:07:08	0.002	0.003	0.005
14	13/07/2011 14:12:08	0.001	0.001	0.001
15	13/07/2011 14:17:08	0.001	0.001	0.001
16	13/07/2011 14:22:08	0.001	0.001	0.001
17	13/07/2011 14:27:08	0.001	0.001	0.001
18	13/07/2011 14:32:08	0.001	0.001	0.001
19	13/07/2011 14:37:08	0.002	0.003	0.006
20	13/07/2011 14:42:08	0.006	0.007	0.020
21	13/07/2011 14:47:08	0.010	0.002	0.003
22	13/07/2011 14:52:08	0.010	0.006	0.014
23	13/07/2011 14:57:08	0.001	0.001	0.001
24	13/07/2011 15:02:08	0.003	0.003	0.008
25	13/07/2011 15:07:08	0.001	0.001	0.001
26	13/07/2011 15:12:08	0.001	0.001	0.001
27	13/07/2011 15:17:08	0.001	0.001	0.001
28	13/07/2011 15:22:08	0.001	0.001	0.001
29	13/07/2011 15:27:08	0.001	0.001	0.001
30	13/07/2011 15:32:08	0.001	0.001	0.001
31	13/07/2011 15:37:08	0.003	0.006	0.008
32	13/07/2011 15:42:08	0.004	0.006	0.021
33	13/07/2011 15:47:08	0.001	0.002	0.003
34	13/07/2011 15:52:08	0.001	0.001	0.001
35	13/07/2011 15:57:08	0.004	0.004	0.009
36	13/07/2011 16:02:08	0.002	0.003	0.006

Measurement No.	Time and date	Measured VDV $m/s^{1.75}$		
		x	y	z
37	13/07/2011 16:07:08	0.001	0.001	0.001
38	13/07/2011 16:12:08	0.001	0.001	0.001
39	13/07/2011 16:17:08	0.007	0.012	0.021
40	13/07/2011 16:22:08	0.001	0.001	0.001
40	13/07/2011 16:27:08	0.011	0.007	0.014
41	13/07/2011 16:32:08	0.001	0.001	0.001
42	13/07/2011 16:37:08	0.001	0.003	0.004
43	13/07/2011 16:42:08	0.011	0.007	0.014
44	13/07/2011 16:47:08	0.007	0.006	0.012
45	13/07/2011 16:52:08	0.002	0.003	0.007
46	13/07/2011 16:57:08	0.004	0.007	0.017
47	13/07/2011 17:02:08	0.002	0.003	0.004
48	13/07/2011 17:07:08	0.011	0.005	0.012
49	13/07/2011 17:12:08	0.001	0.001	0.001
50	13/07/2011 17:17:08	0.001	0.001	0.001
51	13/07/2011 17:22:08	0.001	0.001	0.001
52	13/07/2011 17:27:08	0.001	0.001	0.001
53	13/07/2011 17:32:08	0.001	0.001	0.001
54	13/07/2011 17:37:10	0.001	0.001	0.001
55	13/07/2011 17:42:10	0.006	0.008	0.017
56	13/07/2011 17:47:10	0.006	0.009	0.022
57	13/07/2011 17:52:10	0.003	0.007	0.013
58	13/07/2011 17:57:10	0.001	0.002	0.002
59	13/07/2011 18:02:10	0.001	0.002	0.004
60	13/07/2011 18:07:10	0.005	0.002	0.004
61	13/07/2011 18:12:10	0.001	0.001	0.001
62	13/07/2011 18:17:10	0.001	0.001	0.001
63	13/07/2011 18:22:10	0.001	0.001	0.001
64	13/07/2011 18:27:10	0.001	0.001	0.001
65	13/07/2011 18:32:10	0.001	0.001	0.001
66	13/07/2011 18:37:10	0.001	0.001	0.001
67	13/07/2011 18:42:10	0.010	0.008	0.018
68	13/07/2011 18:47:10	0.001	0.001	0.001
69	13/07/2011 18:52:10	0.001	0.001	0.001
70	13/07/2011 18:57:10	0.001	0.001	0.001
71	13/07/2011 19:02:10	0.003	0.005	0.009
72	13/07/2011 19:07:10	0.001	0.001	0.001
73	13/07/2011 19:12:10	0.001	0.001	0.001
74	13/07/2011 19:17:10	0.005	0.008	0.014

Measurement No.	Time and date	Measured VDV m/s$^{1.75}$		
		x	y	z
75	13/07/2011 19:22:10	0.001	0.001	0.001
76	13/07/2011 19:27:10	0.001	0.001	0.001
77	13/07/2011 19:32:10	0.001	0.001	0.001
78	13/07/2011 19:37:10	0.001	0.001	0.001
79	13/07/2011 19:42:10	0.007	0.007	0.012
80	13/07/2011 19:47:10	0.001	0.002	0.003
81	13/07/2011 19:52:10	0.001	0.001	0.001
82	13/07/2011 19:57:10	0.001	0.001	0.001
83	13/07/2011 20:02:10	0.001	0.001	0.001
84	13/07/2011 20:07:10	0.001	0.001	0.001
85	13/07/2011 20:12:10	0.001	0.001	0.001
86	13/07/2011 20:17:10	0.001	0.001	0.001
87	13/07/2011 20:22:10	0.001	0.001	0.001
88	13/07/2011 20:27:10	0.001	0.001	0.001
89	13/07/2011 20:32:10	0.001	0.001	0.002
90	13/07/2011 20:37:10	0.006	0.006	0.016
91	13/07/2011 20:42:10	0.006	0.010	0.024
92	13/07/2011 20:47:10	0.006	0.001	0.001
93	13/07/2011 20:52:10	0.006	0.001	0.001
94	13/07/2011 20:57:10	0.001	0.003	0.003
95	13/07/2011 21:02:10	0.001	0.001	0.001
96	13/07/2011 21:07:10	0.006	0.011	0.026
97	13/07/2011 21:12:10	0.007	0.012	0.025
98	13/07/2011 21:17:10	0.001	0.001	0.001
99	13/07/2011 21:22:10	0.001	0.001	0.001
100	13/07/2011 21:27:10	0.001	0.001	0.001
101	13/07/2011 21:32:10	0.005	0.008	0.017
102	13/07/2011 21:37:10	0.001	0.003	0.003
103	13/07/2011 21:42:10	0.007	0.009	0.021
104	13/07/2011 21:47:10	0.001	0.001	0.001
105	13/07/2011 21:52:10	0.006	0.009	0.018
106	13/07/2011 21:57:10	0.001	0.002	0.002
107	13/07/2011 22:02:10	0.001	0.003	0.003
108	13/07/2011 22:07:10	0.001	0.003	0.003
109	13/07/2011 22:12:10	0.001	0.001	0.001
110	13/07/2011 22:17:10	0.001	0.001	0.001
111	13/07/2011 22:22:10	0.001	0.001	0.001

Measurement No.	Time and date	Measured VDV $m/s^{1.75}$		
		x	y	z
112	13/07/2011 22:27:10	0.001	0.001	0.001
113	13/07/2011 22:32:10	0.001	0.001	0.001
114	13/07/2011 22:37:10	0.006	0.006	0.015
115	13/07/2011 22:42:10	0.001	0.001	0.001
116	13/07/2011 22:47:10	0.006	0.008	0.019
117	13/07/2011 22:52:10	0.001	0.002	0.002
118	13/07/2011 22:57:10	0.001	0.001	0.001
119	13/07/2011 23:02:10	0.001	0.001	0.001
120	13/07/2011 23:07:10	0.005	0.007	0.016
121	13/07/2011 23:12:10	0.001	0.001	0.001
122	13/07/2011 23:17:10	0.001	0.001	0.001
123	13/07/2011 23:22:10	0.001	0.001	0.001
124	13/07/2011 23:27:10	0.001	0.001	0.001
125	13/07/2011 23:32:10	0.001	0.001	0.001
126	13/07/2011 23:37:10	0.001	0.001	0.001
127	13/07/2011 23:42:10	0.001	0.002	0.002
128	13/07/2011 23:47:10	0.001	0.001	0.001
129	13/07/2011 23:52:10	0.001	0.001	0.001
130	13/07/2011 23:57:10	0.001	0.001	0.001
131	14/07/2011 00:02:10	0.008	0.004	0.007
132	14/07/2011 00:07:10	0.001	0.002	0.003
133	14/07/2011 00:12:10	0.001	0.001	0.001
134	14/07/2011 00:17:10	0.001	0.001	0.001
135	14/07/2011 00:22:10	0.001	0.001	0.001
136	14/07/2011 00:27:10	0.001	0.001	0.001
137	14/07/2011 00:32:10	0.001	0.001	0.001
138	14/07/2011 00:37:10	0.002	0.003	0.007
139	14/07/2011 00:42:10	0.001	0.001	0.001
140	14/07/2011 00:47:10	0.006	0.017	0.028
141	14/07/2011 00:52:10	0.001	0.001	0.001
142	14/07/2011 00:57:10	0.001	0.001	0.001
143	14/07/2011 01:02:10	0.005	0.010	0.015
144	14/07/2011 01:07:10	0.001	0.001	0.001
145	14/07/2011 01:12:10	0.003	0.005	0.010
146	14/07/2011 01:17:10	0.001	0.001	0.001
147	14/07/2011 01:22:10	0.001	0.001	0.001
148	14/07/2011 01:27:10	0.006	0.008	0.019
149	14/07/2011 01:32:10	0.004	0.007	0.012

Measurement No.	Time and date	Measured VDV $m/s^{1.75}$		
		x	y	z
150	14/07/2011 01:37:10	0.001	0.001	0.001
151	14/07/2011 01:42:10	0.001	0.001	0.001
152	14/07/2011 01:47:10	0.001	0.001	0.001
153	14/07/2011 01:52:10	0.001	0.001	0.001
154	14/07/2011 01:57:10	0.001	0.001	0.001
155	14/07/2011 02:02:10	0.001	0.001	0.001
156	14/07/2011 02:07:10	0.001	0.001	0.001
157	14/07/2011 02:12:10	0.001	0.001	0.001
158	14/07/2011 02:17:10	0.001	0.001	0.001
159	14/07/2011 02:22:10	0.001	0.001	0.001
160	14/07/2011 02:27:10	0.001	0.001	0.001
161	14/07/2011 02:32:10	0.001	0.001	0.001
162	14/07/2011 02:37:10	0.001	0.001	0.001
163	14/07/2011 02:42:10	0.004	0.014	0.026
164	14/07/2011 02:47:10	0.001	0.001	0.001
165	14/07/2011 02:52:10	0.001	0.001	0.001
166	14/07/2011 02:57:10	0.001	0.001	0.001
167	14/07/2011 03:02:10	0.001	0.001	0.001
168	14/07/2011 03:07:10	0.001	0.001	0.001
169	14/07/2011 03:12:10	0.001	0.001	0.001
170	14/07/2011 03:17:10	0.001	0.001	0.001
171	14/07/2011 03:22:10	0.004	0.010	0.016
172	14/07/2011 03:27:10	0.001	0.001	0.001
173	14/07/2011 03:32:10	0.001	0.001	0.001
174	14/07/2011 03:37:10	0.001	0.001	0.001
175	14/07/2011 03:42:10	0.001	0.001	0.001
176	14/07/2011 03:47:10	0.003	0.010	0.013
177	14/07/2011 03:52:10	0.001	0.001	0.001
178	14/07/2011 03:57:10	0.001	0.001	0.001
179	14/07/2011 04:02:10	0.009	0.005	0.009
180	14/07/2011 04:07:10	0.001	0.001	0.001
181	14/07/2011 04:12:10	0.001	0.001	0.001
182	14/07/2011 04:17:10	0.001	0.001	0.001
183	14/07/2011 04:22:10	0.001	0.001	0.001
184	14/07/2011 04:27:10	0.001	0.001	0.001
185	14/07/2011 04:32:10	0.001	0.001	0.001
186	14/07/2011 04:37:10	0.007	0.009	0.021

Measurement No.	Time and date	Measured VDV m/s$^{1.75}$		
		x	y	z
187	14/07/2011 04:42:10	0.001	0.001	0.001
188	14/07/2011 04:47:10	0.005	0.007	0.014
189	14/07/2011 04:52:10	0.001	0.001	0.001
190	14/07/2011 04:57:10	0.001	0.001	0.001
191	14/07/2011 05:02:10	0.001	0.001	0.001
192	14/07/2011 05:07:10	0.005	0.007	0.021
193	14/07/2011 05:12:10	0.001	0.001	0.001
194	14/07/2011 05:17:10	0.001	0.001	0.001
195	14/07/2011 05:22:10	0.001	0.001	0.001
196	14/07/2011 05:27:10	0.002	0.002	0.006
197	14/07/2011 05:32:10	0.001	0.001	0.001
198	14/07/2011 05:37:10	0.001	0.001	0.001
199	14/07/2011 05:42:10	0.001	0.001	0.001
200	14/07/2011 05:47:10	0.002	0.001	0.001
201	14/07/2011 05:52:10	0.005	0.004	0.012
202	14/07/2011 05:57:10	0.003	0.008	0.010
203	14/07/2011 06:02:10	0.010	0.001	0.001
204	14/07/2011 06:07:10	0.010	0.001	0.001
205	14/07/2011 06:12:10	0.001	0.001	0.001
206	14/07/2011 06:17:10	0.001	0.001	0.001
207	14/07/2011 06:22:10	0.003	0.004	0.009
208	14/07/2011 06:27:10	0.001	0.001	0.001
209	14/07/2011 06:32:10	0.006	0.009	0.020
210	14/07/2011 06:37:10	0.001	0.001	0.001
211	14/07/2011 06:42:10	0.001	0.001	0.001
212	14/07/2011 06:47:10	0.007	0.008	0.020
213	14/07/2011 06:52:10	0.001	0.001	0.001
214	14/07/2011 06:57:10	0.001	0.001	0.001
215	14/07/2011 07:02:10	0.002	0.003	0.003
216	14/07/2011 07:07:10	0.010	0.009	0.029
217	14/07/2011 07:12:10	0.008	0.009	0.019
218	14/07/2011 07:17:10	0.001	0.001	0.001
219	14/07/2011 07:22:10	0.001	0.001	0.001
220	14/07/2011 07:27:10	0.006	0.008	0.019
221	14/07/2011 07:32:10	0.003	0.004	0.009
222	14/07/2011 07:37:10	0.006	0.005	0.009
223	14/07/2011 07:42:10	0.003	0.006	0.010
224	14/07/2011 07:47:10	0.008	0.012	0.024

Measurement No.	Time and date	Measured VDV $m/s^{1.75}$		
		x	y	z
225	14/07/2011 07:52:10	0.004	0.007	0.008
226	14/07/2011 07:57:10	0.001	0.001	0.001
227	14/07/2011 08:02:10	0.001	0.001	0.001
228	14/07/2011 08:07:10	0.001	0.001	0.001
229	14/07/2011 08:12:10	0.001	0.001	0.001
230	14/07/2011 08:17:10	0.001	0.001	0.001
231	14/07/2011 08:22:10	0.001	0.001	0.001
232	14/07/2011 08:27:10	0.001	0.001	0.001
233	14/07/2011 08:32:10	0.001	0.001	0.001
234	14/07/2011 08:37:10	0.006	0.006	0.015
235	14/07/2011 08:42:10	0.008	0.007	0.011
236	14/07/2011 08:47:10	0.001	0.002	0.003
237	14/07/2011 08:52:10	0.001	0.001	0.001
238	14/07/2011 08:57:10	0.001	0.001	0.001
239	14/07/2011 09:02:10	0.001	0.001	0.001
240	14/07/2011 09:07:10	0.001	0.002	0.001
241	14/07/2011 09:12:10	0.009	0.011	0.015
242	14/07/2011 09:17:10	0.001	0.001	0.001
243	14/07/2011 09:22:10	0.001	0.001	0.001
244	14/07/2011 09:27:10	0.001	0.002	0.001
245	14/07/2011 09:32:10	0.001	0.001	0.001
246	14/07/2011 09:37:10	0.005	0.011	0.018
247	14/07/2011 09:42:10	0.002	0.004	0.003
248	14/07/2011 09:47:10	0.006	0.016	0.019
249	14/07/2011 09:52:10	0.001	0.001	0.001
250	14/07/2011 09:57:10	0.001	0.002	0.001
251	14/07/2011 10:02:10	0.002	0.002	0.004
252	14/07/2011 10:07:10	0.001	0.002	0.001
253	14/07/2011 10:12:10	0.001	0.001	0.001
254	14/07/2011 10:17:10	0.001	0.002	0.001
255	14/07/2011 10:22:10	0.001	0.002	0.001
256	14/07/2011 10:27:10	0.001	0.002	0.001
257	14/07/2011 10:32:10	0.001	0.001	0.001
258	14/07/2011 10:37:10	0.007	0.009	0.014
259	14/07/2011 10:42:10	0.008	0.008	0.013
260	14/07/2011 10:47:10	0.001	0.002	0.002
261	14/07/2011 10:52:10	0.001	0.001	0.001

Measurement No.	Time and date	Measured VDV $m/s^{1.75}$		
		x	y	z
262	14/07/2011 10:57:10	0.001	0.001	0.001
263	14/07/2011 11:02:10	0.001	0.002	0.001
264	14/07/2011 11:07:10	0.001	0.001	0.001
265	14/07/2011 11:12:10	0.001	0.002	0.001
266	13/07/2011 13:07:08	0.005	0.011	0.029

APPENDIX E

Rail movements through Bolton-Upon-Dearne Station

TRAINS WHICH STOP AT BOLTON-UPON-DEARNE (24 hours)

05:45	05:46	2N10	SHEFFIELD	05:22	LEEDS	06:30	WTT	SX
06:17	06:18	2N11	LEEDS	05:33	SHEFFIELD	06:44	WTT	SX
06:55	06:56	2N12	SHEFFIELD	06:28	LEEDS	07:40	WTT	SX
07:25	07:26	2N13	LEEDS	06:43	SHEFFIELD	07:54	WTT	SX
07:38	07:39	2N14	SHEFFIELD	07:15	LEEDS	08:30	WTT	SX
08:30	08:31	2N15	LEEDS	07:48	SHEFFIELD	08:58	WTT	SX
08:40	08:41	2N16	SHEFFIELD	08:15	LEEDS	09:30	WTT	SX
09:30	09:31	2N17	LEEDS	08:48	SHEFFIELD	09:59	WTT	SX
09:40	09:41	2N18	SHEFFIELD	09:15	LEEDS	10:30	WTT	SX
10:30	10:31	2N19	LEEDS	09:48	SHEFFIELD	10:59	WTT	SX
10:40	10:41	2N20	SHEFFIELD	10:14	LEEDS	11:30	WTT	SX
11:30	11:31	2N21	LEEDS	10:48	SHEFFIELD	11:59	WTT	SX
11:40	11:41	2N22	SHEFFIELD	11:14	LEEDS	12:30	WTT	SX
12:30	12:31	2N23	LEEDS	11:48	SHEFFIELD	12:59	WTT	SX
12:40	12:41	2N24	SHEFFIELD	12:14	LEEDS	13:29	WTT	SX
13:30	13:31	2N25	LEEDS	12:48	SHEFFIELD	13:59	WTT	SX
13:40	13:41	2N26	SHEFFIELD	13:14	LEEDS	14:28	WTT	SX
14:30	14:31	2N27	LEEDS	13:48	SHEFFIELD	14:59	WTT	SX
14:40	14:41	2N28	SHEFFIELD	14:14	LEEDS	15:30	WTT	SX
15:30	15:31	2N29	LEEDS	14:48	SHEFFIELD	15:59	WTT	SX
15:39	15:40	2N30	SHEFFIELD	15:14	LEEDS	16:30	WTT	SX
16:30	16:31	2N31	LEEDS	15:48	SHEFFIELD	16:59	WTT	SX
16:39	16:40	2N32	SHEFFIELD	16:14	LEEDS	17:31	WTT	SX
17:30	17:31	2N33	LEEDS	16:48	SHEFFIELD	17:59	WTT	SX
17:40	17:41	2N34	SHEFFIELD	17:14	LEEDS	18:29	WTT	SX
18:30	18:31	2N35	LEEDS	17:48	SHEFFIELD	18:59	WTT	SX
18:40	18:41	2N36	SHEFFIELD	18:14	LEEDS	19:29	WTT	SX
19:30	19:31	2N37	LEEDS	18:48	SHEFFIELD	19:58	WTT	SX
19:43	19:44	2N38	SHEFFIELD	19:19	LEEDS	20:33	WTT	FSX
20:30	20:31	2N39	LEEDS	19:48	SHEFFIELD	20:59	WTT	FSX
20:54	20:55	2N40	SHEFFIELD	20:27	LEEDS	21:43	WTT	SX
21:31	21:32	2N41	LEEDS	20:48	SHEFFIELD	21:59	WTT	SX
21:55	21:56	2N42	SHEFFIELD	21:30	LEEDS	22:43	WTT	FSX
22:30	22:31	2N43	LEEDS	21:48	SHEFFIELD	23:00	WTT	SX
22:50	22:51	2N44	SHEFFIELD	22:24	LEEDS	23:36	WTT	SX
23:40	23:41	2N46	SHEFFIELD	23:15	LEEDS	00:29	WTT	FSX
23:51	23:52	2N45	LEEDS	23:09	SHEFFIELD	00:17	WTT	SX

TRAINS THROUGH BOLTON-UPON-DEARNE (0700 - 2300) (note timings *are for Moorthorpe*)

07:06	07:06	2N12	SHEFFIELD	06:28	LEEDS	07:40	WTT	SX
07:14	07:15	2N13	LEEDS	06:43	SHEFFIELD	07:54	WTT	SX
PASS	07:27	1S90	BHAMNEWST	06:00	GLASGOW C	12:14	WTT	SX
PASS	07:27	1V46	YORK	06:32	PLYMOUTH	12:50	WTT	MSX
PASS	07:32	6V67	REDCAR OT	03:53	MARGAM TC	15:39	WTT	MSX
PASS	07:37	0G16	BHILUS2 3	07:05	MIDLANDRD	08:23	STP	MSX
07:49	07:54	2N14	SHEFFIELD	07:15	LEEDS	08:30	WTT	SX
08:19	08:20	2N15	LEEDS	07:48	SHEFFIELD	08:58	WTT	SX
PASS	08:20	4E01	SOTON M T	01:52	LEEDS FLT	09:25	VAR	TWO
PASS	08:33	1V48	NCASTLCEN	06:44	PLYMOUTH	13:43	WTT	SX
PASS	08:37	1S61	BHAMNEWST	07:03	EDINBURGH	12:03	WTT	SX
08:51	08:52	2N16	SHEFFIELD	08:15	LEEDS	09:30	WTT	SX
PASS	09:03	6F70	CLITHERCC	05:34	LEIC PBRD	11:47	WTT	MSX
09:19	09:20	2N17	LEEDS	08:48	SHEFFIELD	09:59	WTT	SX
PASS	09:33	1V50	EDINBURGH	06:06	PLYMOUTH	14:50	WTT	SX
PASS	09:37	1S71	BATH SPA	06:09	GLASGOW C	14:12	WTT	SX
09:51	09:53	2N18	SHEFFIELD	09:15	LEEDS	10:30	WTT	SX
10:00	10:01	2Y80	SHEFFIELD	09:29	YORK	10:55	WTT	SX
10:19	10:20	2N19	LEEDS	09:48	SHEFFIELD	10:59	WTT	SX
PASS	10:24	4E90	RATCLIFFE	08:31	MILFORDWS	11:11	STP	WTHO
PASS	10:33	1V52	GLASGOW C	06:01	PLYMOUTH	15:43	WTT	SX
PASS	10:37	1S98	PLYMOUTH	05:20	EDINBURGH	14:10	WTT	SX
10:52	10:53	2N20	SHEFFIELD	10:14	LEEDS	11:30	WTT	SX
11:19	11:20	2N21	LEEDS	10:48	SHEFFIELD	11:59	WTT	SX
PASS	11:33	1V54	DUNDEE	06:32	PLYMOUTH	16:50	WTT	SX
PASS	11:37	1S33	PLYMOUTH	06:25	GLASGOW C	16:23	WTT	SX
11:52	11:53	2N22	SHEFFIELD	11:14	LEEDS	12:30	WTT	SX
11:59	11:59	2Y87	YORK	11:06	SHEFFIELD	12:33	WTT	SX
12:19	12:20	2N23	LEEDS	11:48	SHEFFIELD	12:59	WTT	SX
PASS	12:33	1V56	GLASGOW C	07:50	PLYMOUTH	17:43	WTT	SX
PASS	12:37	1S31	PLYMOUTH	07:25	EDINBURGH	16:05	WTT	SX
12:51	12:53	2N24	SHEFFIELD	12:14	LEEDS	13:29	WTT	SX
PASS	12:56	4O55	LEEDS FLT	12:15	SOTON M T	21:38	VAR	MSX
PASS	13:00	4E69	SOTNWDKS	05:10	WAKEFEURO	13:45	WTT	MSX
13:19	13:20	2N25	LEEDS	12:48	SHEFFIELD	13:59	WTT	SX
PASS	13:33	1V58	GLASGOW C	09:00	PENZANCE	20:52	WTT	FSX
PASS	13:37	1S35	PENZANCE	06:28	GLASGOW C	18:16	WTT	SX
13:51	13:53	2N26	SHEFFIELD	13:14	LEEDS	14:28	WTT	SX
PASS	13:58	6J71	TEESDK EB	10:52	ALDWKE NS	14:24	WTT	MSX
14:00	14:01	2Y82	SHEFFIELD	13:29	YORK	14:54	WTT	SX
14:19	14:20	2N27	LEEDS	13:48	SHEFFIELD	14:59	WTT	SX
PASS	14:33	1V60	ABERDEEN	08:20	PENZANCE	21:42	WTT	SX
PASS	14:37	1S39	PLYMOUTH	09:25	ABERDEEN	20:43	WTT	SX
14:51	14:53	2N28	SHEFFIELD	14:14	LEEDS	15:30	WTT	SX
15:19	15:20	2N29	LEEDS	14:48	SHEFFIELD	15:59	WTT	SX
PASS	15:33	1V62	GLASGOW C	10:59	PENZANCE	22:43	WTT	SX
PASS	15:37	1S43	PENZANCE	08:28	GLASGOW C	20:15	WTT	SX
PASS	15:42	6Z66	WOLSINGHM	12:03	RATCLIFFE	17:00	STP	TWO
15:50	15:50	2Y89	YORK	15:01	SHEFFIELD	16:24	WTT	SX
15:50	15:53	2N30	SHEFFIELD	15:14	LEEDS	16:30	WTT	SX
PASS	15:56	6M11	KILLOCH C	04:38	RATCLIFE	19:12	VAR	MSX
PASS	16:02	6E89	DAWMILL	12:53	DRAX FLT	18:45	WTT	MTWFO
PASS	16:10	6V66	REDCAR OT	12:07	MARGAM TC	00:46	VAR	FSX
16:19	16:20	2N31	LEEDS	15:48	SHEFFIELD	16:59	WTT	SX
PASS	16:33	1V64	EDINBURGH	13:06	PLYMOUTH	21:44	WTT	FSX
PASS	16:36	1S47	PLYMOUTH	11:25	DUNDEE	21:42	WTT	SX
16:50	16:53	2N32	SHEFFIELD	16:14	LEEDS	17:31	WTT	SX
PASS	17:01	1V96	NCASTLCEN	15:03	READNG	20:08	WTT	SX
PASS	17:08	6F94	STPANC CC	11:03	CLITHERCC	21:03	WTT	SX

17:19	17:20	2N33	LEEDS	16:48	SHEFFIELD	17:59	WTT	SX
PASS	17:25	6E77	WESTRLEGH	11:41	PTCLARNCP	19:36	WTT	WO
PASS	17:33	1V66	GLASGOW C	12:51	PLYMOUTH	22:45	WTT	SX
PASS	17:37	1S51	PLYMOUTH	12:23	GLASGOW C	22:27	WTT	SX
PASS	17:46	0E23	MIDLANDRD	17:00	BHILUS2 3	18:27	STP	WO
17:51	17:53	2N34	SHEFFIELD	17:14	LEEDS	18:29	WTT	SX
PASS	18:03	1S52	STHAMPTON	13:46	EDINBURGH	21:35	WTT	SX
18:19	18:20	2N35	LEEDS	17:48	SHEFFIELD	18:59	WTT	SX
PASS	18:32	1V68	EDINBURGH	15:08	PLYMOUTH	23:44	WTT	SX
PASS	18:37	1S55	PLYMOUTH	13:23	EDINBURGH	22:16	WTT	SX
18:51	18:53	2N36	SHEFFIELD	18:14	LEEDS	19:29	WTT	SX
PASS	18:56	6M87	ATTRCFDBS	18:20	ALEXANDDK	22:54	VAR	FSX
PASS	19:12	4O52	WAKEFEURO	18:29	SOTNWDKS	03:15	VAR	TWTHO
PASS	19:18	4E66	MARGAM TC	08:55	REDCAR OT	22:10	VAR	MSX
19:19	19:20	2N37	LEEDS	18:48	SHEFFIELD	19:58	WTT	SX
PASS	19:32	1V70	GLASGOW C	15:00	BRISTOLTM	23:15	VAR	SX
PASS	19:41	1S59	PLYMOUTH	14:25	EDINBURGH	23:04	VAR	MWTHO
19:57	20:00	2N38	SHEFFIELD	19:19	LEEDS	20:33	WTT	FSX
PASS	20:04	0G15	BHILUS2 3	19:20	MIDLANDRD	21:07	STP	WO
PASS	20:15	4Z66	RATCLIFFE	19:00	WOLSINGHM	22:31	VAR	TWO
20:19	20:20	2N39	LEEDS	19:48	SHEFFIELD	20:59	WTT	FSX
PASS	20:34	1V71	EDINBURGH	17:08	BRISTOLTM	00:14	VAR	SX
PASS	20:36	1E63	PLYMOUTH	15:23	LEEDS	21:05	WTT	SX
PASS	20:59	4O07	LEEDS FLT	20:20	MBRKFLT	03:26	VAR	WTHO
21:05	21:05	2N40	SHEFFIELD	20:27	LEEDS	21:43	WTT	SX
PASS	21:16	6V02	TEES YARD	18:43	MARGAM TC	04:34	VAR	FSX
PASS	21:16	4E35	MARGAM TC	13:15	REDCAR OT	23:45	WTT	SX
21:20	21:21	2N41	LEEDS	20:48	SHEFFIELD	21:59	WTT	SX
PASS	21:31	5F63	SHEFFIELD	21:12	NEVHILL D	22:45	WTT	FSX
PASS	21:33	1M81	GLASGOW C	16:52	BHAMNEWST	23:27	WTT	SX
PASS	21:37	1E67	PLYMOUTH	16:25	LEEDS	22:02	WTT	SX
PASS	21:45	1D62	STPANCRAS	18:15	LEEDS	22:17	WTT	SX
PASS	21:59	6V49	TEES YARD	19:34	ALEXDK JN	07:07	VAR	TWO
22:06	22:06	2N42	SHEFFIELD	21:30	LEEDS	22:43	WTT	FSX
PASS	22:10	5D90	DERBY	20:51	NEVHILL D	22:56	WTT	FSX
22:19	22:20	2N43	LEEDS	21:48	SHEFFIELD	23:00	WTT	SX
PASS	22:21	6E17	PK FOR SL	19:53	STOURTON	23:52	WTT	FSX
PASS	22:37	1F70	STPANCRAS	19:55	LEEDS	23:03	WTT	FSX
PASS	22:46	1E73	PLYMOUTH	17:23	LEEDS	23:15	WTT	SX

TRAINS THROUGH BOLTON-UPON-DEARNE (2300 - 0700) (note timings are for Moorthorpe)

23:01	23:01	2N44	SHEFFIELD	22:24	LEEDS	23:36	WTT	SX
PASS	23:05	1D69	STPANCRAS	19:30	LEEDS	23:40	WTT	FSX
PASS	23:35	6E91	EARLS SDS	21:56	DEWSBURYC	00:25	STP	FSX
23:40	23:41	2N45	LEEDS	23:09	SHEFFIELD	00:17	WTT	SX
23:51	23:52	2N46	SHEFFIELD	23:15	LEEDS	00:29	WTT	FSX
PASS	00:05	4E70	SOTNWDKS	16:10	WAKEFEURO	00:34	WTT	MWO
PASS	00:38	5L70	WAKEFLD W	00:21	SHEFFIELD	01:12	WTT	MSX
PASS	00:50	6E30	MARGAM TC	16:23	HARTLPLSW	05:24	WTT	FSX
PASS	00:55	4E76	SOTON M T	19:01	LEEDS FLT	01:33	WTT	FSX
PASS	01:01	6E12	CARDF HCB	17:12	PTCLARNCP	03:35	STP	WO
PASS	01:05	3Q28	NEVHILL D	21:51	DERBY RTC	03:26	WTT	WO
PASS	01:20	4M24	LEEDS FLT	00:45	BASFDHALL	04:43	VAR	MSX
PASS	02:02	6E25	DOWLOW FL	23:22	FERRYBGEC	02:23	WTT	WO
PASS	02:30	6F49	TYNEDK FL	22:20	COTTAM PS	06:39	WTT	TWTHO
PASS	02:58	6M92	GREENBURN	09:56	RATCLIFFE	06:25	STP	TWO
PASS	03:55	4M17	STOURTON	03:15	PK FOR SL	05:29	WTT	MSX
PASS	04:16	6E36	MARGAM TC	21:39	LACKENBY	07:15	WTT	FSX
PASS	04:22	6D14	ALDWKE NS	03:57	SHIPLEYCR	05:58	WTT	THO

PASS	04:27	6J86	HLY MILLS	04:00	ATTRCFDBS	05:29	WTT	TTHO
PASS	04:34	6E47	ALEXDK JN	20:36	TEES YARD	06:43	VAR	FSX
PASS	04:35	6M04	PTCLARNCP	01:49	BEDWORTHM	10:50	WTT	THO
PASS	04:45	5C11	NEVHILL D	04:12	SHEFFIELD	05:04	WTT	MSX
PASS	04:47	4E67	MARGAM TC	22:00	REDCAR OT	07:37	VAR	FSX
PASS	04:54	5C93	NEVHILL D	04:16	SHEFFIELD	05:12	WTT	MSX
PASS	05:01	4O53	WAKEFEURO	04:33	SOTNWDKS	12:43	WTT	MSX
PASS	05:25	6M38	EARLS SDS	04:30	BRUNTHILL	11:13	WTT	TTHO
PASS	05:35	3L05	SHEFFIELD	05:05	WAKEFLD K	05:55	WTT	MSX
PASS	05:49	0M66	MIDLANDRD	05:15	BHILUS2 3	06:25	STP	MSX
05:56	05:57	2N10	SHEFFIELD	05:22	LEEDS	06:30	WTT	SX

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DATED 2011

PLANNING AGREEMENT

between

(1) BARNSLEY METROPOLITAN BOROUGH COUNCIL

and

(2) GLEESON DEVELOPMENTS LIMITED

Planning Obligation Agreement under
Section 106 Town & Country Planning Act 1990

relating to land at

Lowfield Road, Bolton Upon Dearne

Chattertons Solicitors
5 South Street
Horncastle
Lincs
LN9 6DS
DX 29501 Horncastle

Ref: JSP.RCH.GLEES003.62

Deleted: 27/07/2011

THIS DEED is made the day of 2011

BETWEEN

1) BARNSLEY METROPOLITAN BOROUGH COUNCIL of 1 Gateway Plaza, Sackville St, Barnsley, South Yorkshire S70 ("the Council")

2) GLEESON DEVELOPMENTS LIMITED whose registered office is at Integration House, Rye Close Ancells Business Park, Fleet, Hampshire GU51 2QG (Company Registration Number; 00848808 ("the Owner")

RECITALS

(A) The Council is the local planning authority for the purposes of the 1990 Act for the area within which the Land is situated and by whom the obligations and covenants contained in this Deed are enforceable

(B) The Council is the housing authority for the purposes of the Housing Act 1985 and a local authority for the purposes of the 1972 Act and the 2000 Act

(C) The Council is the local education authority for the purposes of the 1990 and the highways authority for the area in which the land is situated

(D) The Owner is the registered proprietor of the registered land being registered at the Land Registry under title numbers SYK33950 and SYK393219.

(E) The Owner has submitted the Planning Application to the Council for the residential development of the Land

(F) To facilitate the granting of Planning Permission the parties have agreed to enter into this Deed to secure the obligations contained hereafter.

OPERATIVE PART

NOW THIS DEED WITNESSETH AS FOLLOWS:

1. DEFINITIONS AND INTERPRETATION

1.1. In this Deed the following terms shall have the following meanings: -

"1972 Act"	The Local Government Act 1972
" 1990 Act"	The Town and Country Planning Act 1990 (as amended)
" 2000 Act"	The Local Government Act 2000
"Affordable Housing"	Has the meaning given to it in annex B of the Planning "Policy Statement 3: Housing" as *published by the Department for Communities* and Local government dated November 2006
"Affordable Housing Units"	Means the Rented Affordable Housing Units and the Intermediate Dwellings to be provided in accordance with Schedule 1
"Completed" and "Completion"	In respect of a Dwelling, the issue of a Final Certificate under the Building Act 1984
" Development"	Means the development the subject of the Planning Application
"Dwelling"	Means any dwelling (including a house flat or maisonette) to be constructed on the Land pursuant to the Planning Permission.
["Index"	Means [ ]
"Interest"	2% above the base rate published by the Bank of England from time to time]
"Intermediate Dwellings"	Means Shared ownership Dwellings and Intermediate Rented dwellings and any other form or forms of intermediate affordable housing which comply with the definition of "intermediate affordable housing" in PPs3 Annex B and any other forms which may be agreed with the Council or brought into force by way of government initiative, comprising 1 x 2 bedroom semi-detached dwelling comprising the plot shown shaded green on plan 2 and 1 x 3 bedroom semi-detached dwelling comprising the plot shown shaded pink on plan 2.
"Land"	Means the land at Lowfield Road, Bolton Upon Dearne registered under title numbers

	SYK33950 and SYK393219 and shown for identification purposes edged red on plan 1 annexed hereto
"Plan 1"	means the plan annexed hereto and marked "Plan 1"
"Plan 2"	means the plan annexed hereto and marked "Plan 2"
"Planning Permission"	Means the planning permission granted pursuant to the Planning Application .
" Planning Application"	Means an application for planning permission for a residential development of the Land and allocated the Council's reference number XXX
"Protected Tenant"	Any tenant who: (a) has exercised the right to acquire pursuant to the Housing Act 1996 or any statutory provision for the time being in force (or any equivalent contractual right) in respect of a particular Affordable Housing Unit; or (b) has exercised any statutory right to buy (or any equivalent contractual right) in respect of a particular Affordable Housing Unit ;or (c) has been granted a shared ownership by a RSL (or similar arrangement where a share of the Affordable Housing Unit is owned by the tenant and a share is owned by the RSL) in respect of a particular Affordable Housing Unit and the tenant has subsequently purchased from the RSL all the remaining shares so that the tenant owns the entire Affordable Housing Unit
"Nature Area"	Means that part of the Land shown hatched and marked Plan 1 annexed hereto as "NA"
"Rented Affordable Housing Units"	Affordable Housing owned and managed by a

	local authority or a RSL which is available for rent and for which guideline target rents are determined through the central government national rent regime. It may also include rented housing owned or managed by other persons and provided under equivalent rental arrangements to the above, as agreed with the local authority or with the Housing Corporation as a condition of grant, comprising four x 2 bedroom semi-detached dwellings comprising those plots shaded yellow on Plan 2 and three x 3 bedroom semi-detached dwellings comprising those plots shaded orange on Plan 2
"Residential Units"	Means all of the Dwellings, excluding the Affordable Dwellings and "Residential Unit" shall be construed accordingly
"RSL"	means Together Housing Group of Bull Green House, Bull Green, Halifax, West Yorkshire, HX1 2EB

1.2. Where in this Deed reference is made to any clause paragraph schedule plan or recital such reference (unless the context otherwise requires) is a reference to a clause paragraph schedule recital or plan in this Deed

1.3. Where in any Schedule or part of any Schedule reference is made to a paragraph such reference shall (unless the context requires otherwise) be to a paragraph of that Schedule or (if relevant) part of that schedule

1.4. References to any party to this Deed shall include reference to their successors in title and assigns and to persons claiming or deriving title through or under them and in respect of the Council shall include the successors to their respective statutory functions

1.5. Words importing the singular meaning where the context so admits include the plural meaning and vice versa

1.6. Words of the masculine gender include the feminine and neuter genders and words denoting actual persons include companies, corporations and firms and all such words shall be construed interchangeable in that manner

1.7. Wherever there is more than one person named as a party and where more than one party undertakes an obligation all their obligations can be enforced against all of them jointly and against each individually unless there is an express provision otherwise

1.8. Any reference to an Act of Parliament shall include any modification, extension or re-enactment of that Act for the time being in force and shall include all instruments, orders, plans regulations, permissions and directions for the time being made, issued or given under that Act or deriving validity from it.

2. LEGAL BASIS

2.1. This Deed is made pursuant to Section 106 of the 1990 Act

2.2. The covenants restrictions and requirements imposed upon the Owner under this Deed create planning obligations pursuant to Section 106 of the 1990 Act and are intended to be enforceable by the Council as local planning, housing and education authority against the Owner.

3. CONDITIONALITY

3.1. This Deed is conditional upon:

3.1.1. the grant of the Planning Permission

3.1.2. the Commencement of Development save for the provisions of clauses 4.1.3, 4.1.6 and 6.1.2, which shall come into affect immediately upon completion of this Deed.

4. AGREEMENTS AND DECLARATIONS

4.1. The parties agree and declare that:

4.1.1. the provisions of this Deed shall not be enforceable by any person who is not a party to this Deed by virtue of the Contracts (Rights of Third Parties) Act 1999

4.1.2. The covenants given in this Deed shall cease to have effect if

4.1.2.1. the Planning Permission is quashed revoked or otherwise withdrawn at any time; or

4.1.2.2. the Planning Permission expires prior to the Commencement of Development; or

4.1.2.3. the Planning Permission is modified by any statutory procedure without the consent of the Owner

4.1.3. this Deed shall be registrable as a land charge by the Council as local planning authority

4.1.4. Following the performance and satisfaction of all of the obligations contained in this Deed the Council shall at the Owners expense effect the cancellation of all relevant entries made in the Register of Local Land Charges in respect of this Deed

4.1.5. no person or party shall be liable for a breach of the restrictions and obligations contained in this Deed after that person or party has parted with all of his interest in the Land or the part in respect of which the breach occurs but without prejudice to any liability for any breach committed prior to such parting

4.1.6. the Owner agrees to give the Council immediate written notice of any change in ownership of its legal interest in the Land occurring before all the obligations under this Deed have been discharged save in respect of the sale of the completed Dwellings to consumers and the sale of Lands for infrastructure purposes to any supplier of services for the general use of the Development or any material part of it

4.1.7. nothing in this Deed shall prohibit or limit the right to develop any part of the Land in accordance with a planning permission (other than the Planning Permission) granted (whether or not on appeal) after the date of this Deed

4.1.8. nothing contained in this Deed shall prejudice or affect the rights powers duties and obligations of the Council in the exercise of its functions as local authority and the local education authority and their rights powers duties and obligations under all public and private statutes byelaws and regulations may be as fully and effectually exercised as if the Council were not parties to this Deed

4.1.9. if any severable provision of this Deed shall be held to be invalid illegal or unenforceable the validity legality and enforceability of the remaining provisions shall not in any way be deemed thereby to be affected or impaired

4.1.10. no waiver unless in writing by the Council of any breach or default by the Owner in performing or observing any of the terms and conditions of this Deed shall constitute a continuing waiver and no such waiver shall prevent the Council from enforcing the said terms or conditions of the Deed which are relevant to them or from acting upon any subsequent breach

4.1.11. the obligations in this Deed shall not be enforceable against a statutory undertaker after the transfer of the statutory apparatus and any land upon or in which the statutory apparatus is situated to that statutory undertaker nor enforceable against any highway authority which may be responsible for any public highway maintainable at the public expense nor enforceable against any purchaser, owner or occupier for the time being of a completed Dwelling on the Land or their successors in title.

4.1.12. where the agreement approval consent or expression of satisfaction is required by the Owner from the Council under the terms of this Deed such agreement approval consent or expression of satisfaction shall not be unreasonably withheld or delayed

4.1.13. any notices requests demands or other written communications pursuant to this Deed shall be deemed to have been properly served if sent by recorded delivery to the principal address or registered office (as appropriate) of the relevant party

4.1.14 [if any payment due under this Deed is paid late Interest will be payable from the date payment is due until the date payment is made any sum referred to in this Deed shall be increased by an amount equivalent to the increase in the Index from the date hereof until the date on which such that sum becomes due]

5. **COUNCIL'S COVENANTS**

The Council covenants to comply with its obligations set out in this Deed (including any obligations contained in the Schedules) and further to grant the Planning Permission within 7 days of the date of this Deed.

6. **OWNER'S COVENANTS**

6.1. The Owner covenant with the Council so as to bind the Land into whosoever hands the same may fall:-

6.1.1. *to comply with its obligations as set out in First and Second Schedules*

6.1.2. to pay to the Council on the completion of this Deed the reasonable legal costs of the Council in preparing, negotiating and completing this Deed limited to no more than £[xxx]

7. **JURISDICTION**

This Deed shall be governed by and interpreted in accordance with the law of England and Wales.

8. **WAIVER**

No waiver (whether expressed or implied) by the Council or the Owner of any breach or default in performing or observing any of the covenants terms or conditions of this Deed shall constitute a continuing waiver and no such waiver shall prevent the Council or the Owner from enforcing any of the relevant terms or conditions or for acting upon any subsequent breach or default.

9. **DISPUTE RESOLUTION**

9.1 In the event of there being a dispute arising out of this Deed or the subject matter thereof the following provisions shall apply:

9.1.1 The parties shall use their reasonable endeavours to resolve the dispute by agreement

9.1.2 If agreement cannot be reached the matter in dispute shall be referred to and settled by a single expert to be nominated by the President of the Royal Institution of Chartered Surveyors on the application of any party after giving notice in writing to the other parties to this Deed

9.1.3 The person to be appointed pursuant to clause 9.1.2 shall be a person having ten years or more post qualification experience of projects comprising works of the scale and nature of the Development

9.1.4 Reference to the expert shall be on terms that determination shall take place within 28 working days of the expert accepting his instructions

9.1.5 The expert shall have the power to award costs of the determination in favour of either party to the dispute at the expense of the other party and failing such determination such costs shall be borne by the parties in equal shares

9.1.6 The expert shall be limited in his findings to the matter in dispute referred to him and shall provide written reasons for his decision

9.1.8 The findings of the expert shall (other than in the case of a manifest material error) be final and binding on the parties to the dispute.

10. VAT

All consideration given in accordance with the terms of this Deed shall be exclusive of any value added tax properly payable.

11. EXECUTION AND DELIVERY

This document is executed as a deed and is delivered on the date stated at the beginning of this Deed

IN WITNESS whereof the parties hereto have executed this Deed on the day and year first before written

FIRST SCHEDULE

Affordable housing

OPERATIVE PROVISIONS

1. In carrying out the Development to provide and construct the Affordable Housing Units to constructed to the same standard as the Residential Units. The Affordable Housing Units shall be offered to the RSL within 3 months following the date of Commencement of Development.
2. Not to cause or permit more than 75% of the Residential Units to be Occupied until either:-

2.1 The Affordable Rented Housing Units have been transferred to the RSL; or

2.2 The Owner/ has entered into a Contract with the RSL for the construction and sale of the Affordable Rented Housing Units.

3. Not to cause or permit the final Residential Unit to be Occupied until either:-

3.1 *The Intermediate Dwellings have been transferred to the RSL; or*

3.2 The Owner has entered into a Contract with the RSL for the construction and sale of the Intermediate Dwellings.

4. Any agreement to sell or transfer the Affordable Housing Units to the RSL shall contain the following provisions:-
   a. The grant by the Owner of all rights of access and passage of services and other rights reasonably necessary to the beneficial enjoyment of the Affordable Housing Units
   b. A reservation of all rights of access and passage of services and rights of entry reasonably necessary for the benefit of the remainder of the Dwellings on the Land.
5. The Owner shall not permit or cause to be permitted the Occupation of any of the Affordable Housing Units save through the RSL.
6. The Owners shall provide the Council written notification of the Commencement of Development of every phase of the Development and written notification of the first Occupation of every Residential Unit.
7. Following transfer management of the Affordable Housing Units is to be in accordance with the RSL's charitable objects.

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8. In providing the Affordable Housing Units the Owner shall if requested by the RSL to do so offer to provide targeted disabled adaptions to two of the two bedroomed Affordable Housing Units with a view to accommodating the needs of the RSL's proposed tenant/occupier.

SCHEDULE 2

Nature Area

The Owner hereby covenants with the Council:-

1. Not to Occupy or permit the Occupation of the final Residential Unit on the Land until there shall have been laid out upon the Nature Area a "nature walk" comprising a shingle footpath through the Nature Area (approximately along the route shown by the pink line on Plan 1 subject to any variations the Owner may require), together with the provision of two wooden seating benches to be located within the Nature Area. The Nature Area shall be fenced off, but shall be accessable from the Land by pedestrians on foot, as indicated by the pink line on the Plan.
2. Following completion of the laying out of the "nature walk" in the Nature Area the Owner shall serve written notice of such completion to the Council.
3. The Owner and Council acknowledge that there will be no ongoing maintenance requirements in respect of the Nature Area and therefore, no provision for maintenance needs to be made in this Agreement.
4. Within 30 days of the sale of the final Residential Unit on the Land (and subject to the works set out at paragraph 1 above having been completed) the Owner shall execute (and the Council shall accept) a transfer of the Nature Area in favour of the Council for the consideration of £1 and the Owner shall deliver the said transfer to the Council for completion by the Council, such transfer to contain:-
    1. A restrictive covenant for the benefit of the Land (excluding the Nature Area) restricting the use of the Nature Area for that as a natural open space and
    2. Any rights and reservations that the Owner may require in relation to the Land (excluding the Nature Area) and any other land which the Owner may own in the adjacent area provided that such rights and reservations do not interfere with the Nature Area being used as a natural open space.

Deleted: 27/07/2011

THE COMMON SEAL OF)

BARNSLEY METROPOLATIN)

BOROUGH COUNCIL was affixed in the presence of:)

Authorised Signatory:

EXECUTED AS A DEED by)

GLEESON DEVELOMENTS LIMITED)

in the presence of:)

Director:

Director/Secretary:

Deleted: 27/07/2011

Affordable Housing Proposal Plan



Affordable Housing Statement:
60 No. Units at Lowfield Road,
Bolton upon Dearne

gleeson

28th July 2011

Gleeson Homes will comply with the policy requirement by providing the following homes which represent 15% of the total number to be developed on the site

- 4 No. 2 bed semis for rent
- 3 No. 3 bed semis for rent
- 1 No. 2 bed semi for shared equity sale
- 1 No. 3 bed semi for shared equity sale
- 9 No. units total

These homes will be to the same specification and finish as the remainder of the homes on the development so that they will be unidentifiable. The rented units will be made available to an RSL who we anticipate will manage them. They will be completed before 75% of the remainder of the development is complete and the intermediate units will be to complete before the end of the development.

We attach a site layout indicating the proposed siting of affordable housing units (subject to final approval of our sales department), the floor plans are identical to those included in the 'house type drawings' section of this application. The parking arrangements will be 'parking spaces' as indicated, garages are only constructed where purchasers pay extra (or on 4 bed detached units). We confirm we have had initial discussions with your preferred RSL in respect of the purchase of these units and such discussions were productive. We confirm we do not expect any 'service charges' to be levied by Gleeson or indeed any management company on this site. Finally, as prescribed in our draft section 106, 2 no. of our rented 2 bed units will be fitted with targeted disabled adaptations, as agreed and requested by the RSL purchasing.

In respect of the remainder of the site, Gleeson pride themselves in delivering low cost home ownership to local people. We are happy to discuss nomination rights to Barnsley MBC for up to 10% of the remaining units, at a set price, for nomination and purchase by people who currently rent from the local authority, thus further 'freeing up' rental units for people who can not afford to buy.

We also will make available a number of schemes that enable people on low incomes to purchase a new home. Unique to Gleeson Homes is our save and build scheme which fixes the price of the new home for a year and provides a savings scheme for the customer so they can accumulate a deposit. We then match their savings pound for pound. We have a range of other schemes which will also be available for customers.

Affordable Housing Proposal Plan

