

LAND AT CROSSLEE, HIPPERHOLME

Statement of Common Ground (October 2020)

1. INTRODUCTION

The Statement sets out common ground between Crosslee and Calderdale Council on planning and transport matters.

The Statement relates to Draft Employment Allocation LP0032 and land adjacent comprising the former Crosslee tumble dryer factory (and associated land), which has now ceased production.

Since the public announcement about the closure of the factory Crosslee has entered into discussions with the Council about how best to secure an appropriate planning policy framework to guide future redevelopment proposals for the site.

It is agreed that the most appropriate way of doing this is to allocate all of the site, including LP0032, for Mixed uses. This is now proposed as a formal modification to the Local Plan.

2. BACKGROUND

The Current Position Within the Submitted Local Plan

Within the submitted Local Plan there are two draft allocations for housing on land in Crosslee's control. Site LP1116 is a greenfield site to the north of the former factory that benefits from an extant planning permission for 50 no. dwellings. Site LP1648 relates to land that forms part of the staff car park to the former factory.

In addition, the submitted Local Plan contains a draft allocation for 2 hectares of employment land to the rear of the former factory (LP0032). This site is part of a carried over unimplemented allocation from the Calderdale UDP, and was originally envisaged as potential expansion land for the factory.



Current Draft Allocations at Crosslee Site

Events that have occurred since Submission of the Local Plan

Since submission of the Local Plan Crosslee has announced that the factory is to close. As of Easter 2020 all activities within the factory ceased. Demolition of the buildings at the site has commenced and this process will be completed by December 2020.

As a result Crosslee has confirmed that all of the Crosslee site is now available for redevelopment. In the light of this significant change in circumstances, which was not anticipated by the employment evidence base of the Local Plan, discussions have taken place between Crosslee and the Council about the planning policy approach that should be adopted to future proposals for the site.

Formal marketing of Site LP1116 and LP1648 to the housebuilding industry has already taken place and Taylor Wimpey, a national housebuilder, has been confirmed as the successful bidder for these parts of the site. Pre-application discussions between Taylor Wimpey and the Council have commenced, and detailed proposals for both parcels of land for a total of approximately 90 dwellings are due to be submitted concurrently in late 2020. This will include a small additional area of land formerly used for car parking outwith the boundary of LP1648 fronting Brighthouse Road.

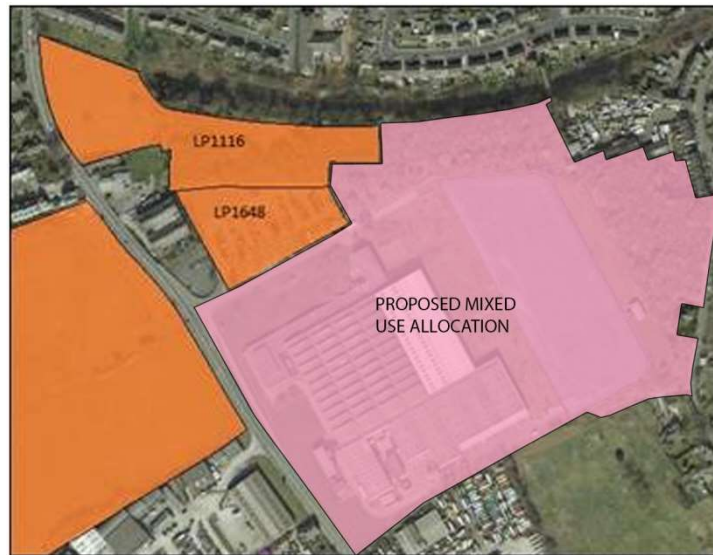
Proposed Mixed Use Allocation

For the remainder of the Crosslee site, this has been marketed nationally and regionally using multi-media channels by an industrial agent. Very limited demand has been expressed to date in relation to B Class employment uses at the site, but there is clear and immediate market interest from a number of specific occupiers for residential, retirement and food retail uses.

Although it is no longer necessary to provide expansion land for the now closed Crosslee factory, it is agreed that the site should be subject to an allocation that secures the same quantum of B class employment uses as allocation LP0032 to maintain the proposed employment land supply of the Local Plan.

A more flexible approach is required for the remainder of the land in view of the closure and demolition of the former Crosslee factory and the emerging position regarding market demand for the site. This is considered to be the best way of achieving a comprehensive redevelopment of this large and prominent site within the plan period, and which delivers a wide range of employment opportunities and other benefits for the local community.

Allocation of all of the Crosslee factory site for B class employment is not considered realistic following the closure of Crosslee, and given the distance of the site from the strategic motorway network. Whilst there may be some localised demand for small employment uses over the plan period, this can be addressed by the LP0032 allocation area. There is no realistic prospect of attracting a large B class occupier that will secure comprehensive redevelopment of the site, and even when at peak production the Crosslee factory did not use all of the land for employment purposes. However, the interest expressed in the site as part of the current marketing exercise shows that there is potential to generate employment at the site with other land uses.



Proposed Mixed Use Allocation

It is therefore agreed that the site should be proposed for mixed uses as a formal modification to the Local Plan. The mixed use allocation will require delivery of 2 hectares of B class employment uses, as per allocation of LP0032, however this can be provided anywhere within the site boundaries. Within the remainder of the mixed use allocation the following uses are considered acceptable:

- C2 (residential care and education)
- C3 (dwelling houses)
- A1 (food retail) – subject to sequential test and local impact test threshold
- B1 (business)
- B2 (general industrial)
- B8 (storage and distribution)

The non B-class uses referred to above are those where clear market interest has been expressed to date, thus providing confidence that a mixed use redevelopment of the site can be delivered during the plan period, albeit providing flexibility regarding the precise composition of land uses.

The residential care and retail uses will generate employment opportunities, therefore supplementing economic activity created by the B class employment zone within the allocation.

All proposals for the site will be subject to general development management policies within the Local Plan (other than those relating to the principle of development). This statement seeks to identify key planning issues that go to the heart of delivery of the mixed use allocation.

3. COMMON GROUND

Site Masterplan

A masterplan has been prepared (see **Appendix 1**) to show the potential arrangement of uses on land in the ownership of Crosslee; potential points of access; woodland areas to be retained; indicative locations for surface water drainage and areas where buffer landscaping is likely to be required. This masterplan is in indicative form to maintain flexibility, but it has been informed by market interest in the site to date. Key points of relevance in the masterplan are as follows:

- Use of the existing Brighouse Road access to serve further residential development along the site frontage and to the east and south east. A secondary residential access would be provided on St Giles Road, subject to detailed investigation;
- Residential development close to Brighouse Road is expected to comprise retirement housing with an element of care;
- Provision of a site for a 1,801 sq.m (gross) foodstore served by a new access from Brighouse Road;
- Provision of 2 hectares of employment land served by the same new access as the foodstore above. This could accommodate over 8,000 sq.m of industrial floorspace in units sizes ranging from 500 sq.m to 1,900 sq.m;
- Provision of a large area of amenity open space within a selected area of tree removal on the eastern edge of the site. This would also include a footpath that follows the edge of the retained woodland area.

Having regard to the above, it is estimated that the total residential potential of the site as shown on the masterplan is approximately 180 dwellings, assuming an element of retirement provision. This excludes the residential capacity of the Taylor Wimpey element on Sites LP1116 and LP1648

Traffic Generation

- When it was in operation the Crosslee factory generated a considerable amount of traffic, associated with the commuting journeys of employees, based at the site, as well as the day to day deliveries associated with a busy manufacturing premises. As part of the first phase of development on the site this historic traffic generation, known as the fallback position, will be established to consider the level of development that can come forward on the site, generating a similar level of traffic to the former factory use on the site, and, as such, this first phase of development would have no impact on traffic conditions on the adjacent road network.
- As the site is redeveloped, the mix of uses on the site will be carefully considered to ensure a range of complimentary uses are developed on the site including residential, retail and employment uses. In turn, this will reduce the overall traffic generation of the site by co locating land uses on the site which remove the need to travel away from Hipperholme. As well as identifying land uses which would reduce the need for residents to travel off site, consideration will be given to land uses, such as retail,

which would also help to minimise the need for people to travel from the wider Hipperholme area. In this way, by addressing a need not currently well served within the existing settlement area, for which people are currently having to travel by car, the site will contribute to an overall strategy of reducing traffic on the wider network.

- As the traffic generation from the site starts to reach the historic levels generated by the factory, in order to mitigate the traffic impact of the redevelopment proposals a range of mitigation measures will be considered, including traditional junction improvements to improve traffic capacity, but with an emphasis being placed on improvements which address accessibility to the site by non-car modes. This will clearly include proposing enhancements to public transport provision to and from the site and the wider Hipperholme area, along with the identification of improvements to the cycling and pedestrian routes which address current gaps in the available networks. Such an approach will help to drive down the traffic generation from the site and fully accords with the current Government initiative to increase walking and cycling for commuting journeys whilst minimising the number of single occupancy car trips that are made.
- Development on the site will be supported by a State of the Art Travel Plan which maximises the opportunities for access to be made to and from the site by walking, cycling and public transport whilst minimising car borne access. The Travel Plan will include initiatives such as a Travel Website for the site, Personalised Travel Planning so residents and employees have a full understanding of their travel choice options, and the development itself will include a network of pedestrian and cycling links through the site, alongside sufficient cycle parking and charging points for electric vehicles.

A separate note regarding the local highway network, access and accessibility matters is provided at **Appendix 2**.

Flood Risk and Drainage

Flood Risk

The Flood Risk and Drainage Note attached at **Appendix 3** confirms that all of the site is located in Flood Zone 1 and therefore at a low risk of river flooding. The site is predominantly at a very low risk of flooding from surface water although there is a potential for accumulation of surface water in localised low areas of the site and due to obstructions from buildings.

The site is not considered to be at risk of flooding from reservoirs, canals or other artificial sources. The risk of flooding from groundwater is assessed to be low.

Indicative Drainage Strategy

It is proposed that foul water from the future development of the site would continue to discharge to the 300m public combined sewer that flows in an easterly direction across the northern part of the site, as per the arrangement for the former factory. If post development ground levels do not permit a gravity connection a pumped solution would be required.

Infiltration and discharge to watercourse is unlikely to be feasible and so surface water runoff from the redeveloped site is likely to be disposed of to the public combined sewer as per the existing arrangement at a controlled and reduced rate in accordance with planning policy, relevant technical guidance and Yorkshire Water requirements. This would be achieved through the provision of attenuation storage facilities (attenuation basin(s) and other SuDs features) outlet control devices.

Ground Conditions

A Phase 1 Desk Study Assessment of the site undertaken by Swan Environmental Services in September 2019 (**Appendix 4**) indicates that prior to the construction of the Crosslee factory the land has a history of use as a stone and brick works with a number of associated mineral railway lines.

The Assessment finds that there are areas of potentially infilled land on the site. There is potential for asbestos in the existing factory buildings and potential for contaminated material in former filter beds and reservoirs in the north/north west of the site. There are also five former tanks within the footprint of the factory.

A Coal Authority Report identifies no issues with the site. The site is not in a Radon affected area.

The Assessment concludes that potential contamination sources are considered to be localised and associated with historical usage and infilled areas. Swan Environmental Services is of the view that the site represents a moderate to high risk with respect to environmental liability issues, but these risks can be effectively managed. Their findings should not prevent a successful redevelopment of the site.

An intrusive Phase 2 ground report will be provided, and the associated remediation strategy implemented, prior to development of the site.

Ecology

Preliminary Ecological Appraisals (PEAs) of the wooded parts of the site were undertaken by Smeeden Foreman in 2017. These have now been superseded by an updated Appraisal carried out in July 2020 that relates to all of the site (**Appendix 5**).

The July 2020 Appraisal finds that the factory site is of limited botanical value, but it is likely to be used by a range of wildlife such as bats for commuting and foraging and birds for nesting and foraging. One statutorily designated nature conservation site and four non-statutorily designated sites lie within 2km of the site boundary. Due to the nature and scale of the proposals, lack of complimentary habitats, distance and severance of the site from intervening roads and built areas, it is anticipated that there will be no significant adverse effects on these statutorily and non-statutorily designated sites.

In relation to the woodland habitat on the site, the Appraisal states that there have been no significant differences since the 2017 Appraisals i.e. the woodland is of limited botanical value, but likely to be used by a range of wildlife such as bats for commuting and foraging and birds for nesting and foraging. It is recommended that if woodland is to be removed it should be replaced by native tree planting. In respect of the plantation woodland to the north of the former factory, this is excluded from the developable area of the allocation. Evidence

would need to be provided at application stage to justify any loss of this woodland. Furthermore, a net gain assessment using the Defra Biodiversity metric informed by species surveys will need to be provided as part of any application.

The Appraisal recommends that a number of further surveys should be carried out at the site prior to development, which will now be commissioned by Crosslee. Other mitigation measures are also recommended, which can form part of future planning application proposals for the site.

Residential Amenity

Potential noise conflicts between proposed industrial/retail uses and existing and new residential uses will be minimized at detailed planning application stage by careful consideration of the siting of new buildings, service yards and roads (which can act as a buffer between uses). Where necessary and appropriate pockets of open space and or landscape buffer strips will also be provided to provide separation between uses.

A noise survey will be provided as part of any planning application proposals for the site that incorporate commercial uses in close proximity to housing. This will consider the need for mitigation measures such as enhanced double glazing, acoustic trickle vents in windows and acoustic fencing.

Air Quality

The Council has designated an Air Quality Management Area (AQMA No.7) close to the Hipperholme Halifax Road/Leeds Road crossroads, some 350m to the north of the existing access into the Crosslee site.

Development at the site will generate traffic that will travel through the AQMA, however, as explained in relation to transport matters, the Crosslee factory generated a considerable amount of traffic, associated with the commuting journeys of employees, based at the site, as well as the day to day deliveries associated with a busy manufacturing premises. It is recognised that careful consideration will need to be given to the precise mix of uses and mitigations to ensure that air quality is not worsened and is ideally improved. In relation to this, the need for air quality mitigation measures such as electric car charging points and public transport measures will be considered by the Council when planning applications for the site are lodged.

Heritage

The site is within 60m of two Grade 2 Listed Yew Trees located to the south of the site. There is also a Class 3 archaeological site (PRN2599) immediately adjacent to the site. Development at the site will need to ensure compliance with Local Plan policies which seek to protect and enhance heritage assets; whilst West Yorkshire Archaeology Advisory Service states there would be a need for predetermination archaeological evaluation.

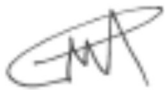
4. ANTICIPATED DELIVERY TIMESCALE

Development of LP1116 and LP1648 will be the first stage of development at the Crosslee site. It is expected that following submission of detailed proposals, construction of new homes will commence in March 2021 and the development will be completed in June 2023.

It is anticipated that approval of an outline application for the first phase of the remainder of the site will be achieved by late 2020. Reserved matters pursuant to the outline permission would be lodged in early 2021, with development commencing in late 2021/early 2022.

It is expected that completion of the residential element of the development will take place within three years, assuming that the operator of the retirement element and a housebuilder construct developments in tandem. Subject to demand, the industrial development would be completed within approximately five years.

Signed:



Mark Eagland for Peacock + Smith on behalf of Crosslee

Date: 9/10/20

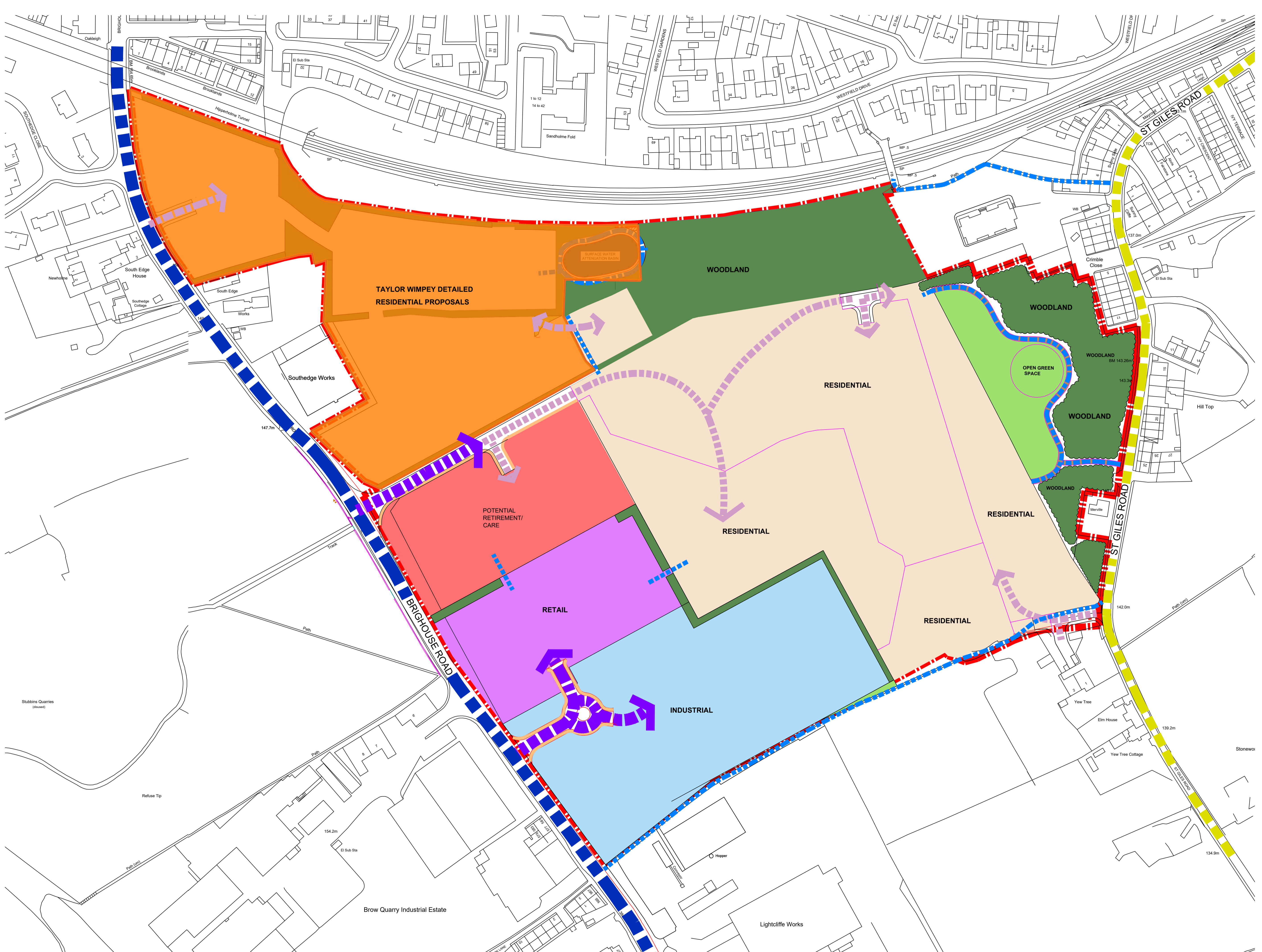
Richard Seaman

Richard Seaman on behalf of Calderdale MBC

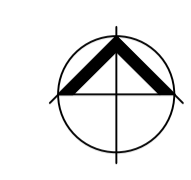
Date 12/10/2020

APPENDIX 1

INDICATIVE MASTERPLAN



Notes:
 Approval/Particulars on the information shown should be obtained prior to being used as a basis for any contract.
 This drawing is based on Ordnance Survey data and is subject to a full line & level survey.
 1. Planning Approval
 2. Building Regulation
 3. Fire Officers Approval
 4. Highways Approval
 5. Enquiries on location of Statutory Utilities services & equipment.
 Contractors to check dimensions and notify any discrepancies or errors to the company immediately.
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DEVELOPMENT KEY

- - - - - DEVELOPMENT BOUNDARY
- = = = = = MAIN ACCESS ROADS
- - - - - SECONDARY ACCESS ROADS
- - - - - MAIN VEHICLE SITE ACCESS
- - - - - RESIDENTIAL VEHICLE ACCESS ROADS
- - - - - PEDESTRIAN PATHS/ ACCESS
- █ TAYLOR WIMPEY DETAILED RESIDENTIAL PROPOSALS
- █ POTENTIAL RETIREMENT/ CARE
- █ RESIDENTIAL DEVELOPMENT AREAS
- █ RETAIL DEVELOPMENT
- █ INDUSTRIAL DEVELOPMENT
- █ OPEN GREEN LANDSCAPED AREAS
- █ WILDLIFE CORRIDOR/ WOODLAND AREAS

Rev	Date	Description	Drawn	Checked

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Client: **Peacock & Smith**

Project: **Brighouse Road, Hipperholme**

Title: **Proposed Site Access Plan**

Dwg No: **19264 / SK 06** Rev: **D**

Scale: 1:1000@A1 Date: Mar 2020 Status: Sketch
 Drawn: MF Checked:

APPENDIX 2

NOTE ON THE LOCAL HIGHWAY NETWORK, ACCESS AND ACCESSIBILITY MATTERS

THE LOCAL HIGHWAY NETWORK, ACCESS AND ACCESSIBILITY

The Local Highway Network

The development site provides direct frontage to the A644 Brighouse Road to the west. The site is bound to the north in part by the Southedge Works warehouse and the Caldervale railway line, to the south by industrial land currently used by Azeb trucks and residential development, and to the east by properties fronting St Giles Road and in part St Giles Road itself.

A644 Brighouse Road is a main distributor road and the section which runs along the site frontage forms a link between Brighouse to the south and Hipperholme to the north. Along the site frontage, A644 Brighouse Road is bound by footways on both sides, it is street lit and currently subject to a 40mph speed limit. Approximately 175m to the north of the site access, as the road approaches Hipperholme the speed limit changes to 30mph.

In the vicinity of the site A644 Brighouse Road is approximately 8 metres wide. It includes a central hatched area which is used to form ghost island right turning lanes along its length for right turning traffic.

The Crosslee site itself is currently accessed via an industrial access road, which meets with A644 Brighouse Road at a priority T-junction benefitting from a right turn ghost island lane.

Some 500 metres to the north of the site A644 Brighouse Road connects with A58 Leeds Road (to the east), A644 Denholme Gate Road (to the north) and A58 Halifax Road (to the west) at a traffic signal-controlled crossroads junction, known locally, as the Hipperholme crossroads. This junction has two traffic lanes on approach, except for the single lane approach on A644 Denholme Gate Road. The junction includes green man pedestrian crossing facilities on all approaches which operate as an all red (to traffic) providing a controlled pedestrian crossing facility. The junction experiences some queuing during the traditional am and pm peak periods on all approaches.

Public Transport/Walking/Cycling

The site is well located to encourage trips by foot into the centre of Hipperholme. The plan attached at **Appendix A** shows a 2.0 kilometre walking catchment area, although it can be seen that the entirety of Hipperholme falls within a 1.0 kilometre walking catchment.

There are a number of local facilities centered around the Hipperholme Junction in the centre of Hipperholme that are accessible within 800 metres of the site. These facilities include, Tesco Express and Co-Operative food stores, a post office, a pharmacy, public houses, restaurants, a library, a newsagents and a church. Beyond the junction and accessible within 1,200 metres of the site there are numerous additional local facilities, including a doctor's surgery.

In terms of the walk to schools, Hipperholme Grammar Junior and Senior Schools are accessible within a 1,200 metre walk from the site. Accessible within a 2 kilometre walk of the site are the Lightcliffe C of E Primary School in Lightcliffe and the St Joesph's Catholic Primary School, St Chad's Primary Academy and Brighouse High Schools in Hove Edge.

Cycling is an ideal mode of travel for journeys under 5 kilometres and has potential to substitute short car journeys. The plan attached at **Appendix B** shows the potential cycling catchment. It can be seen that a significant number of areas are accessible within a convenient cycling distance to the site, including Halifax, Brighouse, Elland, Northowram and Scholes.

National Cycle Route 66 is also accessible approximately 2.3 kilometres to the south of the site via the canal towpath link with Owler Ings Road in Brighouse. The route runs from Manchester to Spurn Head via Bradford, York and Kingston upon Hull, providing a potential off road cycle route that could be enjoyed by residents.

A644 Brighouse Road is a key bus route and the nearest bus stops are located within 400 metres of the site. These stops are served by the 548/549 services that operate between Halifax and Huddersfield. Further bus stops are located along A649 Wakefield Road approximately 600 metres to the north of the site. These stops are served by the 255 and 571 services. The 255 service operates between Halifax and Leeds and the 571 service operates between Halifax and Bradford.

The plans attached at **Appendix C**, show the 60 minute public transport catchments for the AM and PM peak time periods, illustrated in 10 minute intervals. The plans demonstrate that a range of areas including, Huddersfield, Halifax and Bradford are accessible within 60 minutes of the site via public transport.

The site is therefore considered to be a suitable location to promote trips via walking, cycling and public transport. Provision of a foodstore at the site will also provide for convenience shopping needs on the doorstep of the proposed new homes, whilst the new industrial units will create highly accessible employment opportunities.

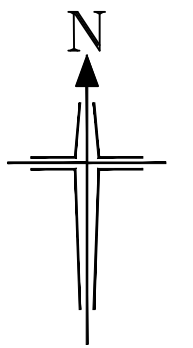
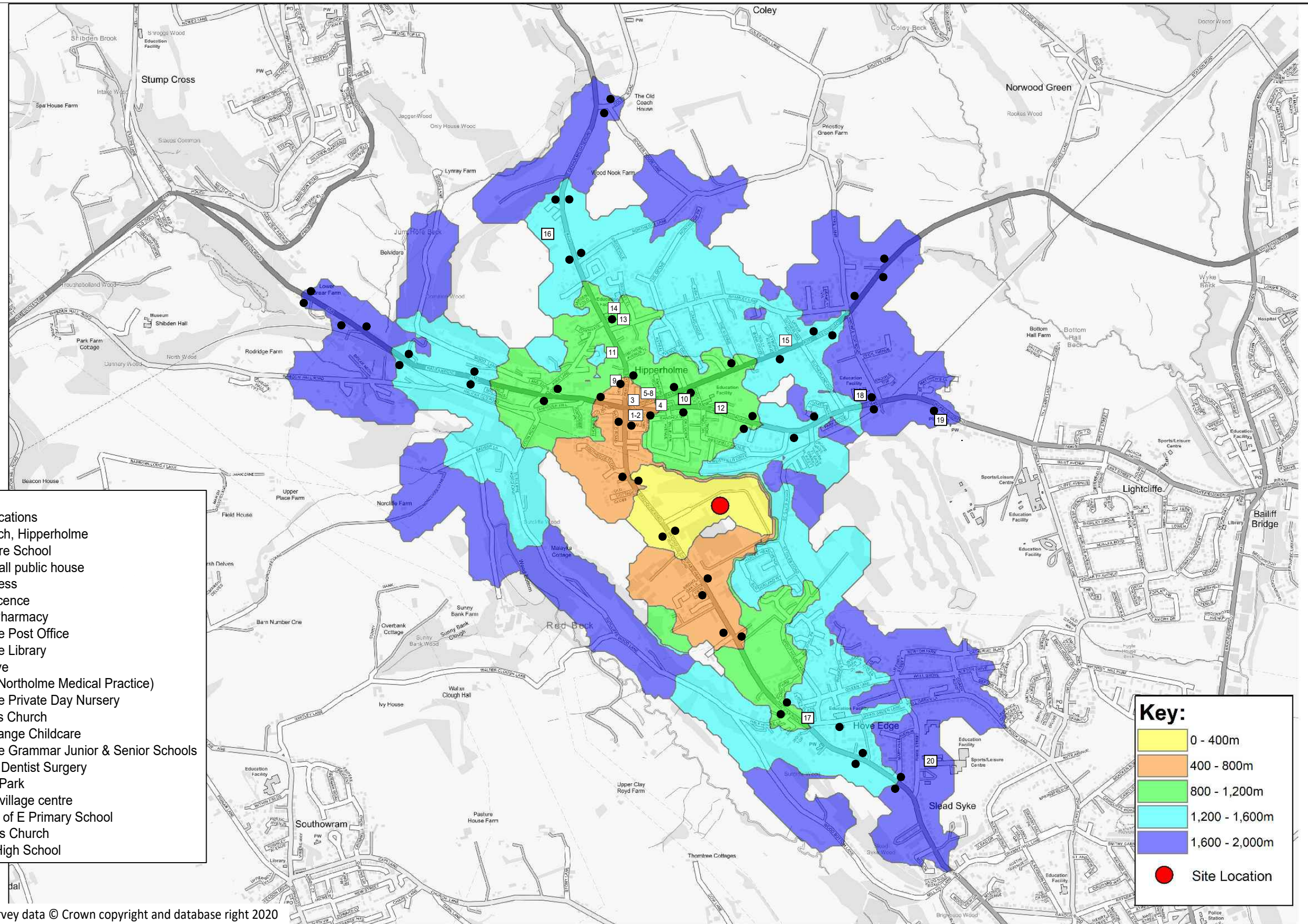
Access

Access to the mixed-use allocation is proposed via the existing access to the site, and via a new priority T junction from A644 Brighouse Road to the south of the existing site access. The access form proposed at the new access point is that of a ghost island right turn lane T junction. It is proposed that the minimum carriageway width of the new access road will be 7.3 metres, with two footways of 2.0 metres to both sides.

Access to the residential portion of the site is proposed via the use of the existing access to the site, as well as a previously consented access to the site located to the north of the site onto the A644 Brighouse Road opposite Southedge Close. This access is not yet constructed. In addition a new simple priority T junction could be created onto St Giles Road to the east of the site. It is proposed that this secondary access would provide a further opportunity to create both pedestrian and vehicular access to the site via a 5.5 metre wide carriageway with two footways of 1.8 metre width to either side.

APPENDIX A

WALKING CATCHMENT PLAN



- Key:**
- Bus Stop locations
 - 1. Christ Church, Hipperholme
 - 2. Lightcliffe Pre School
 - 3. The Whitehall public house
 - 4. Tesco Express
 - 5. M&M Off Licence
 - 6. Rowlands Pharmacy
 - 7. Hipperholme Post Office
 - 8. Hipperholme Library
 - 9. Co-Operative
 - 10. Kos Clinic (Northolme Medical Practice)
 - 11. Hipperholme Private Day Nursery
 - 12. St Gregory's Church
 - 13. Bramley Grange Childcare
 - 14. Hipperholme Grammar Junior & Senior Schools
 - 15. Old Church Dentist Surgery
 - 16. Woodhead Park
 - 17. Hove Edge village centre
 - 18. Lightcliffe C of E Primary School
 - 19. St Matthew's Church
 - 20. Brighouse High School

- Key:**
- 0 - 400m
 - 400 - 800m
 - 800 - 1,200m
 - 1,200 - 1,600m
 - 1,600 - 2,000m
 - Site Location

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Title: WALKING ACCESSIBILITY PLAN

Status: PLANNING

Scale: NTS
 Size: A3 - 420 x 297

Drawn: DG

Chkd: SW

Appvd: -

A	01.04.2020	Bus stops and key local facilities added	DG	SW	-
Rev:	Date:	Amendment:	DRN	CHK	APR

Client: CROSSLEE PROPERTIES LIMITED

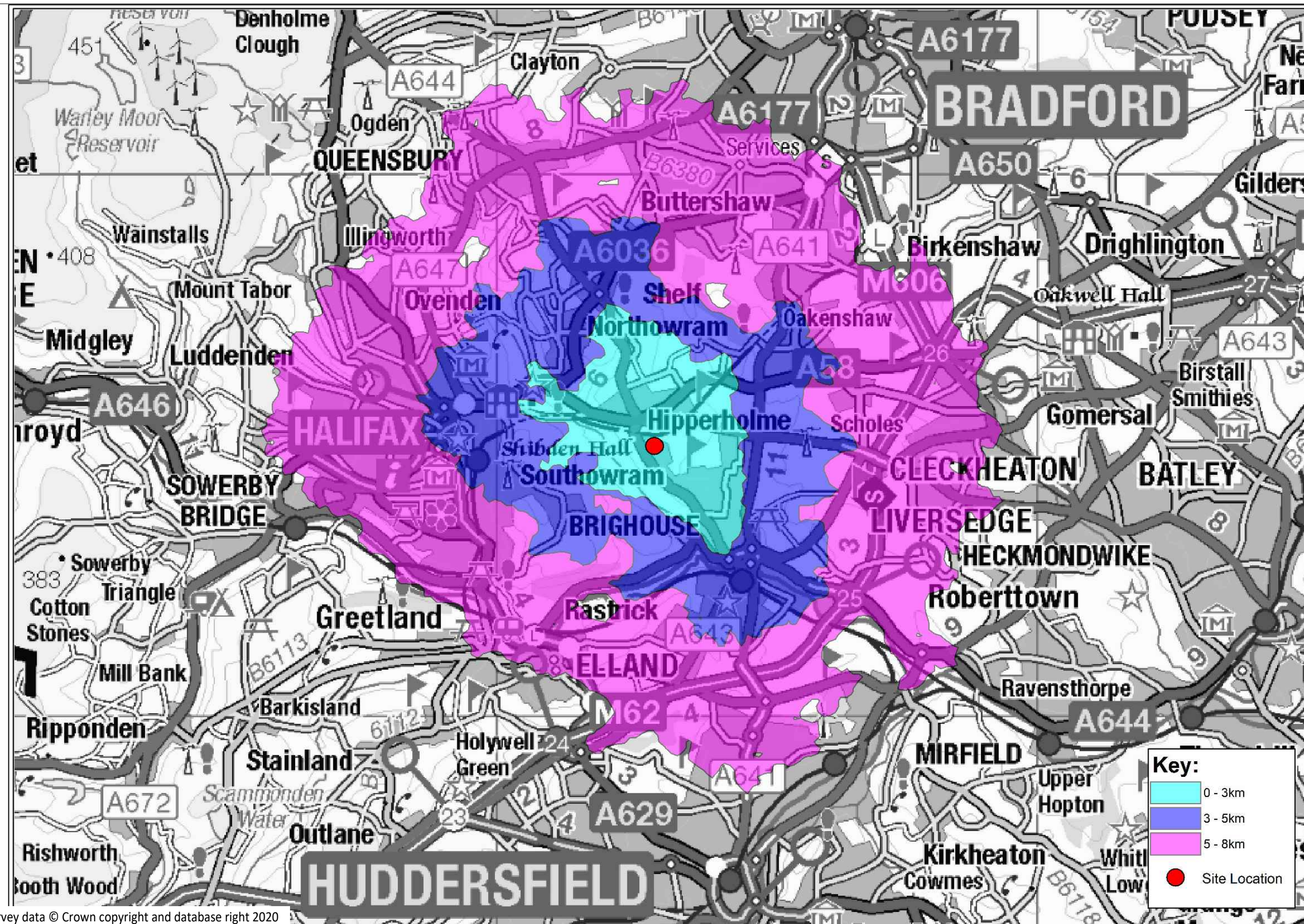
Project: CROSSLEE MAIN FACTORY SITE, HIPPERHOLME

Drawing No: 19/357/ACC/001
 Job No: 19-357

Revision: A
 Date: 05.03.2020

APPENDIX B

CYCLING CATCHMENT PLAN



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Status: PLANNING

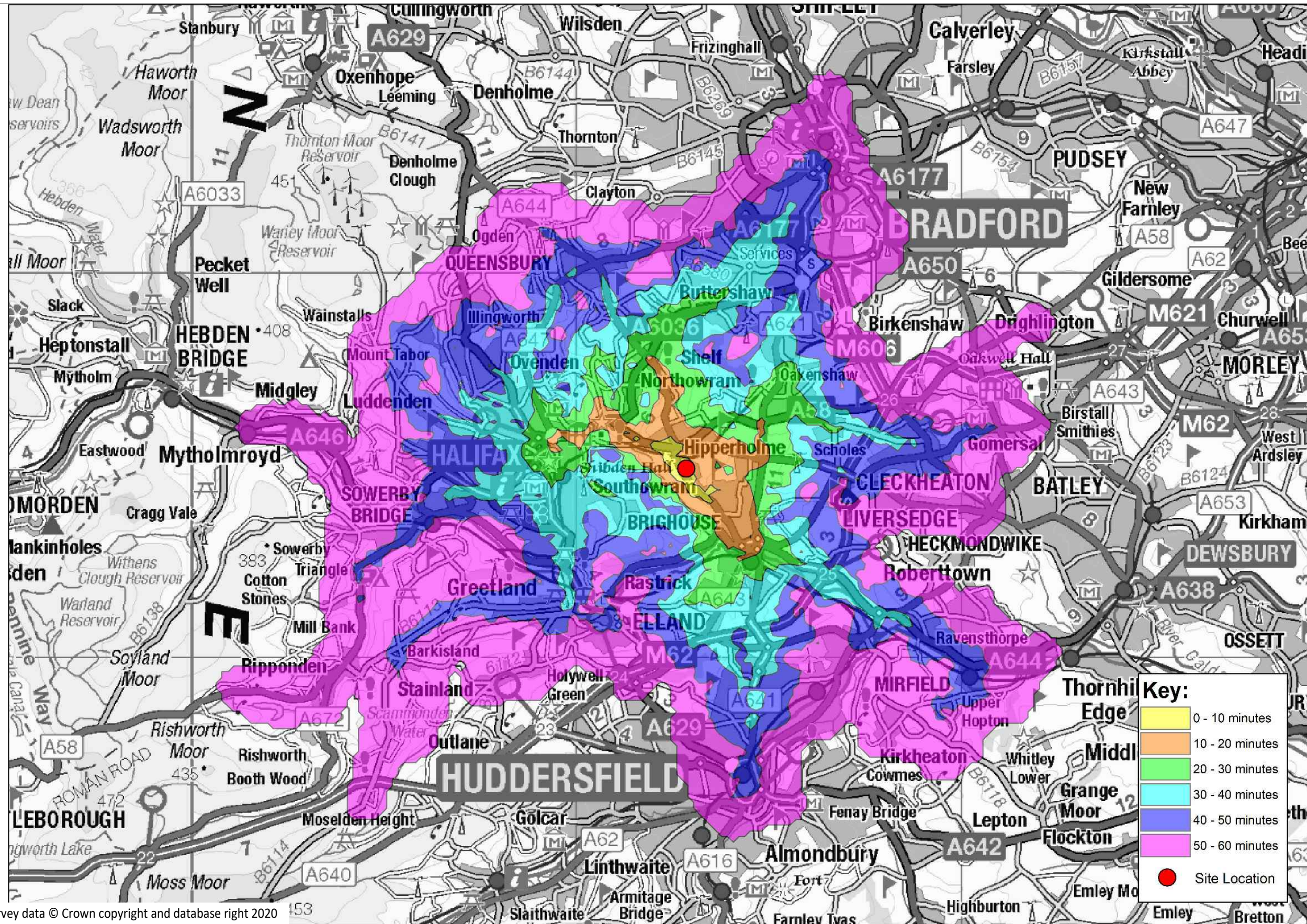
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Drawn: DG
 Chkd: SW
 Appvd: -

Rev:	Date:	Amendment:	DRN	CHK	APR
Client:		CROSSLIE PROPERTIES LIMITED			
Project:		CROSSLIE MAIN FACTORY SITE, HIPPERHOLME			
Drawing No:	19/357/ACC/002		Revision: -		
Job No:	19-357		Date: 05.03.2020		

APPENDIX C

PUBLIC TRANSPORT CATCHMENT PLAN



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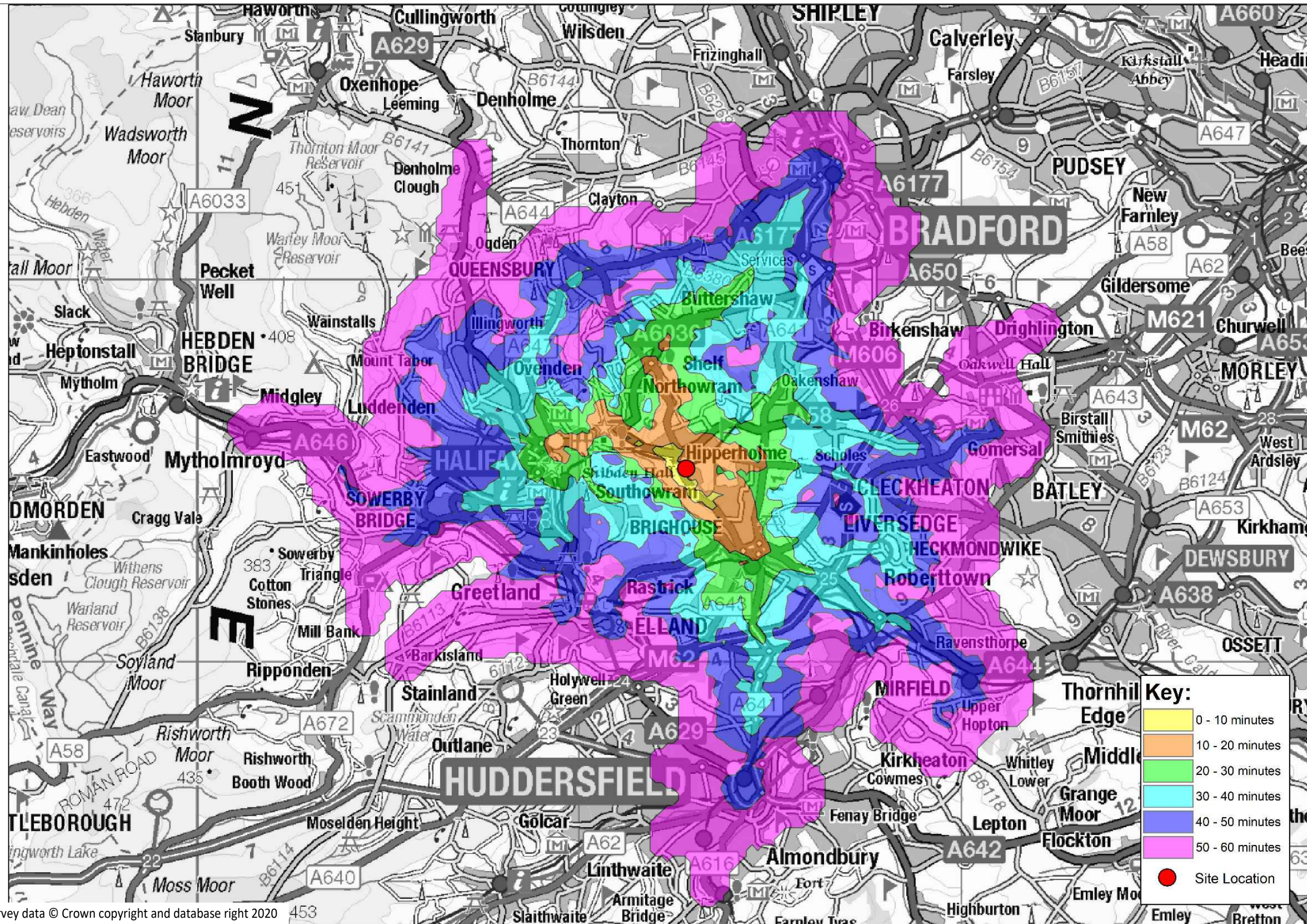
Title: PUBLIC TRANSPORT ACCESSIBILITY PLAN
AM PEAK PERIOD

Status: PLANNING

Scale: NTS
Size: A3 - 420 x 297

Drawn: DG
Chkd: SW
Appvd: -

Rev:	Date:	Amendment:	DRN	CHK	APR
Client:	CROSSLIE PROPERTIES LIMITED				
Project:	CROSSLIE MAIN FACTORY SITE, HIPPERHOLME				
Drawing No:	19/357/ACC/003				Revision: -
Job No:	19-357				Date: 05.03.2020



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Title: PUBLIC TRANSPORT ACCESSIBILITY PLAN
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Chkd: SW

Appvd: -

Rev:	Date:	Amendment:	DRN	CHK	APR
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Client: CROSSLEE PROPERTIES LIMITED

Project: CROSSLEE MAIN FACTORY SITE, HIPPERHOLME

Drawing No: 19/357/ACC/004

Job No: 19-357

Revision: -

Date: 05.03.2020

APPENDIX 3

FLOOD RISK AND DRAINAGE NOTE

Crosslee Site, Brighouse Road, Hipperholme, Halifax Preliminary Appraisal of Flood Risk and Drainage

Technical Note

Job Ref:	4831 Crosslee Site, Brighouse Road, Hipperholme
Prepared by	Keely Bonser BSc MSc PhD <i>Associate Director</i> Tim Brook BSc (Hons) <i>Principal Engineer</i>
Approved by	Kevin Tilford BSc MSc PhD MBA C.WEM MCIWEM <i>Managing Director</i>
Date:	29 April 2020
Version:	Final v1.3

Introduction

1. This document has been prepared by Weetwood Services Ltd on behalf of Crosslee Plc.
2. This document presents a preliminary appraisal of flood risk and drainage and of the implications for flood risk mitigation and of relevant planning considerations to support the promotion of land known as the “Crosslee Site” at Hipperholme, Halifax (“the site”) for residential led mixed use development.
3. The risk of flooding from rivers, surface water, groundwater, reservoirs and canals is based on a desktop review of information presented on a number of websites (referenced in document). The risk of flooding from sewers and highway drains has not been assessed.

Site Location and Proposed Development

4. The approximately 9.64 ha site is located to the east of Brighouse Road, south of a railway line, west of St Giles Road and north of a public footpath and access road, Hipperholme, Halifax at Ordnance Survey National Grid Reference SE 128 250 (see **Figure 1**).
5. The illustrative parameter plan (**Figure 2**) indicates that the proposed development may consist of:
 - Residential use (5.53 ha);
 - Retail use (0.97 ha);
 - Industrial use (2.0 ha);
 - Retirement/care home (0.98 ha);
 - Main site access (0.16 ha).

Site Details

6. A digital terrain model (DTM) of the site and the wider area has been developed using a topographic survey of the site and LiDAR data respectively (**Figure 3** and **Figure 4**). This information has been analysed to determine the topography of the site and wider area.
7. The terrain maps indicate that ground levels at the site and within the surrounding area generally fall in a northeasterly/easterly direction. Site levels are generally shown to be in the region of 139 to 151 metres Above Ordnance Survey Datum (m AOD).
8. A Phase 1 Desk Study Assessment was undertaken in September 2019 by Swan Environmental Services¹. The report indicates the underlying bedrock geology to comprise of Elland Flag Sandstone. This is also confirmed by British Geological Survey (BGS) mapping². No superficial deposits are indicated to be present.

¹ Swan Environmental Services – Phase 1 Desk Study Assessment, Brighouse Road, Calderdale, HX3 8EF, Final, September 2019

² <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

9. The Phase 1 report indicates that there are 38 No. areas of potentially infilled ground associated with past land uses dated between 1892 and 1984 including glazed brick works, unspecified old shaft, refuse heap, filter bed, unspecified ground workings, reservoir, cuttings and tunnel.
10. Based on its historical land uses, the site has the potential for contaminated/gas producing infilled material to be present.
11. National Soils Research Institute mapping³ classifies soil conditions at the site and within the surrounding area as loamy soils.
12. BGS borehole records⁴ approximately 300 m to the south of the site adjacent to Spout House Lane indicate ground conditions to comprise of clay and sand up to a 2.0 m bgl.

Overview of Flood Risk

Fluvial Flood Risk

13. The Environment Agency does not hold any records of historical flood events within the vicinity of the site and there are no reported instances of flooding in the Calderdale Strategic Flood Risk Assessment (SFRA) Level 1 (2016) and Level 2 (2018) reports.
14. Flood Zones refer to the probability of river and sea flooding, ignoring the presence of flood defences. The National Planning Practice Guidance (NPPG) defines the flood zones as follows:
 - Flood Zone 1 ('Low Probability'): Land having a less than 1 in 1,000 annual probability of river flooding.
 - Flood Zone 2 ('Medium Probability'): Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding.
 - Flood Zone 3 ('High Probability'): Land having a 1 in 100 or greater annual probability of river flooding.
15. Flood Zones are shown on the Flood Map for Planning. The flood extents presented on the do not account for the potential future effects of climate change or the presence of formal flood defences, although areas benefitting from flood defences may be indicated in certain circumstances.
16. According to the Flood Map for Planning (**Figure 5**) the site is located within Flood Zone 1.
17. The nearest watercourse is Red Beck. The beck flows in a predominantly southeasterly direction approximately 500 m to the southwest of the site. The site is elevated a minimum of approximately 55 m above the watercourse and is therefore assessed not to be at risk of flooding from this source.

Risk of Flooding from Surface Water, Canals, Reservoirs and Groundwater

18. The Flood Risk from Surface Water map (**Figure 6**) indicates that the site is predominantly at 'Very Low' risk of flooding from surface water but with the potential for the accumulation of surface water in localised low areas of the site and due to obstructions from buildings. Flood depths are indicated to range between 0 to 900 mm, however, the risk and extent of flooding significantly reduces during less extreme events (**Figure 7**).
19. There are no canals or other impounded waterbodies located within the immediate vicinity of the site. The Flood Risk from Reservoirs map indicates that the site is not at risk of flooding from such sources. The site is therefore assessed not to be at risk of flooding from reservoirs, canals or other artificial sources.
20. According to the Groundwater flood map produced by JBA Risk Management (**Figure 8**) peak groundwater levels are between 0.5 m and 5.0 m below the ground surface within the northeast portion of the site and are at least 5.0 m below the ground surface within the remainder of the site during the 1 in 100 year groundwater flood event.

³ www.landis.org.uk/soilscapes/

⁴ BGS borehole records ref: SE12SE327-330

21. A peak groundwater level between 0.5 m and 5 m below the ground surface has a 1% or greater annual chance risk of flooding to deeper subsurface assets but near surface manifestation of groundwater is less likely. A peak level at least 5.0 m below the ground surface has a very low annual probability of being affected by groundwater flooding.

Foul Water Management

22. Yorkshire Water public sewer records (see **Figure 9**) indicate the following sewers located within and adjacent to the site:
- A 300 mm diameter public combined sewer flows in an easterly direction across the northern portion of the site. The sewer reduces in size to 225 mm between the site boundary and St Giles Road; and
 - A 225 mm diameter public combined sewer flows in a southerly direction along the A644 adjacent to the southern half of the Crosslee factory.
23. Drainage records of the site provided by Crosslee show the existing foul water drainage system at the site and indicate that foul water discharges by gravity to the 300 mm diameter combined sewer to the northeast of the site.
24. It is proposed that foul water from the redeveloped site would continue to discharge to the 300 mm diameter combined sewer as per the existing arrangement providing that post development ground levels permit a gravity connection. Alternatively a pumped solution would be required.
25. A pre-planning sewerage enquiry to Yorkshire Water would confirm that there is existing capacity in the local foul sewerage network to receive and treat foul flows from the proposed development.

Surface Water Management

26. Drainage records of the site show the existing surface water drainage system at the site and indicate that surface water runoff from approximately 3.65 ha of impermeable surfaces (roof and hardstanding areas) is positively drained.
27. The records indicate that surface water runoff is stored in the pipe network and an attenuation tank located in the northeast of the site prior to discharging to the 300 mm diameter public combined sewer via a 150 mm diameter pipe located between the attenuation tank and the combined sewer.
28. Greenfield runoff rates from permeable surfaces and impermeable surfaces which are not shown to be positively drained have been calculated using the ICP SuDS method within MicroDrainage. Given site topography and ground conditions, surface water runoff would be expected to flow overland in a northeasterly/easterly direction and/or slowly infiltrate where conditions allow.
29. The calculated peak runoff rates from the existing site determined from the above are presented in **Table 1**.

Table 1: Peak Runoff Rate – Existing Site (9.64 ha)

Annual probability of rainfall event	Peak Runoff Rate (l/s)		
	Impermeable area (approx. 3.86 ha)	Permeable area (approx. 5.78 ha)	Total
1 in 1	32.6 (pipe capacity)	12.1	44.7
QBAR		13.9	46.5
1 in 30		24.9	57.5
1 in 100		29.5	62.1

30. The NPPG⁵ requires surface water runoff from a redeveloped site to be disposed of according to the following hierarchy: Into the ground (infiltration); To a surface water body; To a surface water sewer, highway drain, or another drainage system; To a combined sewer.
31. As previously detailed, there is the potential for contaminated soils at the site with ground conditions to the south of the site comprising clay and sand. As such, the disposal of surface water via infiltration is unlikely to be suitable; this would be confirmed by a Phase 2 Ground Investigation should the site progress to the planning application stage. The nearest watercourse is approximately 500 m to the southwest of the site and would require third party agreement and is therefore considered not viable or a reasonable option.
32. Surface water runoff from the redeveloped site would therefore discharge to the public combined sewer as per the existing arrangement.
33. The site has been split into five drainage areas based on the proposed development, as summarised below and as illustrated in **Figure 10**. The post development percentage of impermeable surfaces for each drainage area has been estimated as shown in **Table 2**.

Table 2: Indicative Post Development Impermeable Areas

Drainage Area	% of Impermeable Area	Development Platform (ha)	Impermeable Area (ha)
1 - Industrial	90	2.00	1.80
2 – Retail	90	0.97	0.87
3 – Retirement/care	65	0.98	0.64
4 – Residential	50	5.53	2.77
5 - Access	100	0.16	0.16

34. To ensure that surface water is managed in accordance with planning policy, the relevant technical guidance and Yorkshire Water’s requirements, surface water runoff from impermeable surfaces at the redeveloped site would be restricted to 22.8 l/s, a 30% reduction on the existing runoff rate. Runoff from existing greenfield areas is likely to be restricted to QBAR (13.9 l/s).
35. This would result in a total peak runoff rate from the redeveloped site of 36.7 l/s. The peak runoff rate per drainage area is provided in **Table 3**.
36. This could be achieved by the provision of SuDS surface water attenuation storage facilities (to ensure that there is no flooding during the 1 in 100 plus 40% climate change event) and outlet control devices (to restrict the outflow from the storage facilities to existing rates including a 30% reduction).
37. For the purposes of this appraisal, it has been assumed that surface water storage would be provided within an attenuation tank within drainage areas 1 and 2 and attenuation basins within drainage areas 3 and 4. The approximate required storage volumes and indicative areas for storing surface water are provided in **Table 3**.
38. Attenuation tanks have been sized to fill to approximately 1.0 m depth and attenuation basins have been sized to fill to approximately 1.0 m depth, with a 0.3 m freeboard and a 1 in 3 side slope.
39. The estimated volumes provided in **Table 3** do not take into account any storage that would be provided within the on-site surface water conveyance system serving the development. When this is taken into account the size of the attenuation facilities is likely to reduce significantly.
40. The attenuation storage facilities are likely to be provided in a number of different storage facilities. The potential for alternative and/or additional SuDS features (for example, permeable paving, geo-cellular storage crates, filter drains, filter strips, swales and additional attenuation basins) would be investigated should the site progress to the planning application stage.

⁵ Paragraph 080, Reference ID: 7-080-20150323

41. Flows resulting from rainfall in excess of the 1 in 100 plus climate change event would be managed in exceedance routes with flows directed towards carriageways and away from built development.
42. Attenuation basins can provide water quality benefits via the settlement of pollutants in still or slow moving water, adsorption by the soil, and biological activity. The potential for additional SuDS features to be utilised at the site would be investigated should the site progress to the planning application stage.

Table 3: Indicative Peak Runoff Rates, Storage Volumes and Land Take

6.24	Drainage Area				
	1 1.80 ha	2 0.87 ha	3 0.64 ha	4 2.77 ha	5 0.16 ha
Discharge Rate (l/s)	6.6	3.2	2.2	10.1	0.7
Indicative Storage Volume (m ³)	1550	745	550	2395	135
Indicative Storage Area (m ²)	n/a*	n/a*	595	2435	n/a*

* Storage provided below ground

Planning Considerations

National Planning Policy

43. The NPPF sets out government's planning policies for England and how these are expected to be applied. The NPPF seeks to ensure that flood risk is taken into account at all stages in the planning process and is appropriately addressed.
44. Footnote 50 of the NPPF states that a site-specific flood risk assessment should be submitted for all development proposed in Flood Zone 2 and Flood Zone 3 whilst in Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land identified as having critical drainage problems or as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.
45. NPPF paragraph 155 states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk but accepts that where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere. The policy of seeking to direct development away from areas at highest risk of flooding is implemented through the application of the sequential test (NPPF paragraph 158).
46. Paragraph 159 of the NPPF states that if it is not possible for a development to be located in zones with a lower risk of flooding, taking into account wider sustainable development objectives, the exception test may have to be applied.
47. The need for the exception test will depend on the flood zone of the site and of the vulnerability of the development proposed (as set out in NPPG Table 2 and 3).
48. NPPF paragraph 160 states that application of the exception test for development proposals at the application stage should be informed by a site-specific flood risk assessment. For the test to be passed it should be demonstrated that: the development would provide wider sustainability benefits to the community that outweigh the flood risk; and the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
49. NPPF Paragraph 161 states that both elements of the exception test should be satisfied for development to be permitted.

50. NPPF Paragraph 163 states that development should only be allowed in areas at risk of flooding if it incorporates sustainable drainage systems unless there is clear evidence that this would be inappropriate whilst NPPF Paragraph 165 states that applications for major developments should incorporate sustainable drainage systems to appropriate operational standards and with maintenance arrangements in place unless there is clear evidence that this would be inappropriate.

DEFRA Technical Standards for Sustainable Drainage Systems

51. DEFRA's non-statutory technical standards (March 2015) state that surface water drainage systems should be designed so that:
- Flooding does not occur on any part of the site for a 1 in 30 annual probability rainfall event, unless an area is designed to hold and/or convey water as part of the design;
 - Flooding does not occur in any part of a building during a 1 in 100 annual probability event; and
 - Flows resulting from rainfall in excess of a 1 in 100 annual probability rainfall event are managed in exceedance routes that minimise the risks to people and property, so far as is reasonably practicable.
 - For greenfield developments, the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 and 1 in 100 annual probability rainfall event should never exceed the peak greenfield runoff rate for the same event. For developments which were previously developed, the peak runoff rate must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but should never exceed the rate of discharge from the development prior to redevelopment for that event.
 - Where reasonably practicable, for greenfield development, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 annual probability, 6 hour rainfall event should never exceed the greenfield runoff volume for the same event. Where reasonably practicable, for developments which have been previously developed, the runoff volume must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event, but should never exceed the runoff volume from the development site prior to redevelopment for that event.
 - Where it is not reasonably practicable to constrain the volume of runoff to any drain, sewer or surface water body, the runoff volume must be discharged at a rate that does not adversely affect flood risk.

Local Planning Policy and Guidance

52. The following policies within the Calderdale Council Local Plan Publication Draft 2018 are relevant in respect of flood risk and drainage:
53. Policy CC1 Climate Change and Policy IM7 Master Planning of Housing Sites states that development proposals should contribute to mitigating and adapting to the predicted impacts of climate change by minimising flood risk and limiting surface water runoff.
54. Policy CC2 Flood Risk Management (Managing Flood Risk in New Development) states that the Council requires new development to follow a sequential risk based approach and be directed away from flood zones 2 and 3 in accordance with the principles of the NPPF. The policy states that proposals for development will only be permitted if, in part, it can be demonstrated that:
- Development cannot be accommodated in a lower flood risk zone;
 - It would not give rise to the loss of flood plain storage;
 - It would not impede the flow of flood water, surface water or obstruct the runoff of water due to high levels of groundwater;
 - Measures required to manage any flood risk can be implemented;
 - The management of surface water is done in a sustainable way. Development should enable/replicate natural water flows and decrease surface water runoff through Sustainable Drainage Systems (SuDS), utilising green infrastructure.

- Provision is made for the long term maintenance and management of any flood protection and or mitigation measures;
- It will take into account climate change;
- The benefits of it to the community outweigh the risk;
- Development is resilient to the risks of flooding and positive design processes have been used to reduce any risks.

Site specific flood risk assessments will be required for development proposals over 1 hectare in Flood Zone 1 and for development proposals in Flood Zone 2 and 3. Flood Risk Assessments must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and where possible, will reduce flood risk overall.

55. Policy CC3 Water Resource Management states that priority will be given in part to ensuring new development has an adequate means of water supply, sufficient foul and surface water drainage and sewage treatment capacity.
56. Calderdale Council's Replacement Unitary Development Plan (RCUDP) was adopted on 25 August 2006 and amended in August 2009. The following policies are relevant in respect of flood risk and surface water drainage:
57. Policy EP14 Protection of Groundwater states that ground and surface water will be protected. Applicants will need to demonstrate that adequate foul and surface water drainage infrastructure is available to serve the proposed development and that ground and surface water is not adversely affected.
58. Policy EP20 Protection from Flood Risk states that development will not be permitted if it would increase the risk of flooding due to surface water runoff.
59. Policy EP22 Sustainable Drainage Systems states that SuDS shall be incorporated where possible and appropriate. Acceptable alternatives must be incorporated where this is not appropriate and possible.

Site Development Potential and Opportunities

60. Overall the site is assessed not to be subject to any significant flood risk related constraints that would preclude the site for development for a range of mixed uses.
61. However, it is likely that finished floor levels would be raised by a nominal amount above adjacent ground levels following any re-profiling of the site. This will, subject to the implementation of an appropriately designed surface water drainage scheme, enable any potential overland flows to be conveyed safely across the site without affecting property in accordance with the approach promoted by government policy.

Summary and Conclusion

62. This preliminary appraisal of flood risk and drainage has been prepared on behalf of Crosslee Properties Ltd and relates to the proposed development of land known as the "Crosslee Site" at Hipperholme, Halifax for residential led mixed use development.
63. According to the Flood Map for Planning the proposed development site is located within Flood Zone 1 (low risk of river flooding).
64. The site is assessed not to be at risk of flooding from fluvial sources, canals, reservoirs and surface water although there is the potential for ponding in localised low spots and due to obstructions from buildings. The risk of flooding from groundwater is assessed to be low.
65. The site is assessed not to be subject to any significant flood risk related constraints that would preclude the site for development for a range of mixed uses.

66. Foul water from the redeveloped site is likely to discharge to the public combined sewer as per the existing arrangement.
67. Surface water runoff from the redeveloped site is likely to be disposed of to the public combined sewer as per the existing arrangement at a controlled and reduced rate in accordance with planning policy, relevant technical guidance and Yorkshire Water requirements. This would be achieved through the provision of attenuation storage facilities and outlet control devices.
68. It is concluded that the site could be redeveloped for a range of uses in accordance with planning policy and relevant technical guidance and that surface water runoff could be managed using sustainable drainage systems.

FIGURES

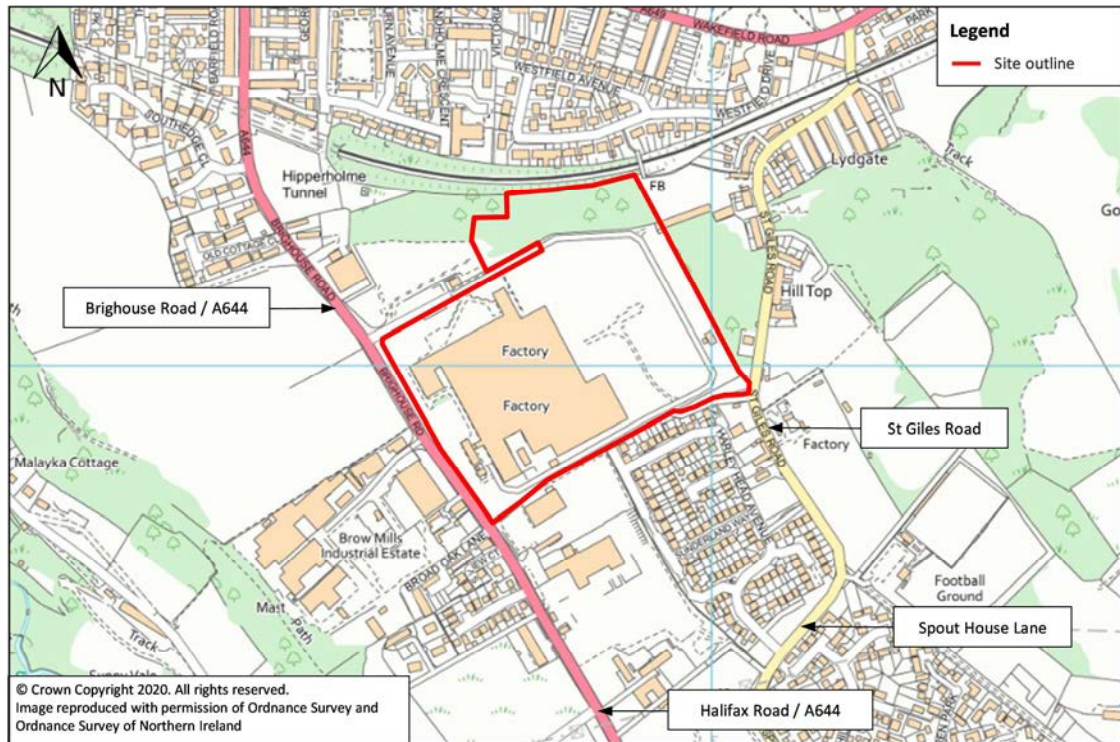


Figure 1: Site Location

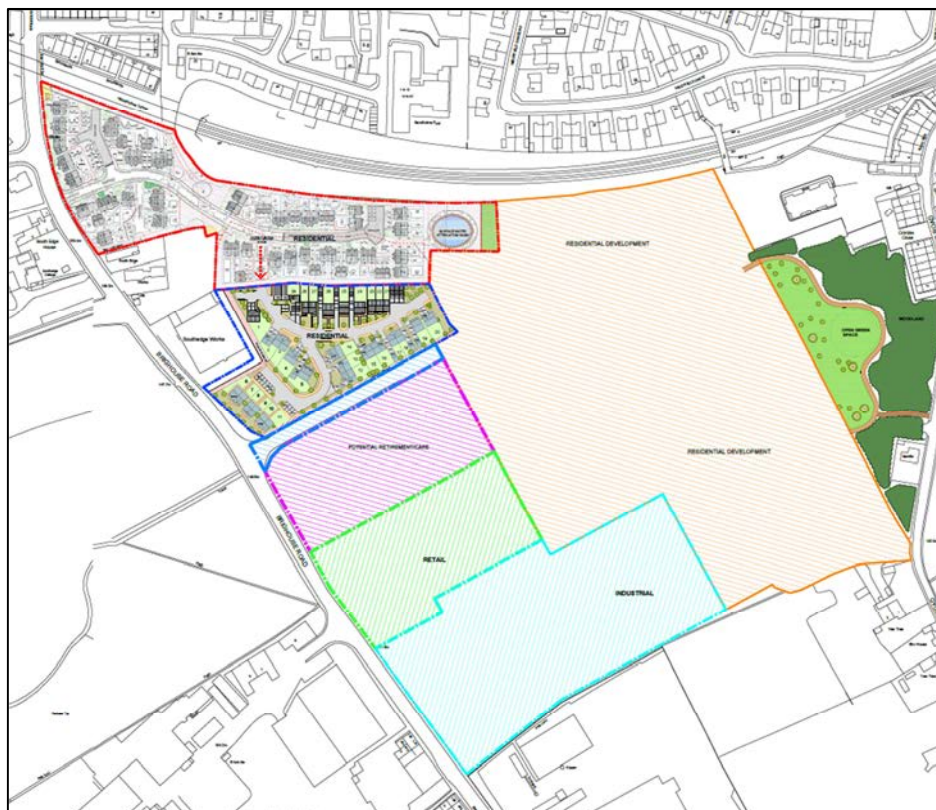


Figure 2: Illustrative Layout

Extract from PWA Proposed Site Access Plan; Dwg No 19264/SK04 Rev C, March 2020

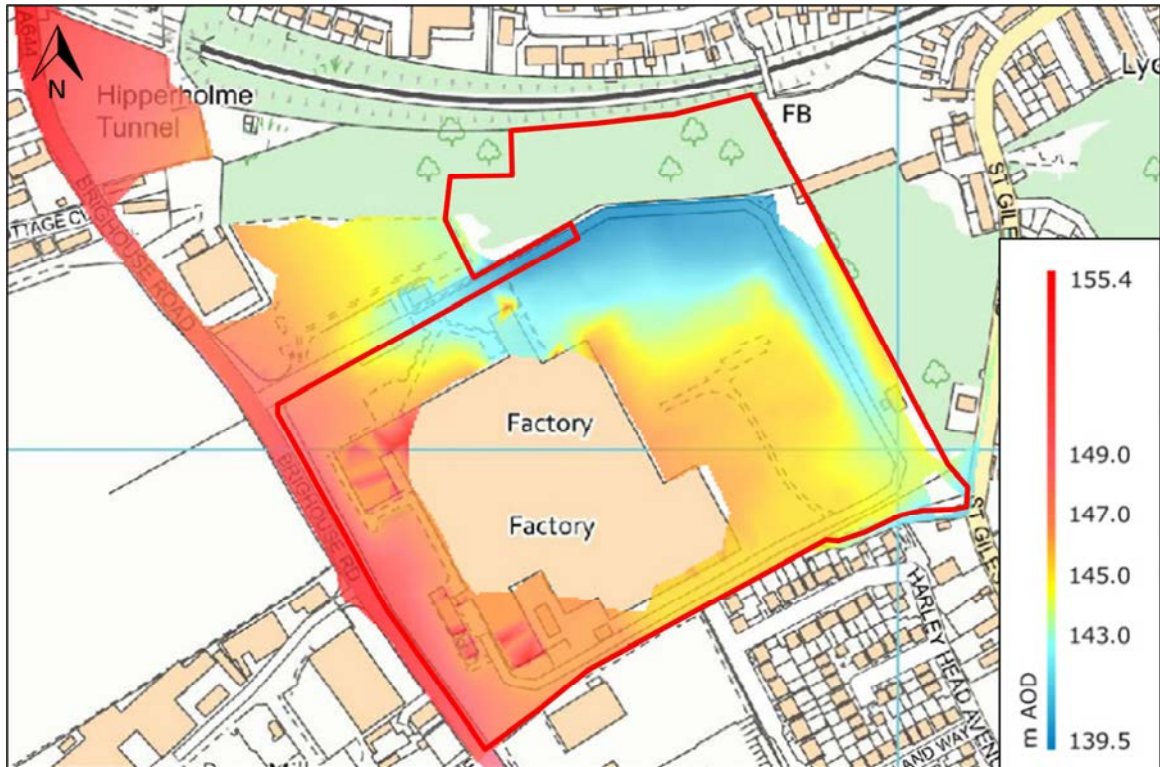


Figure 3: Topographic Survey

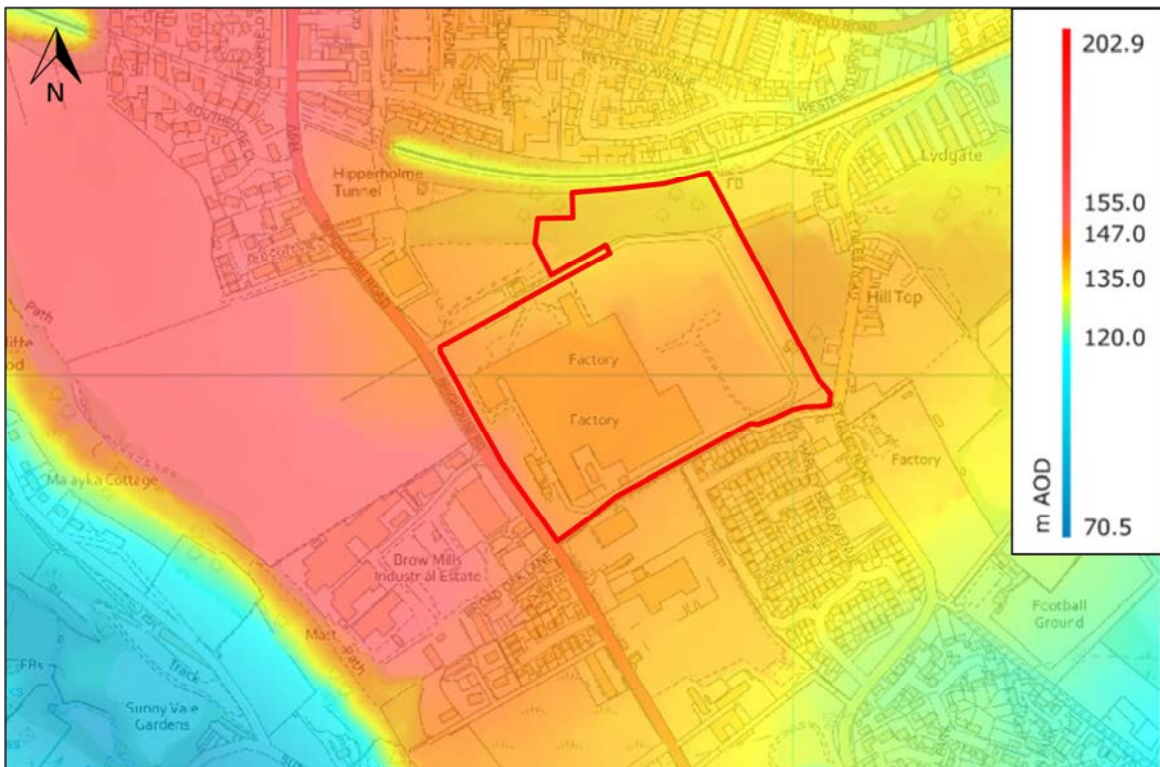


Figure 4: Digital Terrain Map (LiDAR)



Figure 5: Flood Map for Planning

Source: <https://flood-map-for-planning.service.gov.uk>; Accessed April 2020

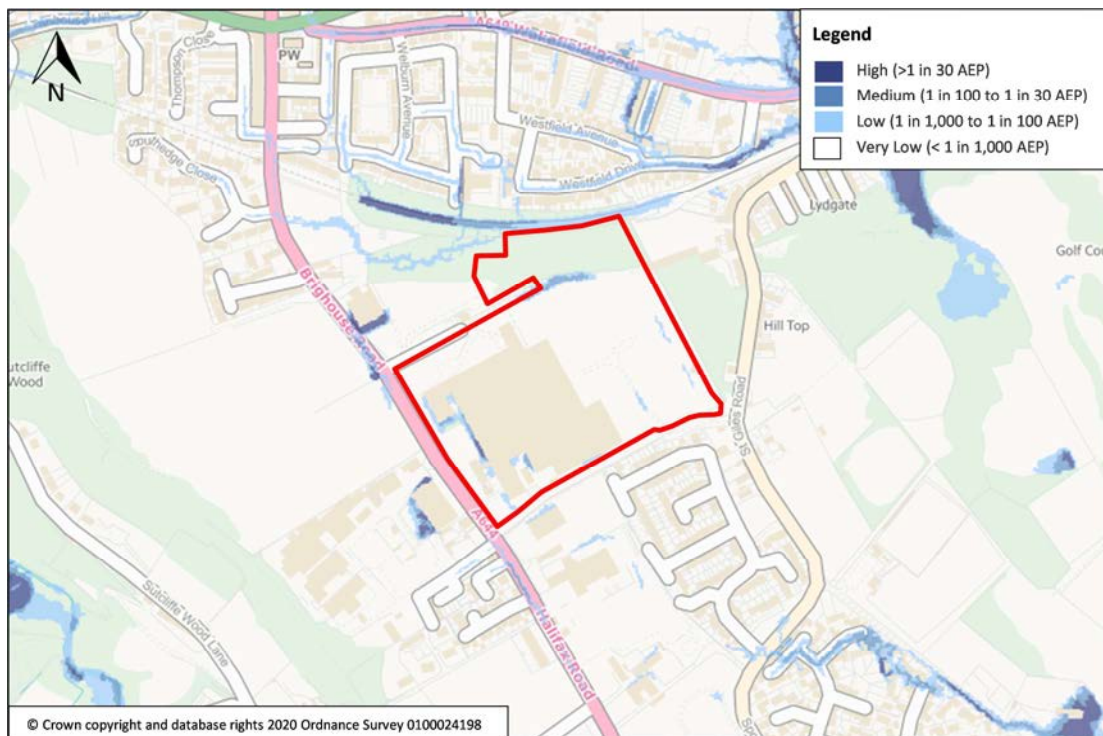


Figure 6: Risk of Flooding from Surface Water

Source: <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>; Accessed April 2020