



Greggs Bakery / Twickenham

Health Impact Assessment

Prepared by Trium

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Greggs Bakery and No 2 Gould Road, Twickenham Health Impact Assessment

Prepared for:
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1. INTRODUCTION

- 1 This Health Impact Assessment (HIA) has been prepared on behalf of London Square Developments Ltd (hereinafter referred to as the 'Applicant'), who is seeking detailed planning permission for the demolition of existing buildings and redevelopment of an area of land located within the London Borough of Richmond Upon Thames (the LBRuT). The site is referred to as Greggs Bakery and No 2. Gould Road, and is located off Gould Road, Twickenham, TW2 6RT ('the site'), **Figure 1**.

Figure 1 The Site – Planning Application Red Line Boundary



The Proposed Development

Quantum of Development

- 2 Detailed planning permission is being sought for the demolition of the existing buildings (with retention of a single dwelling) and redevelopment of the site to provide up to 97 residential units (Use Class C3) and 883m² of industrial floorspace (Use Class E(g)(iii)) and 117m² of affordable workspace (Use Class E) with associated hard and soft landscaping, car parking and highway works and other associated works (hereinafter referred to as the 'Proposed Development').

- 3 The residential buildings will provide a total of 97 homes, comprising 65 apartments (33 x one bed; 28 x 2 bed; and 4 x 3 bed) and 32 townhouses (5 x 2 bed and 27 x 3 bed), along with 1,000m² Gross Internal Area (GIA) of industrial and affordable workspace floorspace.
- 4 A total of 83 residential car parking spaces will be provided, along with 22 commercial car parking spaces, 4 vehicle loading bays and one public on street car club parking space.

Expected Population

- 5 The proposed residential mix is outlined in **Table 1** below:

Table 1 Proposed Development Residential Unit Mix

Unity Type	Private Residential	Shared Ownership	Affordable Rent	Total
1 bed	25	6	2	33
2 bed	23	5	5	33
3 bed	29	2	0	31
TOTAL	77	13	7	97

- 6 The Proposed Development comprises 19% affordable housing (by habitable room), subject to viability, with 12% Shared Ownership Residential and 7% Affordable Rent. The area schedules submitted in support of the planning application for the Proposed Development along with **Table 1** show that the greatest proportion of affordable housing (including both shared ownership and affordable rent units) is within 2-bed units, followed by 1-bed units.
- 7 Using the accommodation schedule and the 2019 Greater London Authority (GLA) Population Yield Calculator, the population yield associated to the Proposed Development has been estimated, as shown in **Table 2** below. This has been repeated using the accommodation schedule and the 2017 GLA Population Yield Calculation, shown in **Table 3**, which is used to assess the effects on primary and secondary schools. The 2019 PYC uses the proposed accommodation schedule, the Public Transport Accessibility Level (PTAL) rating for the site and the geographic area (of London) within which the site is located to forecast the potential population from a proposed development. The output groups the child yield to match the age groupings of the different levels of play space. The 2019 PYC is based on the same underlying data as that of the 2017 PYC, however the output of the 2017 version is aligned with the age groupings of primary and secondary schools (which differs slightly to that of play space). Therefore, the 2017 PYC has been used to calculate the population yield for schools, as set out in **Table 3**.

Table 2 Population Yield for the Proposed Development by Age Group (Play Space)¹

Age Group (Years)	Number of Individuals
0-4	22
5-11	15
12-15	5
16-17	2
18-64	169
65+	4
Total	217

Note: The population yield for each age group has been rounded, hence the total population based on the values in the table does not equate.

Source: GLA, (2019); GLA Population Yield Calculator – Published 19 June 2019 [URL: <https://data.london.gov.uk/dataset/population-yield-calculator>]

¹ The population yield was calculated using the Greater London Authority Population Yield Calculator (version 3.2) and a Public Access Level (PTAL) of 0-2 has been applied for the Geographic Aggregation of Outer London.

Table 3 Population Yield for the Proposed Development by Age Group (Schools)²

Age Group (Years)	Number of Individuals
0-3	16
4-10	16
11-15	5
16-17	2
18-64	168
65+	4
Total	211

Note: The population yield for each age group has been rounded, hence the total population based on the values in the table does not equate.

Source: GLA, (2017); GLA Population Yield Calculator – Published 06 December 2017 [URL: <https://data.london.gov.uk/dataset/population-yield-calculator>]

General Arrangement

- 8 The proposed use classes are provided within eight different buildings/building typologies: A to H. The layout of these are depicted in **Figure 2** below.
- 9 The site is divided into three distinct character areas, with ‘industrial’ style to the south along Edwin Road, ‘mews’ style within the middle of the site, and ‘riverside’ style, with an industrial / wharf aesthetic, to the north along the River Crane, **Figure 2**.
- 10 The layout of the industrial building has been designed to be used as one large space or subdivided in to up to four units.
- 11 Moving through the site, from Edwin Road to the south to the River Crane to the north, the buildings gradually increase in height; the industrial building and residential ‘mews house’ style buildings closest to Edwin Road are generally 2 storeys in height, the residential apartments nearer the north of the site range from 1+ through to 5 storeys in height. **Figure 3** below provides an indication of building heights across the site.

Figure 2 Proposed Development – Building Layouts and Character Areas



² The population yield was calculated using the Greater London Authority Population Yield Calculator (version 2.1) with Outer London as the Geographic Aggregation.

Figure 3 Proposed Development – Building Heights



Landscape

- 12 Error! Reference source not found. below shows the proposed ground floor landscape general arrangement.
- 13 Every home along the mew street has a rear garden, with an average amenity space of 34m² and 28.9m² along the West Terrace and East Terrace respectively. For the apartment buildings (A, E and F) and smaller two bedroom houses (G), amenity has been maximised with terraces and balconies, ensuring every apartment has a private amenity space either equal to or above the London Plan minimum requirements.
- 14 In addition to the private amenity, Building F benefits from a number of small communal roof terraces that can be enjoyed by those living in the building.
- 15 The industrial use has been designed to accommodate external space to the rear of each unit for employees.

Figure 4 Proposed Ground Floor Landscape General Arrangement



Overview of this HIA

- 16 In accordance with the requirements of The London Plan³ Policy GG3(d) and Policy LP30 of LBRuT's Local Plan⁴, as well as with consideration of Policy 51 of LBRuT's Draft Local Plan⁵ and Health Impact Assessment Supporting Document⁶, a HIA has been undertaken to help define and address any health issues in a systematic way. The methodology, baseline health context and health impact assessment are presented in this report.
- 17 In preparing this HIA, reference has been made to a number of data sources (these are referenced as relevant throughout this HIA) and to other standalone reports submitted as part of this planning application as relevant.

2. LEGISLATION AND PLANNING POLICY

- 18 A comprehensive review of relevant health related legislation and national, regional and local planning policy is provided in **Appendix A** of this HIA. The following legislative and planning policy documents are considered most relevant:
 - The Localism Act 2011⁷;
 - The Health and Social Care Act 2012⁸;

³ Greater London Authority, (2021); *The London Plan: The Spatial Development Strategy for Greater London, March 2021*

⁴ London Borough of Richmond Upon Thames, (2018); *Local Plan*.

⁵ London Borough of Richmond Upon Thames, (2021); *Richmond Local Plan 'The best for our borough' Draft for Consultation*.

⁶ London Borough of Richmond Upon Thames, (2021); *Health Impact Assessment*.

⁷ Her Majesty's Stationery Office, (2011); *Localism Act 2011*

⁸ Her Majesty's Stationery Office, (2012); *Health and Social Care Act 2012*

- The National Planning Policy Framework (NPPF) 2021⁹;
- Planning Practice Guidance (PPG) (2019)¹⁰;
- Fair Society, Healthy Lives (the Marmot Review) (2010)¹¹ and The Marmot Review 10 Years On (2020)¹²;
- Healthy Lives, Healthy People: our strategy for public health in England (2010)¹³;
- NHS England’s Challenging Health Inequalities Report (2016)¹⁴;
- The London Plan: The Spatial Development Strategy for Greater London (2021);
- The Greater London Authority’s London Health Inequalities Strategy September 2018 (2018)¹⁵;
- Greater London Authority’s Social Infrastructure Supplementary Planning Document (2015)¹⁶;
- Public Health England’s Health Impact Assessment in Spatial Planning (2020)¹⁷;
- Joint Strategic Needs Assessment (JSNA) for Richmond (online database)¹⁸;
- Whole-school and Community Approaches to Health and Wellbeing in Richmond Upon Thames: Celebrating and Building on Success, Annual Report of the Director of Public Health, 2020 (2020)¹⁹;
- London Borough of Richmond upon Thames Joint Health and Wellbeing Strategy 2016-21 (2016)²⁰;
- London Borough of Richmond upon Thames Local Plan (2018);
- London Borough of Richmond upon Thames Draft Local Plan (2021); and
- London Borough of Richmond upon Thames Health Impact Assessment Supporting Document (2021).

3. METHODOLOGY

19 This HIA has considered and been prepared in line with Policy GG3 of The London Plan ‘Creating a Healthy City:

“To improve Londoners’ health and reduce health inequalities, those involved in planning and development must... assess the potential impacts of development proposals and Development Plans on the mental and physical health and wellbeing of communities, in order to mitigate any potential negative impacts, maximise potential positive impacts, and help reduce health inequalities, for example through the use of Health Impact Assessments.”

20 This is endorsed in the local level through Policy LP 30 Health and Wellbeing of the LBRuT Local Plan which states that “...B.1. A Health Impact Assessment must be submitted with all major development proposals.” and “8.3.12 A HIA should assess the health impacts of a development, identifying mitigation measures for any potential negative impacts as well as measures for enhancing any potential positive impacts”. This is also endorsed through the LBRuT Draft Local Plan in Policy 51 Health and Wellbeing, point B1 and paragraph 25.13.

⁹ Department for Communities and Local Government, (2021); National Planning Policy Framework

¹⁰ Department for Communities and Local Government, (2019); Planning Practice Guidance

¹¹ University College London, (2012); Fair Society, Healthy Lives (the Marmot Review) 2010

¹² The Institute of Health Equity (2020). Health Equality in England: The Marmot Review 10 Years On.

¹³ Department of Health, (2010); Healthy Lives, Healthy People: Our strategy for public health in England

¹⁴ NHS England, (2016); Challenging Health Inequalities Report – Support for CCGs

¹⁵ Greater London Authority, (2018); London Health Inequalities Strategy 2018

¹⁶ Greater London Authority, (2015); Social Infrastructure SPD

¹⁷ Public Health England (2020); Health Impact Assessment in Spatial Planning: a guide for local authority public health and planning teams

¹⁸ London Borough of Richmond Upon Thames, (2021); Joint Strategic Needs Assessment online database. Accessible online: https://www.richmond.gov.uk/services/wellbeing_and_lifestyle/public_health_publications/jsna

¹⁹ London Borough of Richmond Upon Thames, (2020); Whole-school and Community Approaches to Health and Wellbeing in Richmond Upon Thames: Celebrating and Building on Success, Annual Report of the Director of Public Health, 2020

²⁰ London Borough of Richmond Upon Thames, (2016); Joint Health and Wellbeing Strategy 2016-21

- 21 The methodology for preparing this HIA is predominantly derived from the NHS Healthy Urban Development Unit (HUDU) (2019) Rapid Health Impact Assessment Tool²¹ and the NHS HUDU Healthy Urban Planning Checklist (2017)²².
- 22 The Rapid HIA Tool was designed to assess the likely health impacts of development plans and proposals. The Rapid HIA Tool is partly based on the World Health Organisation (WHO) publication by Hugh Barton and Catherine Tsourou, Healthy Urban Planning (2000)²³. This publication places emphasis on the importance of considering health and quality of life in urban planning, and refocusing urban planners on making health objectives central to the decision-making process.
- 23 The Rapid HIA Tool helps to identify determinants of health likely to be influenced by a specific development proposal. 'Determinants of health' are factors that have the most significant influence on the health of a population. The Rapid HIA Tool identifies the following 11 key determinants of health:
1. Housing Design and Affordability;
 2. Access to Health and Social Care Services and Other Social Infrastructure;
 3. Access to Open Space and Nature;
 4. Air Quality, Noise and Neighbourhood Amenities;
 5. Accessibility and Active Travel;
 6. Crime Reduction and Community Safety;
 7. Access to Healthy Food;
 8. Access to Work and Training;
 9. Social Cohesion and Inclusive Design;
 10. Minimising the Use of Resources; and
 11. Climate Change
- 24 As per the Greater London Authority's Social Infrastructure SPD²⁴ this HIA is a 'Rapid HIA', which is one of three types of HIA. This Rapid HIA is a "more resource intensive process, involving a more focused investigation of health impacts and recommending mitigation and enhancement measures"¹⁸. A 'Desktop HIA' and a 'Full HIA' are the other two types of HIA. A Desktop HIA is a simplified HIA which draws on existing knowledge and evidence to complete the assessment. A Full HIA involves comprehensive analysis of all potential health and wellbeing impacts and includes qualitative feedback from local residents and other stakeholders. For the site, a Rapid HIA is the most appropriate form of HIA. It provides sufficient information on the health baseline of the site and surrounding area to allow for a systematic consideration of the likely health implications of the Proposed Development. It is also considered to be proportionate to the Proposed Development in question and provides for opportunities to suggest mitigation and enhancement measures as appropriate to the findings of the HIA.
- 25 Rapid HIA are predominantly qualitative rather than quantitative assessments, due to the wide and diverse range of health determinants that need to be assessed. As detailed in the Rapid HIA Tool, impacts on health determinants have been categorised as:
- Positive (+ve);
 - Negative (-ve);
 - Neutral (=); and
 - Uncertain (?).
- 26 Following on from the assessment of impacts of the Proposed Development on the key determinants of health, advice has been provided on measures to enhance health and wellbeing through the opportunities associated with the redevelopment of the site, and where necessary, to mitigate any potentially negative impacts.

²¹ NHS Healthy Urban Development Unit, (2019) Rapid Health Impact Assessment Tool (Fourth Edition)

²² NHS Healthy Urban Development Unit, (2017); Healthy Urban Planning Checklist (Third Edition)

²³ World Health Organisation, (2000); Healthy Urban Planning (ISBN: 113515936X)

²⁴ Greater London Authority, (2015); Mayor of London's Social Infrastructure Supplementary Planning Document

- 27 When completing the baseline review, the most up to date data available at the time of writing has been reported. Therefore, when the reporting year is more than one year old, this is the most recent data at the local, borough, regional and national level.

4. BASELINE REVIEW

Introduction

- 28 The site is located within the LBRuT, within London, England. The LBRuT is made up of 18 wards, with the site located in the South Twickenham Ward.
- 29 The LBRuT has an estimated resident population of 199,157 and is the 5th smallest borough in London²⁵. The population density within the LBRuT is 34.7 persons per hectare and the adult population comprises 63.6% of the total resident population²⁶. 87% of the LBRuT population is from a white ethnic population. This compares with the white population of 63% for the whole London region, and 86% for England²⁷.
- 30 The LBRuT is one the least deprived district / unitary authorities in England²⁸, and the least deprived borough in London, as shown in **Figure 5**. Furthermore, the health of people living within the borough is mostly better than that compared with the England average. The only health indicator not considered to be 'better' or 'similar' to the England average is the diabetes diagnosis indicator, which is 55.5% for the LBRuT, compared with the England wide 78.0% (i.e. worse than England wide).
- 31 Life expectancy at birth is at 86 years for women, and 83 years for men²⁹ which is higher than the average ages for both women (83 years) and men (79 years) within England.
- 32 **Figure 5** details the local deprivation profile within the Richmond upon Thames in 2019 based on national comparisons, using quintiles of the IMD 2015, shown by Lower Super Output Area (LSOA)³⁰. The site lies within Richmond upon Thames 014D LSOA, which falls into the 20% least deprived neighbourhoods in the country.
- 33 The following sections of this HIA set out the baseline context in respect of health and wellbeing considerations. The baseline context is presented in terms of the 11 key determinants of health, as defined by the Rapid HIA Tool.

²⁵ Data Rich, 2020; Joint Strategic Needs Assessment Richmond. First Accessed online 14.02.2022 [URL: https://www.datarich.info/population/report/view/006e7fe900924515a11c85e8b87bfbca/E01003814/#/view-report/37b5cf3c3d2b4d5abe7a90b087523c89/___iaFirstFeature]

²⁶ Data sourced from 2011 Census data and 2016 population projections. London Datastore, 2018, Land Area and Population density, Ward and Borough. First Accessed online 14.02.2022 [URL: <https://data.london.gov.uk/dataset/land-area-and-population-density-ward-and-borough>]

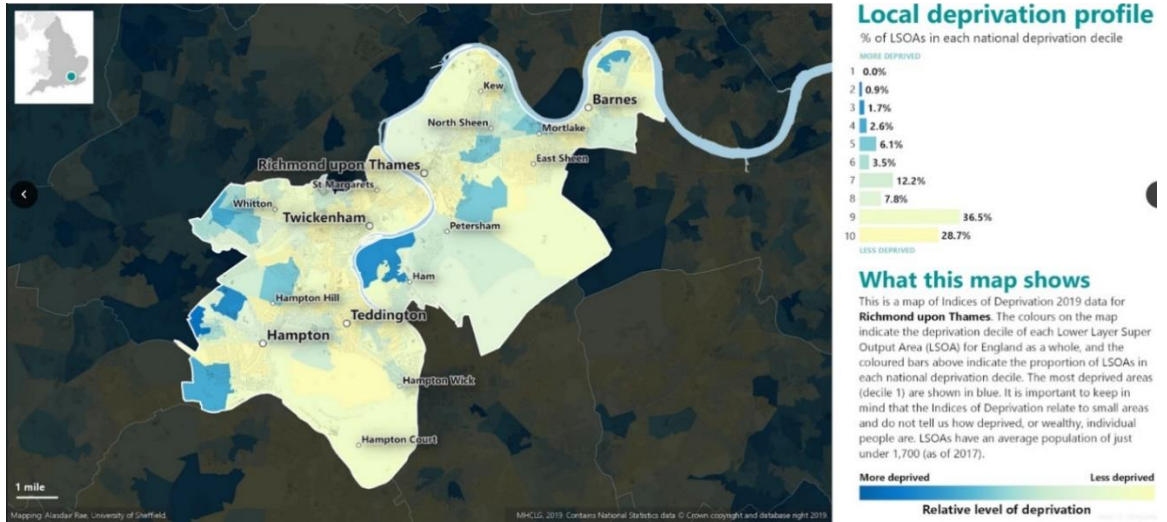
²⁷ Data Rich, 2020, JSNA Richmond. First Accessed online 14.02.2022 [URL: https://www.datarich.info/population/report/view/006e7fe900924515a11c85e8b87bfbca/E01003814/#/view-report/37b5cf3c3d2b4d5abe7a90b087523c89/___iaFirstFeature]

²⁸ Public Health England (2019); Local Authority Health Profiles, Richmond upon Thames. First Accessed online 14.02.2022. [URL: <https://fingertips.phe.org.uk/profile/health-profiles/data#page/3/gid/1938132701/ati/202/iid/91872/age/1/sex/4/cat/-1/cpt/-1/yr/1/cid/4/tbm/1/page-options/car-do-0>]

²⁹ Trust for London, 2022. Life Expectancy at Birth in London Borough (2017-2019). First Accessed online 14.02.2022 [URL: <https://www.trustforlondon.org.uk/data/life-expectancy-borough/>]

³⁰ A Lower Super Output Area (LSOA) is an area designed to improve the reporting of small area statistics. It is a geographical area made of roughly 1,500 residents and 650 households.

Figure 5 Local Deprivation Profile within the London Borough of Richmond upon Thames



Health Determinant 1: Housing Design and Affordability

The NHS HUDU Planning for Health (2019) states that *“Access to decent and adequate housing is critically important for health and wellbeing, especially for the very young and very old. Environmental factors, overcrowding and sanitation in buildings as well as unhealthy urban spaces have been widely recognised as causing illness since urban planning was formally introduced. Post-construction management also has impact on community welfare, cohesion and mental wellbeing.”*

- 34** Around 15% of homes in London in 2019 were recorded as being below the official Decent Homes standard³¹. The proportion of homes in London failing to meet this standard has however fallen from 37% in 2006 to 15% in 2019. The proportion of homes below this standard has fallen slightly faster in London than in the rest of England since 2006, and in recent years, significant improvement has been made across all tenures. The private rented sector (PRS) still has the worst conditions, with 18% of homes below the standard in 2019, compared to 15% of social housing and 13% of owner-occupied homes.
- 35** The LBRuT Joint Strategic Needs Assessment (JSNA) (2016)³² outlines that nationally, more families with children are living in the PRS as owning a home becomes increasingly challenging to afford. The LBRuT has the highest priced private rent levels in outer London, with costs rising by 44% between 2012 to 2019. Ending a tenancy from the private rent sector is one of the main reason for homelessness in Richmond and was responsible of 19% of the cases in 2019.
- 36** In 2018 the Mayor of London, Sadiq Khan, published the London Housing Strategy³³, within which “Policy 5.1: Well-designed, Safe and Good Quality Homes” establishes a common set of housing design standards across all tenures in London. These standards include improving quality and safety of new homes, existing homes and improving energy efficiency. The standards are also outlined within the London Plan³⁴ and the GLA’s Housing Supplementary Planning Guidance revised (SPG)³⁵.
- 37** As stated in the GLA’s Housing SPG, one of the key goals is *“to improve standards for the quality and design of housing, making sure that homes meet the needs of a changing population throughout their lives, and are built to the highest environmental standards”*.
- 38** According to the LBRuT’s Housing Strategy, LBRuT is the sixth most expensive London borough and most expensive outer London borough for house purchase. 64% of residents of the LBRuT live in owner-occupied housing, with 14% living in social rented council housing and 22% living in privately rented housing.
- 39** The LBRuT’s Local Plan (2018) includes Policy LP 35: ‘Housing Mix and Standards’. This policy has the objective of providing family sized accommodation that provide adequate external space and amenity spaces for all new dwellings. The documentation provides clear specifications which relate to specialist and multiple occupancy housing. These requirements set basic development parameters preventing poor design features such as insufficient space for number of occupiers, lack of private amenity space for occupants in line with the Mayors strategy outlined within Policy D4: ‘Housing Quality and Standards’ of the London Plan.
- 40** The LBRuT Local Plan (2018): Policy H6: ‘Affordable Housing’ states that the council expects an affordable housing a tenure mix split of 80% of the affordable housing provision for rent and 20% of the affordable housing provision for intermediate housing. This is slightly different to that of the current London Plan which states that *“a target of 60 per cent of new affordable housing should be for social/affordable renting, especially for families, and that 40 per cent should be for the range of intermediate housing products”*.
- 41** In summary, the LBRuT have recognised throughout their policy the need for a suitable stock and mix of high-quality housing that reflects local needs in locations with good transport links. The Local

³¹ Greater London Authority, (2021); *Housing in London: 2021*

³² London Borough of Richmond upon Thames, (2021); *Joint Strategic Needs Assessment (JSNA) Newsletter Issue 18 “Housing” (2016)*

³³ Greater London Authority, (2018); *London Housing Strategy*

³⁴ Greater London Authority, (2021); *The London Plan: The Spatial Development Strategy for Greater London.*

³⁵ Greater London Authority, (2017); *Housing Supplementary Planning Guidance*

Plan outlines that LBRuT will pursue all opportunities to maximise affordable housing across the borough through a range of measures, including providing more choice in the different types of affordable housing and different levels of affordability.

Health Determinant 2: Access to Health and Social Care

The NHS HUDU Planning for Health (2019), Health Determinant 2 states that “Strong, vibrant, sustainable and cohesive communities require good quality, accessible public services and infrastructure. Access to social infrastructure and other services is a key component of Lifetime Neighborhoods. Encouraging the use of local services is influenced by accessibility, in terms of transport and access into a building, and the range and quality of services offered. Access to good quality health and social care, education (primary, secondary and post-19) and community facilities has a direct positive effect on human health. Opportunities for the community to participate in the planning of these services has the potential to impact positively on mental health and wellbeing and can lead to greater community cohesion.”

Services and Other Social Infrastructure

Health

Health Synopsis

Children’s Health

- 42 Approximately 13% of Year 6 children (within LBRuT primary schools) are considered obese, which is better than the average for England (21%)³⁶.
- 43 The LBRuT hospital admissions for alcohol-specific conditions for individuals under the age of 18 years old was identified as 45 admissions per 100,000 population, which equates to 33.0 under 18s in total (between 2017/18 and 2019/20). This is similar to the England average of 30.6 admissions in 100,000 population³⁷.
- 44 The conception rate in 2019 for under-18s (per 1,000 females aged between 15-17) was better than the national average: 8.9 within the LBRuT compared to 15.7 nationally³⁸.

Adult Health

- 45 8% of adults living within the LBRuT in 2019 were current smokers, which is a lower percentage of smokers than the national average of 13.9%. The percentage of women declared to be a smoker at the time of child delivery in 2020/21 was 4.8% at the local (LBRuT) level (i.e. 92 women), which is low when compared to the national (England) average of 9.6%³⁸.
- 46 The number of mothers who breastfeed their babies within the first 48 hours of delivery was counted at 1,522 in 2016/17, however no proportion of the population could be determined for data quality reasons, and as such cannot be compared with the national average³⁸.
- 47 The percentage of physically active adults in 2019/20 was greater within the LBRuT (73.9%) when compared to the national average (66.4%). Additionally, the percentage of adults within excess weight (51.9%) was lower than the national average (62.8%)³⁴.
- 48 The percentage of people during hospitalised (emergency) for self-harm (157.7 per 100,000 people) and alcohol-related harm (525 per 100,000 people), the percentage of hip fractures recorded in people aged 65 and over (502 per 100,000), the number of recorded tuberculosis (TB) incidences over a three year average (5.4 per 100,000 people), and diabetes incidences (55.5% of people) is better than the national average (192.6 people and 664 people per 100,000 people, 572 people per 100,000 people, and 8 persons per 100,000, and 78% people respectively). Additionally, the percentage of people with cancer diagnosed at an early stage is slightly higher than that of the national average (53.2% in the LBRuT compared with the national average of 52.2%)³⁴.

³⁶ Public Health England, (2022); National Child Measurement Programme, England 2019/20 School Year, accessed online: 14/02/2022 [URL: <https://fingertips.phe.org.uk>]

³⁷ Public Health England (2020); Local Authority Health Profiles, Districts & UAs (2019/20), accessed online: [<https://fingertips.phe.org.uk/profile/health-profiles/data#page/1/gid/1938132701/ati/201/iid/90366/age/1/sex/1/cat/-1/ctp/-1/yr/3/cid/4/tbm/1>]

49 New Sexually Transmitted Infections (STIs) (excluding Chlamydia in <25s) in the LBRuT in 2020 (620 per 100,000 people) is similar to the national average (619 people per 100,000 respectively).

Access to Healthcare

Primary Healthcare

- 50 Primary health care is the first point of contact for health care for the majority of people and is mostly provided by general practitioners (GPs), however pharmacists, opticians and dentists also provide primary health care services.
- 51 Clinical Commissioning Groups (CCGs) were created following the commencement of the Health and Social Care Act in 2012³⁸, which replaced Primary Care Trusts on 1 April 2013. In April 2021 a total of 106 CCGs within England were recorded, and each GP practice is now part of a CCG. The site lies within the NHS South West London CCG, which was formed in April 2020 and covers the boroughs of Corydon, Kingston, Merton, Richmond, Sutton and Wandsworth and serves just under 1.7 million people.
- 52 In 2016 there were 823 full-time equivalent (FTE) GPs in the NHS South West London CCG³⁹, which equates to approximately 9,500 patients per GP.
- 53 According to the NHS digital website, there are over 180 GP surgeries located within the NHS South West London CCG⁴⁰. There are seven GP surgeries within a one-mile radius from the site⁴¹, which are detailed in **Table 4**. The HUDU provides a benchmark of 1,800 patients per FTE GP⁴². Using this benchmark, five of the GP surgeries (The Green & Fir Road Surgery, O'Donnell Surgery and Medical Centre, The Acorn Group Practice, the York Medical Practice, and Crane Park Surgery) have a lower number of patients than the benchmarked number of patients per FTE GP (i.e. the GPs are not seeing more patients than suggested by the benchmark). The remaining GP two surgeries (Sarajlic Medical Centre and Jubilee Surgery) are above the benchmark number of patients (i.e. have more patients than 1,800). By the time of writing this report (February 2022), all GPs were accepting new patients.

Table 4 GP Surgeries within Approximately 1 Mile of the Site

Name of Practice	Distance from Site	Registered Patients	Accepting New Patients	Active GPs	GP FTEs	Number of Patients per GP FTE
Sood (The Green & Fir Road)	0.3 miles	8,877	Yes	6	3.8	1,480
O'Donnell (Cross Deep) Surgery & Medical Centre	0.5 miles	11,053	Yes	10	7.1	1,105
Sarajlic (Staines Road) Medical Centre	0.8 miles	3,501	Yes	1	1.3	3,501
Jackson (The Acorn Group Practice)	0.8 miles	8,539	Yes	8	4.7	1,067
The York Medical Practice	0.9 miles	12,618	Yes	9	6.3	1,402
Jubilee Surgery	1.0 miles	5,944	Yes	2	1.9	2,972
Crane Park Surgery	1.0 miles	3,760	Yes	3	1.7	1,253

Notes
Where information on the working hours of doctors was not available, it was assumed that all doctors worked a full-time role.

³⁸ Her Majesty's Stationery Office, (2012); Health and Social Care Act 2012

³⁹ NHS, (October 2016); South West London – Five Year Forward Plan

⁴⁰ NHS South West London Clinical Commissioning Group. First Accessed online 18.02.2022 [URL: <https://swlondonccg.nhs.uk/about/>]

⁴¹ NHS Choices, (2022); NHS Services Search. First Accessed online 16.02.2022 [URL: <http://www.nhs.uk/service-search/GP>]

⁴² NHS London Healthy Urban Development Unit, 2007

- 54** There is one NHS dental practice available within one-mile walking distance of the site: Dhiman Dental Surgery, which is located 0.7 miles from the site. According to the Dhiman Dental website, there are three practicing dentists and they were accepting new NHS patients at the time of writing (February 2022)⁴³. There is also one orthodontic practice (The Orthodontic Practice) within 0.7 miles of the site.
- 55** Most people will need to pay for NHS dental treatment. There are certain groups of people who are entitled to free treatment (note: correct at the time of writing)⁴⁴, including:
- Those under the age of 18;
 - Those under the age of 19 and in full-time education;
 - Pregnant women, or those who have had a baby within 12 months before treatment starts;
 - Those staying in an NHS hospital, with a hospital NHS dentist carrying out treatment (however payment for dentures or bridges may be required);
 - Those included in an award of Income Support, income-based Jobseeker's Allowance, income-related Employment and Support Allowance or Pension Credit Guarantee credit or Universal credit;
 - Those under the age of 20 and a dependent of someone receiving low income benefits;
 - Those named on, or entitled to, a valid NHS tax credit exemption certificate;
 - Those named on a valid HC2 certificate; and
 - a valid maternity exemption certificate.
- 56** There are three NHS dental charge bands (note: correct at the time of writing)⁴⁵, which are as follows:
- Band 1: £23.80 covers an examination, diagnosis and advice. If necessary, it also includes X-rays, a scale and polish, and planning for further treatment.
 - Band 2: £65.20 covers all treatment covered by Band 1, plus additional treatment, such as fillings, root canal treatment and removing teeth (extractions).
 - Band 3: £282.80 covers all treatment covered by Bands 1 and 2, plus more complex procedures, such as crowns, dentures and bridges.
- 57** There are several chemists/pharmacies near the site. The closest pharmacy is the Maple Leaf Pharmacy and Clinic, located approximately 250m south of the site, and the Day Lewis Pharmacy, located approximately 800m to the east of the site.
- 58** The closest opticians to the site includes Robert Firth Ophthalmic Opticians, approximately 0.3 miles from the site, the Optical Gallery and Boots Opticians, both of which are located approximately 0.6 miles east of the site. Eye-tests, like dental treatment, incur costs for the majority of people. Those exempt from these charges (note: correct at the time of writing)⁴⁶ include those:
- Aged 60 or over;
 - Registered blind or partially sighted;
 - Diagnosed with diabetes or glaucoma;
 - Aged 40 or over and have a close relative (parent, sibling or child) with a history of glaucoma;
 - At risk of glaucoma (as advised by an eye doctor);
 - Aged under 16, or aged 16, 17 or 18 and in full-time education;

⁴³ Dhiman Dental Website. First Accessed Online 21.02.2022 [URL: <https://www.dhimandental.co.uk/>]

⁴⁴ NHS, (January 2021); Who is entitled to free NHS dental treatment in England. First Accessed Online 21.02.2022 [URL: <https://www.nhs.uk/common-health-questions/dental-health/who-is-entitled-to-free-nhs-dental-treatment-in-england/>]

⁴⁵ NHS, (January 2021); How much will I pay for NHS dental treatment. First Accessed Online 21/02/2022 [URL: <https://www.nhs.uk/nhs-services/dentists/dental-costs/how-much-will-i-pay-for-nhs-dental-treatment/>]

⁴⁶ NHS, (January 2021); Free NHS eye tests and optical voucher. First Accessed Online 21/02/2022 [URL: <https://www.nhs.uk/nhs-services/opticians/free-nhs-eye-tests-and-optical-vouchers/>]

- Eligible for an NHS complex lens voucher;
- A prisoner on leave from prison; and
- If you or your partner (including civil partner) receive, or you are under the age of 20 and the dependant of someone receiving:
 - Income Support;
 - Income-related Employment and Support Allowance;
 - Income-based Jobseeker's Allowance;
 - Pension Credit Guarantee Credit; and
 - Universal Credit and meet the criteria.

59 The average cost of a standard eye test is approximately £25 (note: price taken from the Boots Optician eye test website)⁴⁷.

Secondary Healthcare

60 Secondary health care is often referred to as 'hospital and community care' and can include planned (elective care) e.g. an operation, and emergency treatment. The closest secondary health care provider to the site is West Middlesex University Hospital, located approximately 3.1km to the north of the site. West Middlesex University Hospital offers a range of local services including Accident and Emergency Services, an Urgent Care Centre, Intensive Care unit, as well as a number of other medical services. The hospital services are provided by the Chelsea and Westminster Hospital NHS Foundation Trust.

61 The LBRuT provides a wide range of Health and Social Care services. These services include, but are not limited to:

- Help for adults, including safeguarding vulnerable adults e.g. the elderly, and those suffering from domestic abuse;
- Children and family care, including information on child protection, services for families with children and young people aged 0 to 25 with special educational needs and/or disabilities, information on children's centres;
- Safeguarding children, including information relating to the Single Point of Access team, the services they offer and how to get in contact;
- Adoption, the LBRuT is part of the South West London Adoption Consortium, with the consortium website outlining information on eligibility and application details;
- Fostering, including training and support, finance and payments, the 'Richmond Fostering Community' and resources for new foster carers; and
- Domestic violence, including helps lines, and online resources for training adults in social care.

62 The LBRuT provide further details on services available to residents within the borough on the LBRuT and West London Alliance Care Place webpage⁴⁸.

Education

Primary Schools

63 All primary schools within a 2km radius of the site have been reviewed with regard to current pupil enrolment and capacity, in order to determine whether there is a surplus or deficit of pupil spaces within primary schools in close proximity to the site. A 2km radius has been chosen to define the

⁴⁷ Boots, (2022), Book an eye test. *First* Accessed online 21.02.2022 [URL: <https://www.boots.com/opticians/eyetest>]

⁴⁸ London Borough of Richmond upon Thames, (2022); Care Place. *First* Accessed online 21.02.2022 [URL: <https://www.careplace.org.uk/Categories/26>]

catchment area, as this is the average distance travelled to primary schools, with walking the dominant mode of getting to school for Primary School aged children⁴⁹ (approximately 51% primary school children walk to school).

- 64 Information relating to the schools has been obtained online from the Department of Education (DoE)⁵⁰. For the purpose of this HIA, only community schools and free schools without religious restrictions have been included in the analysis and 5% buffer of spare capacity has been assumed in line with the relevant Audit Commission guidelines⁵¹ to ensure the school does not go over-capacity, where possible.
- 65 As detailed by the DoE, there are 14 schools offering primary education within a 2km radius of the site, which are detailed within **Table 5**. As well as the details of the primary schools within this radius, the number of pupils and capacity of each school has been provided, where information is available, and the surplus capacity detailed.

Table 5 Primary Schools and Capacity within 2km Radius

School Name	Capacity (Number of Pupils)	Number of Pupils on Roll	Surplus/ Deficit Number at 95% Capacity	Surplus Capacity (%)
Richmond upon Thames				
Orleans Primary School	472	472	-24	-5.0
Stanley Primary School	936	651	238	25.4
Trafalgar Junior School	349	340	-8	-2.4
Trafalgar Infant School	270	231	26	9.4
Chase Bridge Primary School	630	627	-29	-4.5
Twickenham Primary School	420	339	60	14.3
Nelson Primary School	416	368	27	6.5
Hampton Hill Junior School	366	355	-7	-2.0
Heathfield Junior School	450	433	-6	-1.2
Heathfield Infant School	474	368	82	17.4
Meadlands Primary School	210	230	-31	-14.5
Hounslow				
Ivybridge Primary School	236	212	12	5.2
Worple Primary School	239	215	12	5.0
Chatworth Primary School	738	665	36	4.9
TOTAL	6,206	5,506	390	
Notes				
<ul style="list-style-type: none"> • Numbers of Pupil Surplus/Deficit Number at 95% Capacity have been rounded. • Data correct at the time of writing (February 2022) 				

- 66 At the time of writing the report, there are six schools with a deficit of capacity (Meadlands Primary School (-31 places), Chase Bridge Primary School (-29 places), Orleans Primary School (-24 places), Trafalgar Junior School (-8 places), Hampton Hill Junior School (-7 places), and Heathfield Junior School (-6 places)) while the remaining schools all have some available capacity, with the greatest capacity currently available at Stanley Primary School, with a surplus capacity of 25.4%.

⁴⁹ Department for Transport, (2020); National Travel Survey 2019: Trips to and from school by main mode, region and Rural-Urban Classification: England, 2002/2003 onwards. – Using London data – Accessed Online 21.02.2022: <https://www.gov.uk/government/statistical-data-sets/nts06-age-gender-and-modal-breakdown>

⁵⁰ Department for Education, (2019); Get Information About Schools. Accessed online 8.02.2019 [URL: <https://get-information-schools.service.gov.uk/>]

⁵¹ Audit Commission, (1996); Trading Paces, The Supply and Allocation of School Places. London: HMSO.

Secondary Schools

67 An appropriate catchment area for secondary schools is a 4.6km radius from the site, which is derived from the average trip distance to secondary schools in London (Department for Transport, 2016) and reflects that older children will travel further to go to secondary school than those of primary school age.

68 Table 6 presents the results of the secondary school review and the remaining pupil capacity.

Table 6 Secondary Schools and Capacity

School Name	Capacity (Number of Pupils)	Number of Pupils on Roll	Surplus/ Deficit Number at 95% Capacity	Surplus Capacity (%)
Richmond upon Thames				
Richmond upon Thames College*	750	596	117	15.5
Teddington School	1,359	1,200	91	6.7
Waldegrave School	1,246	1,463	-279	-224
Orleans Park School	1,260	1,342	-145	-11.5
Grey Court School	1,398	1,493	-165	-11.8
Turing House School	1,050	665	333	31.7
The Richmond upon Thames School	750	596	117	15.5
Hampton High	Unknown	785	N/A	N/A
Twickenham School	Unknown	516	N/A	N/A
Hounslow				
The Heathland School	1,679	1,831	-236	-14.1
West Thames College*	Unknown	Unknown	N/A	N/A
Lampton Academy	1,502	1,505	-78	-5.2
Springwest Academy	1,351	963	320	23.7
Isleworth and Syon School	979	1,118	-188	-19.2
Heston Community School	1,395	1,314	11	0.8
Kingsley Academy	1,050	775	223	21.2
Logic Studio School	300	326	-41	-13.7
Bolder Academy	1,260	500	697	55.3
Kingston upon Thames				
The Kingston Academy	1,180	1,035	86	7.3
The Tiffin Girls' School	1,001	1,217	-266	-26.6
TOTAL	19,510	17,939	596	
Notes				
* Schools offering sixth form				

69 Based on the most up-to-date information available, for the schools detailed within Table 3 of this HIA, located within 4.6km (2.8 miles) of the site, taking a 5% capacity buffer into consideration, there is a surplus capacity of 596 places, equivalent to 53%.

Other Social Infrastructure and Community Facilities

70 There are a wide range of community facilities available to residents within the LBRuT. The LBRuT manages several community facilities, including libraries, sport and fitness facilities, and community halls.

- 71** There are 13 libraries within the LBRuT, with the closest library to the site is the Twickenham Library, which is located approximately 950m to the east of the site.
- 72** The site is located within 1.1km of the Twickenham Museum, which displays historical information relating to the riverside settlements along the River Thames, within the LBRuT. While not managed by the LBRuT, access to the museum is free to access.
- 73** The Whitton Sports and Fitness Centre is an LBRuT managed facility and is approximately 1.5km to the west of the site along Percy Road Whitton. Other gyms situated closer to the site include pilates and yoga studios, a martial arts studio, and the more traditional style Anytime Fitness gym. These gyms and studios are all located within 800m of the site, with the Anytime Fitness gym located adjacent to the Twickenham Train Station.
- 74** The LBRuT also offer a 'Richmond Card' which gives card holders exclusive deals from local and independent businesses. The card covers a range of offers, from home and leisure, to health, culture, fitness and parking discounts. The card is free and is available for anyone over 17 years of age.
- 75** The LBRuT have a number of social media platforms (including Facebook and Twitter) which provide updates relevant to the community. Recent posts relate to organised group Health Walks, the naming of a new footbridge, and community events (such as the Church Street Valentine Fair).
- 76** The nearest Youth Club, 'Heatham House Youth Centre', is located approximately 770m to the east of the site, and adjacent (to the north) of the Twickenham Railway Station. This youth club is for young people aged between 11 and 19 and offers a wide range of activities.

Health Determinant 3: Access to Open Space and Nature

As detailed in the NHS HUDU Planning for Health (2019), access to open space and nature relates to *“Providing secure, convenient and attractive open/green space can lead to more physical activity and reduce levels of heart disease, strokes and other ill-health problems that are associated with both sedentary occupations and stressful lifestyles. There is growing evidence that access to parks and open spaces and nature can help to maintain or improve mental health. The patterns of physical activity established in childhood are perceived to be a key determinant of adult behaviour; a growing number of children and young people are missing out on regular exercise, and an increasing number of children and young people are being diagnosed as obese. Access to play spaces, community or sport facilities such as sport pitches can encourage physical activity. There is a strong correlation between the quality of open space and the frequency of use for physical activity, social interaction or relaxation.”*

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- 79** Physical activity has been in decline since the 1960s; we are over 20% less active now than in the 1960's and are predicted to be 35% less active by 2030. In 2019/20, 44.9% of children and young people in England met the Chief Medical Officer's guideline of 60 minutes of physical activity per day⁵². 66.4% of adults were classed as physically active in 2019/20.
- 80** In 2018 in the United Kingdom, the majority of adults were overweight or obese, with 67% of men and 60% of women⁵³.
- 81** Approximately 22% of Year 6 children within LBRuT primary schools are considered overweight or obese, which is below both the London and England averages of 38.2% and 35.2% respectively⁵⁴. In 2018/19 67.7% of children and young people in the LBRuT were considered physically active, which is greater than both the London and England rates of physical activity.
- 82** Over half the adult population in the LBRuT are classified as overweight or obese, and 17.1% are classified as physically inactive.
- 83** The LBRuT have produced a Joint Health and Wellbeing Strategy (2016-21)⁵⁵ with the aim of promoting health and active lifestyles within both adults and young people. Richmond Council also promote active lifestyles with events for all ages. These include but are not limited to:
- The promotion of positive conditions and places for children, young people and families to grow, learn, work and play and be safe;
 - The organisation of tournaments for school age children;
 - London Youth Games is Europe's largest annual youth sporting event where the 33 London boroughs compete against each other in over 30 different sports, including sports for young people with disabilities.

⁵² Public Health England, (2021); Physical Activity data tool. Accessed online 16.02.2022 [URL: <https://fingertips.phe.org.uk/profile/physical-activity/data#page/1>]

⁵³ NHS Digital, (2020); Statistics on Obesity, Physical Activity and Diet, England, 2020.

⁵⁴ Data Rich, (2021); Health and Social Care. Accessed online 16.02.2022 [URL: https://www.datarich.info/health-and-social-care/#/view-report/1122c70f0ba548b29f4de68716801d77/___iaFirstFeature]

⁵⁵ London Borough of Richmond upon Thames, (2016); Joint Health and Wellbeing Strategy 2016-21

- Ensuring accessible parks and open spaces; and
 - Creating healthy workspaces.
- 84** With regards to open space and nature, there are over 500ha of formal parks, sports grounds, playgrounds and nature conservation sites. Publicly accessible parks make up 57% of the total area of the LBRuT, with 128 parks, the second highest of all London boroughs⁵⁶. The borough of Richmond has over 400ha of open space which is free to access. Despite the availability of green spaces, according to Public Health Profiles, in 2020/21, there was only 9.8% utilisation of outdoor space for exercise or health reasons in LBRuT⁵⁷. This is considerably lower than the London and England average of 18% and 17.9% respectively.
- 85** To increase better use of outdoor spaces, LBRuT provide access to a variety of services which can help people become more active. For example Green Gym, Friendly Parks for All and Dose of Nature.
- 86** 26.7% of the South Twickenham Ward is comprised of open space⁵⁸, which is defined as all open spaces including water, private playing fields, railway embankments, and agriculture. In general, access to regional parks, metropolitan parks, local pocket parks and district parks within the South Twickenham Ward (where the site is located) of the LBRuT is deficient⁵⁹ with only 1.4% of homes having good access to all four open spaces. This predominantly arises due to the lack of access to District Parks⁶⁰ (of which 97.4% of homes lack access to) and Local, Small or Pocket Parks (of which 43.3% of homes lack access to). 100% of households within the South Twickenham Ward have access to Regional and Metropolitan Parks. 98% of homes within the South Twickenham ward have good access to nature. The borough as a whole contains a high proportion of Neighbourhood Equipped Area of Play (NEAP), Local Equipped Area of Play (LEAP) or Local Area of Play (LAP) play areas.
- 87** Crane Park, located in close proximity to the north-west of the site, and is a designated Local Nature Reserve. The walking distance to Crane Park is approximately 320m and takes under 5 minutes to walk. Twickenham Green is located approximately 250m south of the site ('as the crow flies') and provides cricket ground and green space; the actual walking distance to this Green is approximately 320m, which is within the maximum Play and Informal Recreation SPG distance of 400m.
- 88** Craneford Way Recreational Park is located approximately 800m (walking distance) away from the site and can be reached in under 9 minutes along the riverside walk.
- 89** Kneller Gardens is located approximately 330m north west of the site which provides two mini football pitches, one full sized football pitch, four tennis courts, table tennis, basketball court, play equipment for under 13s as well as older children and outdoor gym equipment. The actual walking distance to these gardens is approximately 480m which is over the maximum Play and Informal Recreation SPG distance of 400m.
- 90** The River Thames and Tidal Tributaries (SINC designated as of Metropolitan Importance) is located within 1km of the site.

⁵⁶ London Borough of Richmond upon Thames, (2021); Joint Strategic Needs Assessment: Live Well.

⁵⁷ Office for Health Improvement and Disparities, (2020); Public Health Profiles. Accessed online 16.02.2022 [URL: <https://fingertips.phe.org.uk/search/outdoor#page/0/gid/1/ati/302/iid/11601/age/164/sex/4/cat/-1/ctp/-1/yr/1/cid/4/tbm/1/page-options/ovw-tdo-0>]

⁵⁸ London Ward Profiles, (2014); Accessed online 16/02/2022 [URL: <https://londondatastore-upload.s3.amazonaws.com/instant-atlas/ward-profiles-html/>]

⁵⁹ Areas of deficiency in access to nature are defined as built-up areas more than one kilometre actual walking distance from an accessible Metropolitan or Borough Site of Interest for Nature Conservation (SINC).

⁶⁰ London Data Store, (2013); Access to Public Open Space and Nature by Ward. Accessed online 16.02.2022 [URL: <https://data.london.gov.uk/dataset/access-public-open-space-and-nature-ward>]

Health Determinant 4: Air Quality, Noise and Neighbourhood Amenity

The NHS HUDU Planning for Health (2019), states that *“The quality of the local environment can have a significant impact on physical and mental health. Pollution caused by construction, traffic and commercial activity can result in poor air quality, noise nuisance and vibration. Poor air quality is linked to incidence of chronic lung disease (chronic bronchitis or emphysema) and heart conditions and asthma levels of among children and young people. Noise pollution can have a detrimental impact on health resulting in sleep disturbance, cardiovascular and psycho-physiological effects. Good design and the separation of land uses can lessen noise impacts”*

- 91 Two of the main environmental factors affecting neighbourhood amenity are noise and air quality, which are covered in this health determinant section.

Air Quality

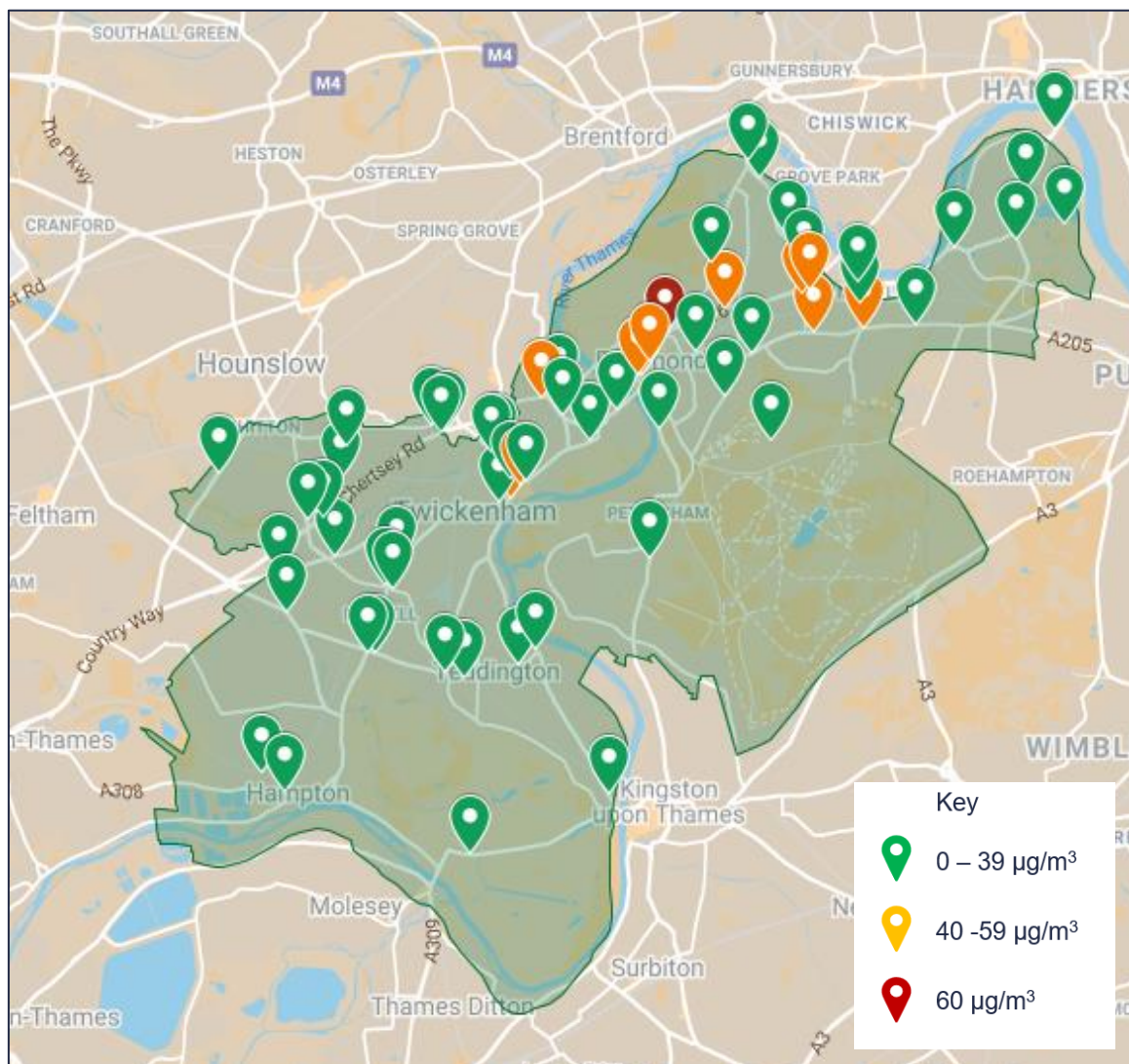
- 92 Air Quality is an important public health issue, particularly in London, where it was estimated that in Greater London, the equivalent of 3,600 to 4,100 deaths were attributed to human-made PM_{2.5} and NO₂⁶¹. This calculation is for deaths from all causes including respiratory, lung cancer and cardiovascular deaths.
- 93 In December 2000, the LBRuT designated an Air Quality Management Area (AQMA) across the whole Borough for nitrogen dioxide (NO₂) and particulate matter (PM), specifically PM₁₀. For carbon monoxide, benzene, 1,3-butadiene, lead and sulphur dioxide there is not a significant risk of the objectives being exceeded in the LBRuT.
- 94 The LBRuT routinely monitor the following pollutants: NO₂; PM₁₀; Ozone (O₃); and PM_{2.5}. The LBRuT currently have three continuous air quality monitoring sites, two static sites in Barnes (Castlenau, SW13 (roadside); and Wetlands, SW13 (urban background)) and one mobile site. The three Richmond operated sites are part of the King's London Air Quality Network, as is the site at the National Physical Laboratory (NPL) which is also part of the government's UK Automatic Urban and Rural Network (AURN).
- 95 The Council has a network of 64 diffusion tube 'non-automatic' monitoring sites across the LBRuT in 2020. Three of the diffusion tube sites are triplicate and co-located with all 3 automatic monitoring sites.
- 96 The national air quality objectives and European Directive limit and target values for the protection of human health identify 40 µg/m³ as the annual mean objective for NO₂ concentrations, 40 µg/m³ for PM₁₀ concentrations and 25 µg/m³ for PM_{2.5} concentrations.
- 97 The data for 2020 identifies that the annual mean concentration of NO₂ was recorded at 20 µg/m³ and 15 µg/m³ at the Castlenau and Wetlands respectively⁶². The 2020 results show that both sites met the objective of 40 µg/m³. This represents a slight decrease for Wetlands and a decrease for Castlenau from 2018 and 2019. However, results for 2020 need to be treated with caution due to the COVID-19 pandemic which affected traffic patterns and in turn pollution levels. It is also noted that Castlenau is no longer representative of typical roadside concentrations for LBRuT, as Hammersmith Bridge was closed in April 2019.
- 98 Of the 64 diffusion tubes within the borough, shown in **Figure 6**, none are located within 500m of the site. The monitoring site closest to the site is Site 53, which is approximately 700m to the north of the site. In 2020, it recorded an annual mean concentration of NO₂ of 34 µg/m³.
- 99 **Figure 7** and **Figure 8** below represent the 2016 annual mean concentrations of NO₂ and PM₁₀ in LBRuT respectively. Note that this data is not as up-to-date as the information presented within the paragraph above, as the source has not been updated since 2016, however the figures provide a

⁶¹ Imperial College London, (2021); Health Burden of Air Pollution in London.

⁶² London Borough of Richmond Upon Thames, (2021); Air Quality Annual Status Report for 2020.

good visual for air quality within the borough, and identify that the concentrations of key pollutants are highest along the main artery roads in the borough⁶³.

Figure 6 Locations and Results of Diffusion Tube Monitoring 2020



⁶³ London Air, (2016); Annual Pollution Maps. Access online 17.02.2022 [URL: <https://londonair.org.uk/london/asp/annualmaps.asp?species=NO2&LayerStrength=75&lat=51.46526398580547&lon=-0.2193277499456392&zoom=14>]

Figure 7 Annual Mean Concentration of NO₂ in the LBRuT in 2016

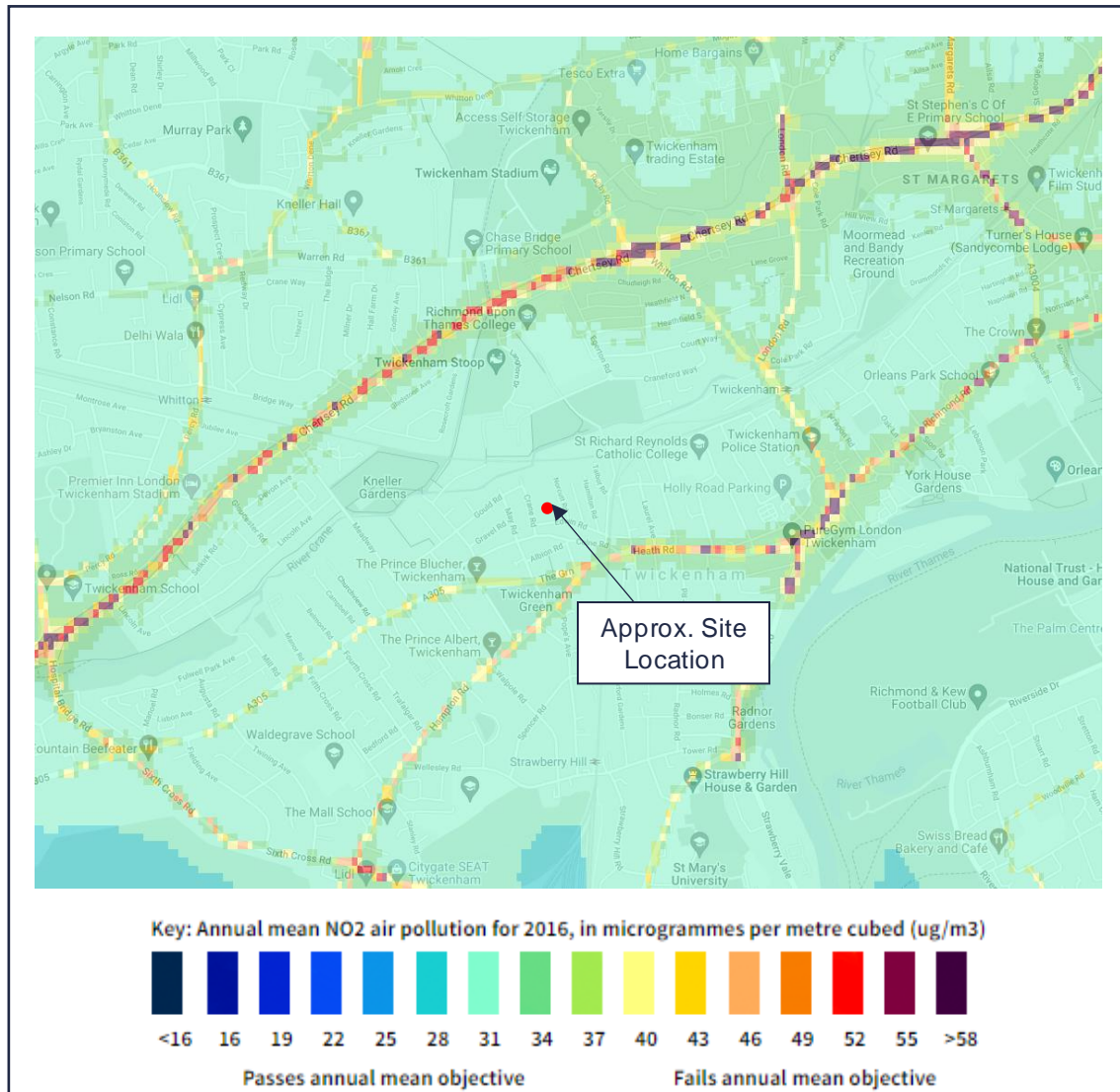
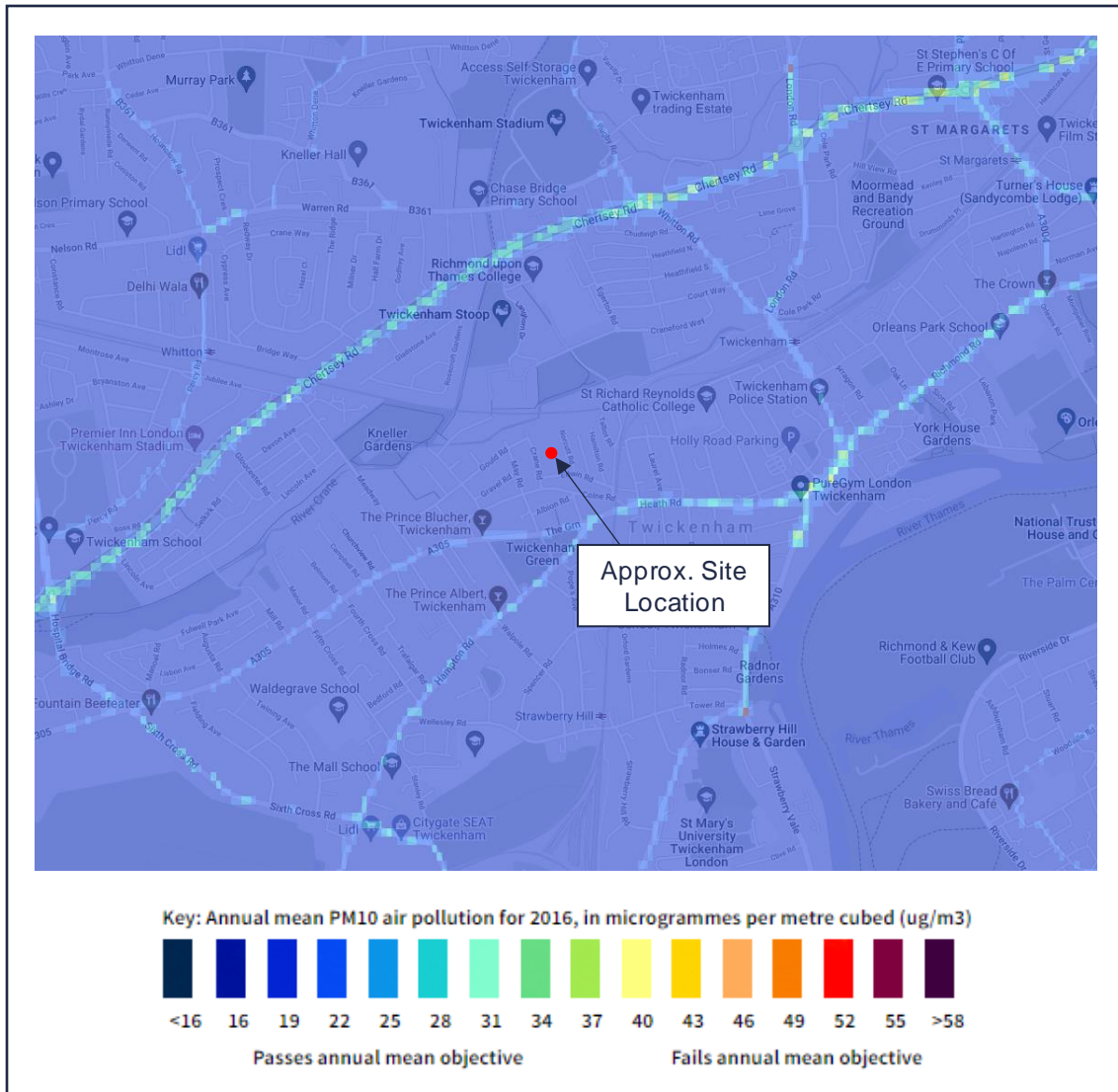


Figure 8 Annual Mean Concentration of PM₁₀ in the LBRuT in 2016



Noise and Vibration

- 100** At the London level, research from WideNoise, an app allowing users to make decibel level readings on the go, has identified that the average noise level across London is 66dB (from an average of over 4,000 readings across London). The quietest borough, the London Borough of Tower Hamlets, has an average volume of 53.3 dB, and the London Borough of Islington, with a recorded average volume of 77.2 dB is the noisiest recorded borough. LBRuT has an average volume of 65.2 dB⁶⁴.
- 101** With regards to noise at the site level, Paragon Acoustic Consultants⁶⁵ have undertaken background noise surveys and prepared subsequent reports outlining the background noise environment likely to exist in the vicinity of the site and the environmental noise assessment of the Proposed Development. The reports have identified that there are a number of existing sources of environmental noise in the vicinity of the site, including aircraft overflight associated with arrivals and departees from London Heathrow Airport, and the railway to the north of the site. Primary nearby industrial and commercial noise sources also include Turner Automotive and Phoenix Automotive Structural Engineers to the south of the site and the refuse site to the north of the site. both Turner Automotive and Phoenix Structural engineers take place during the daytime only, whereas the refuse site may start at 06:30.

⁶⁴ Barratt London, (2018); *Peace and Quiet: We Reveal London's Quietest Boroughs*. Accessed online 16/02/2022 [URL: <https://www.barratthomes.co.uk/new-homes/london/advice-and-inspiration/interactive/peace-quiet-reveal-londons-quietest-boroughs/>]

⁶⁵ Paragon Acoustic Consultants, (2022); *Environmental Noise Assessment, prepared in support of the Greggs Bakery and No 2 Gould Road planning application*.

102 Indoor ambient noise levels for dwellings are set out in British Standard 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings, and identifies the following ambient indoor noise levels:

- Living Room: 35 dB LAeq, 16hour;
- Dining Room/Area: 40 dB LAeq, 16hour; and
- Bedroom: 35 dB LAeq, 16hour.

103 For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB LAeq,T, with an upper guideline value of 55 dB LAeq,T which would be acceptable in noisier environments.

Health Determinant 5: Accessibility and Active Travel

The NHS HUDU Planning for Health (2019) states that *“Convenient access to a range of services and facilities minimises the need to travel and provides greater opportunities for social interaction. Buildings and spaces that are easily accessible and safe also encourage all groups, including older people and people with a disability, to use them. Discouraging car use and providing opportunities for walking and cycling can increase physical activity and help prevent chronic diseases, reduce risk of premature death and improve mental health.”*

- 104** The site is bound to the north by the River Crane, to the east and west by residential areas, and to the south by Edwin Road.
- 105** The site has a TfL Public Transport Accessibility Level (PTAL) rating of 2 (poor), with the most southern part of the site being classified with a rating of 3 (moderate). Strawberry Hill railway station and Twickenham railway station, which are both located within Travelcard Zone 5 and served by regular trains to Waterloo, are located approximately 850m south of the site and 920m north east of the site respectively.
- 106** There are several bus stops located along The Green (A305) which is serviced by 26 buses per hour in each direction. The closest bus stop to the site is bus stop 'GC', located approximately 280m to the south of the site outside Twickenham Green. The 110, 490 and H22 bus service serves this bus stop.
- 107** Existing pedestrian and cycle facilities and routes are provided in the local area in all directions. Richmond Park is located 3km to the east of the site offering path ways around the park for running, cycling and walking. The River Thames and Tidal Tributaries (SINC designated as of Metropolitan Importance) is located within 1km of the site. A walking path is provided along the River Thames, which facilities walking and cycling activities alongside the river, which promotes a more active lifestyle and better mental health and wellbeing.
- 108** As discussed above, there are also closer parks and gardens in proximity to the site: Crane Park, is approximately 320m east to the site; Twickenham Green is located approximately 320m walking distance from the site; Craneford Way Recreational Park is located approximately 800m (walking distance) away from the site; and Kneller Gardens is located approximately 480m walking distance to the north west of the site.

Health Determinant 6: Crime Reduction and Community Safety

The NHS HUDU Planning for Health (2019) states that *“Thoughtful planning and urban design that promotes natural surveillance and social interaction can help to reduce crime and the ‘fear of crime’, both of which impacts on the mental wellbeing of residents. As well as the immediate physical and psychological impact of being a victim of crime, people can also suffer indirect long-term health consequences including disability, victimisation and isolation because of fear. Community engagement in development proposals can lessen fears and concerns.”*

- 110** In the year from December 2020 to December 2021, a total of 11,937 offences were recorded within the LBRuT, which has decreased by 10.22% compared to the previous 12 months⁶⁶.
- 111** Crimes involving violence and sexual offences at local (LBRuT) level is recorded at 17.33 per 1,000 population, which is below the Metropolitan Police Force area’s 27.76 crimes per 1,000 population⁶⁷. Drug crime in the LBRuT is lower when compared to other boroughs, with 2.77 drug crimes recorded per 1,000 people, compared to the Metropolitan Police Force average of 5.47⁶⁶.
- 112** The most recent results of the Mayor’s Office for Policing and Crime (MOPAC) Public Attitude Survey, show 65% of the residents in the LBRuT believe that ‘police do a good job in the local area’⁶⁸. Compared to the metropolitan police area as a whole, the LBRuT has the second highest satisfaction rate in the whole of the Greater London area (with the MPS at 52%).
- 113** The closest metropolitan police station is the Twickenham Police Station located approximately 850m east of the site.
- 114** The LBRuT have a ‘Community Safety’ section on their website, which provides links to community safety websites, relevant community safety contacts and a link to Richmond’s Community Safety Partnership.
- 115** The Richmond upon Thames Community Safety Partnership works with a number of relevant stakeholders within the LBRuT to make Richmond a safe place to live, work, learn and visit – for all people. The Community Safety Partnership is responsible for implementing the Richmond Community Safety Partnership’s Community Plan 2017-2021, which aims to: create safer neighbourhoods, reduce adult offending and re-offending, tackle violence against women and girls, keep children and young people safe, and stand together to tackle hate crime, radicalisation and extremism.
- 116** With regards to domestic violence, the LBRuT website provides a comprehensive list of helplines and other resources who can provide assistance. One example is the Hestia, who provide Independent Domestic Abuse Advocacy (IDVA) support and refuge accommodation for victims and their children suffering from domestic abuse within Richmond.

⁶⁶ Metropolitan Police Service, (2021) Financial Year 2020/21 Crime Statistics, <https://www.met.police.uk/sd/stats-and-data/met/crime-data-dashboard/>

⁶⁷ Police.co.uk, (2021); Compare your area. Accessed online 09.02.2022 [URL: <https://www.police.uk/your-area/metropolitan-police-service/performance/compare-your-area/?tc=00BD07N>]

⁶⁸ MOPAC, (2021) Public Voice Dashboard. Accessed online 14.02.2022 [URL: <https://www.london.gov.uk/what-we-do/mayors-office-policing-and-crime-mopac/data-and-statistics/public-voice-dashboard>]

Health Determinant 7: Access to Healthy Food

As detailed in the NHS HUDU Planning for Health (2019), “Access to healthy and nutritious food can improve diet and prevent chronic diseases related to obesity. People on low incomes, including young families, older people are the least able to eat well because of lack of access to nutritious food. They are more likely to have access to food that is high in salt, oil, energy-dense fat and sugar. Opportunities to grow and purchase local healthy food and limiting concentrations of hot food takeaways can change eating behaviour and improve physical and mental health.”

- 118** The closest convenience store to the site is the Sainsburys local located 250m to the south, there is also a Tesco Express Supermarket, located approximately 330m to south east. These stores sell a wide range of fresh and frozen food, and have fast food choices, which include healthy ranges such as salads and sandwiches. Twickenham Farmers Market is located in Holly Road Car Park every Saturday, approximately 800m to the south-east of the site. This market sells a wide variety of fresh food.
- 119** There are limited ‘fast food’ chains within close proximity to the site with the closest being Parma Pizza Twickenham located approximately 515m south east of the site, and Domino’s Pizza approximately 590m south east. Further east of the site there is a Burger King (910m), KFC (940m) and ‘Sea Fresh’ Fish and Chip Shop (950m). There are a number of restaurants, including ‘Ask Italian’ located approximately 250m south of the site. ‘TW2 Bar and Grill and Restaurant’, ‘The Taste of Raj’ and ‘Green Spice’ are located approximately 260m to the south west of the site. In Richmond, the density of fast food outlets is the lowest in London, at 68.5 per 100,000 people in the borough⁶⁹. A Town Centre survey found that only 5% of food outlets are hot food takeaways.
- 120** The LBRuT’s Borough’s Open Space Assessment⁷⁰ identified an unmet demand for allotments and where appropriate the provision of new allotments or other food growing space will be supported alongside the provision of other private and public open spaces. There are currently 24 allotment sites in the LBRuT⁷¹ which provide 2,033 plots within the borough⁷²; the closest allotment to the site is the Marsh Farm Allotment located approximately 300m to the north east of the site and Briar Road Allotment, which is located approximately 450m west of the site. Allotments promote a healthy lifestyle, whilst not only providing a space to grow fresh fruit and vegetables, they also provide a space for outdoor activity and provide plot holders with exercise, enhancing social well-being.
- 121** In LBRuT, the proportion of adults meeting the recommended ‘5 a day’ is above average for London (66% vs 54%).
- 122** In 2021, Richmond Foodbank provided 5,300 three-day emergency food supplies for people in crisis⁷³. There are four foodbanks located within the LBRuT. Schools, churches, businesses and individuals donate non-perishable foods to a foodbank, food is then sorted by volunteers and distributed to those in need. People in need are identified by professionals e.g. doctors, health visitors, social workers and the policy, and are issued with a foodbank voucher, which is then exchanged for three days emergency food at a foodbank centre. The four aforementioned foodbanks located in the LBRuT are part of The Trussell Trust’s network of 428 UK-wide foodbanks.
- 123** There are a range of services available to resident to support healthy eating, for example Richmond Nutrition Service also offers a Healthy Cooking on a Budget course to anyone who is using foodbanks or has limited funds. Richmond Adult Community College also offers a range of courses for adults to support health eating.

⁶⁹ London Borough of Richmond upon Thames, (2021); Joint Strategic Needs Assessment: Live Well.

⁷⁰ London Borough of Richmond upon Thames, (2015); Open Space Assessment Report

⁷¹ Richmond.Gov, (2019); Allotment Locations. Accessed online 09.02.2022 [URL: https://www.richmond.gov.uk/services/parks_and_open_spaces/allotments/allotment_locations]

⁷² London Borough of Richmond upon Thames, (2019); Cultivating the future: Allotment Strategy 2019-2029.

⁷³ Richmond Foodbank, (2021). Accessed online 09.02.2022 [URL: <https://richmond.foodbank.org.uk/>]

Health Determinant 8: Access to Work and Training

The NHS HUDU Planning for Health (2019) states that “*Employment and income is a key determinant of health and wellbeing. Unemployment generally leads to poverty, illness and a reduction in personal and social esteem. Works aids recovery from physical and mental illnesses.*”

- 124** Nearly two-thirds (63%) of the LBRuT population are of working age, which is slightly above the national average of 63.4%⁷⁴. The Annual Population Survey estimates that for the year between October 2020 and September 2021, 79% of LBRuT's population was economically active, with an overall employment rate of 75.2%. Economic inactivity (21%) is slightly below the national average of 21.5%, and students account for 37.5% of this group.
- 125** Within the LBRuT, 56.9% of females and 62.6% of males are engaged in active employment (excluding self-employment), both of these are lower than their corresponding values for both London and Great Britain.
- 126** The most common type of occupations in LBRuT are ‘professional occupations’, which account for 29.6% of all jobs⁷⁰. Process, plant and machine operatives only account for 1.8% of all jobs in LBRuT.
- 127** The borough is highly qualified, with 66.2% of the population with NVQ Level 4 qualifications and above, over 20% than the national average (43.1%), and only 1.3% of the population with no qualifications. This places LBRuT in the top five best boroughs within London in terms of qualifications.
- 128** The median gross pay of people working in Richmond Upon Thames is the 4th highest in London. Gross weekly pay for full time employees in 2021 was £812.50, which is a decrease of 8% compared to 2020. However, the gross weekly pay in LBRuT in 2021 remained higher than that for London (£728.40).
- 129** Work experience opportunities are provided by the LBRuT for those aged between 14 and 19 years, as well as work related and learning opportunities, which are managed by the Kingston and Richmond Education Business Partnership.
- 130** Between 2019 and 2020, 190 apprenticeships were achieved / completed in LBRuT, the majority (47.4%) of which were in ‘Business, Administration and Law’⁷⁵. The remaining apprenticeships were in ‘Education and Training’ (5.3%), ‘Engineering and Manufacturing Technologies’ (5.3%), ‘Health, Public Services and Care’ (21.1%), ‘Information and Communication Technology’ (5.3%), ‘Leisure, Travel and Tourism’ (5.3%) and ‘Retail and Commercial Enterprise’ (10.5%).

⁷⁴ ONS Annual Population Survey, (2021) <https://www.nomisweb.co.uk/reports/lmp/la/1946157249/report.aspx>

⁷⁵ Data Rich, (2021); Economy and Employment. Accessed online 14.02.2022 [URL: https://www.datarich.info/economy-and-employment/#/view-report/954b44288ded4de68213dc91702d43f4/___iaFirstFeature]

Health Determinant 9: Social Cohesion and Inclusive Design

The NHS HUDU Planning for Health (2019), states that, “*Friendship and supportive networks in a community can help to reduce depression and levels of chronic illness as well as speed recovery after illness and improve wellbeing. Fragmentation of social structures can lead to communities demarcated by socio-economic status, age and/or ethnicity, which can lead to isolation, insecurity and a lack of cohesion. Voluntary and community groups, properly supported, can help to build up networks for people who are isolated and disconnected, and to provide meaningful interaction to improve mental wellbeing. Planning proposals should be developed in consultation with differentiated community groups (such as children, young people, residents, families, businesses, faith groups, community organisations). They should be involved in the planning of the project from the beginning and throughout the life cycle of the project. Opportunities for post-planning qualitative consultations should be considered with these different groups to explore a range of social, emotional and health needs.*”

- 131** As stated earlier, there are a number of community groups available to local residents. The groups range in targeted age and interest, from youth clubs, to community garden networks and community groups aimed at keeping the local people of Richmond safe. The wide range of local groups available provides the foundations for a strong, diverse and cohesive community network.
- 132** In addition to these community groups, there are a number of religious groups located within the LBRuT. The 2011 census identified that the three largest religions / beliefs in the LBRuT were Christianity (55.3%), no religion (28.4%), and Muslim (3.3%). Other religions present include Jewish, Sikh and ‘other’, though in low numbers.
- 133** In 2020/21 a subjective Personal Well-Being (Happiness) survey was undertaken⁷⁶. Participants were asked the following questions:
- Overall, how satisfied are you with your life nowadays?
 - Overall, to what extent do you feel the things you do in your life are worthwhile?
 - Overall, how happy did you feel yesterday?
 - Overall, how anxious did you feel yesterday?
- 134** They were asked to provide a response by giving a score from 0 to 10, where 0 is ‘not at all’ and 10 is ‘completely’.
- 135** According to the survey, LBRuT has a ‘Life Satisfaction’ score of 7.4, which has decreased from 7.8 the previous year. LBRuT has a happiness score of 7.48. The LBRuT also has a ‘worthwhile’⁷⁷ score of 7.76, and an anxiety score of 3.34.
- 136** Of the 203 Local Authorities within the UK, Richmond ranked 29th for the lowest overall wellbeing inequality. This indicates that the distribution of wellbeing is relatively equal throughout the local area⁷⁸.
- 137** Particular groups of people are at greater risk of loneliness and isolation. The Richmond JSNA has identified that within the LBRuT, older people, people living alone, people with poor health or disabilities, carers and minority groups are at greater risk of loneliness and isolation. Richmond’s population has a higher risk of loneliness and isolation, as LBRuT has the highest proportion of

⁷⁶ Office for National Statistics, (2020); *Personal Well-being in the UK: April 2020 to March 2021*. <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/measuringnationalwellbeing/april2020tomarch2021>

⁷⁷ The ‘worthwhile’ score measures to what extent the participants feel that the things they do in their life are worthwhile.

⁷⁸ What Works Wellbeing, (2017), *Measuring wellbeing inequality in Britain*. Accessed online 15.02.2022 [URL: <https://whatworkswellbeing.org/product/measuring-wellbeing-inequality-in-britain/>]

people aged over 75 and living alone in London (51% vs 35% for London)⁷⁹. Results of a survey show that 6.48% of participants in LBRuT reported 'often or always' feeling lonely⁸⁰.

- 138** Additionally, 16% of the population within the LBRuT are people aged over 65 years⁸¹, and the number of older people living alone is expected to increase. It is expected that the risk of isolation and loneliness is expected to increase within the LBRuT as a whole.
- 139** In 2019/20, LBRuT's percentage of people aged 65 years and over offered reablement services following discharge from hospital was 3.4% (the 10th highest in London) which was 28.9% higher than the England average⁸². Almost half of adult social care users (48.9%) have as much social contact as they would like⁸³. Overall, the data highlight the issue of social isolation in Richmond as despite generally better outcomes than inner London boroughs, many older people in LBRuT suffer from isolation.
- 140** The LBRuT has an Adult Social Care Team, who provide information, support and guidance to adults with care and support needs, as well as those who look after them. This includes providing a number of resources on options for getting out and about, and includes information on lunch clubs, day trips, local events and day and social centres, which assist in increasing connections amongst residents of the LBRuT.

⁷⁹ Data Rich, (2021); *Loneliness and Isolation*. Accessed online 14.02.2022 [URL: <https://www.datarich.info/wider-determinants-of-health/loneliness-and-isolation/>]

⁸⁰ Office for National Statistics, (2021); *Loneliness rates and well-being indicators by local authority*. Accessed online 15.02.2022 [URL: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/lonelinessratesandwellbeingindicatorsbylocalauthority>]

⁸¹ Data Rich, (2021); *Population*. Accessed online 14.02.2022 [URL: https://www.datarich.info/population/#/view-report/37b5cf3c3d2b4d5abe7a90b087523c89/___iaFirstFeature]

⁸² London Borough of Richmond upon Thames, (2021); *Joint Strategic Needs Assessment: Age Well*.

⁸³ Data Rich, (2021); *Health and Social Care*. Accessed online 15.02.2022 [URL: https://www.datarich.info/health-and-social-care/#/view-report/1122c70f0ba548b29f4de68716801d77/___iaFirstFeature]

Health Determinant 10: Minimising the Use of Resources

The NHS HUDU Planning for Health (2019) states that, *“Reducing or minimising waste including disposal, processes for construction as well as encouraging recycling at all levels can improve human health directly and indirectly by minimising environmental impact, such as air pollution.”*

- 141** The LBRuT is one of six boroughs in the West London Waste Plan⁸⁴, along with the London Boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow, and the Old Oak and Park Royal Development Corporate (OPDC). Together the 6 boroughs and the OPDC have developed the West London Waste Plan (DPD), which sets out a strategy for the sustainable management of waste produced in the area over the period up to 2031, and sets out the waste management targets for the individual boroughs and allocates sites suitable for waste handling and management across all of the six boroughs.
- 142** At 44% in 2019/20, the LBRuT ranked 8th highest for recycling rate from households of all 32 of the London boroughs⁸⁵. The average recycling rate across the London boroughs was 34%, with Bexley recording the highest recycling rates of 54%. The average recycling rate for London was lower than the average rate for England, which was 44%.
- 143** In 2019, LBRuT declared a climate emergency and adopted a Climate Emergency Strategy⁸⁶, which aims to reduce the overall amount of waste being generated in the borough, and improve their recycling rates. The Draft Local Plan includes Policy 3 ‘Tackling the climate emergency’ which involves *‘to follow the principles of the circular economy and support effective resources use to ensure that they are kept in use for as long as possible and thereby minimise waste’*. The Draft Local Plan also includes Policy 7 ‘Waste and the circular economy’ which is to ensure *‘waste is managed in accordance with the principles of the Circular economy’*.
- 144** LBRuT are seeking to indirectly reduce air pollution via their Air Quality Action Plan⁸⁷, which includes strategies such as a new Clean Air Zone for Richmond Town Centre, a no idling campaign and New Cycling Strategy. The LBRuT published their Electric Vehicle Recharging Strategy⁸⁸ in November 2016, which outlines that way in which the borough is planning to increase charging facilities for EV usage.

⁸⁴ West London Waste Plan, (2015); Joint Waste Plan for the London Boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow, Richmond upon Thames and Old Oak and Park Royal Development Corporate

⁸⁵ Defra, (2020); Household Waste Recycling Rates, Borough. Accessed online 15.02.2022 [URL: <https://data.london.gov.uk/dataset/household-waste-recycling-rates-borough>]

⁸⁶ London Borough of Richmond upon Thames, (2020); Climate Emergency Strategy 2019-2024.

⁸⁷ London Borough of Richmond upon Thames, (2002); Air Quality Action Plan 2019-2024.

⁸⁸ London Borough of Richmond upon Thames, (2016); Electric Vehicle Recharging Strategy 2016-2026.

Health Determinant 11: Climate Change

The NHS HUDU Planning for Health (2019) states that *“Planning is at the forefront of both trying to reduce carbon emissions and to adapt urban environments to cope with higher temperatures, more uncertain rainfall, and more extreme weather events and their impacts such as flooding. Poorly designed homes can lead to fuel poverty in winter and overheating in summer contributing to excess winter and summer deaths. Developments that take advantage of sunlight, tree planting and accessible green/brown roofs also have the potential to contribute towards the mental wellbeing of residents.”*

- 145** According to the Department for Business, Energy and Industrial Strategy (DBEIS), 10.6% of households in LBRuT were living in fuel poverty in 2019, which is lower than the average of 15.2% for London⁸⁹.
- 146** UKCP1890 gives ‘probabilistic projections’⁹¹ for a number of atmospheric variables. UKCP18 projections consider the local climate effects arising from four different emissions scenarios. Probabilistic projections give a range of possible climate change outcomes and their relative likelihoods i.e. unlikely, likely or very likely ranging across 10th to 90th percentiles. The RCP6.0 emissions scenario has been used (with the 50th percentile data), as it represents the most reasonable emissions scenario with regards to climate policy, land use and technological development.
- 147** Future UKCP18 climate change projection data for the 2080s (covering the years 2070 – 2099) has been reviewed in relation to the London area, this is in order to determine the likely climatic conditions in the areas surrounding the Proposed Development in the future. Note that the 2080s (which cover the years 2070 – 2099) have been reviewed, as the indicative lifespan of building structures is 50 years⁹², and therefore the 2080s (covering the years 2070 – 2099) have been identified as the most likely ‘end-years’ of new development, and therefore present a worst-case scenario when considering impacts on new development from climate change.
- 148** A review of the key climatic variables within the UKCP18 projections (for the London area) has identified that:
- By the 2080s, the mean average air temperature is projected to increase by +2.94 °C annually, to 13.39 °C. The mean daily maximum temperature is projected to increase by +3.1°C, and the mean daily minimum temperature is projected to increase by +2.89°C.
 - Annual average precipitation is due to decrease by 0.53%, with a +16.23% increase in the winter average precipitation, and a -26.31% decrease in the summer average precipitation. The autumn and spring averages have small decreases of between 5.1 and 5.25%.
 - Wind annual average wind speed (measured in meters per second (m s⁻¹)) is projected to marginally decrease in speed in the 2080s, by -0.065m s⁻¹; and
 - Total cloud cover is projected to decrease annually by 6.22%, this decrease in total percentage cloud cover is most prevalent in the summer average, where the summer average is due to decrease in the 2080s by 15.21%. There is projected to be a marginal increase (of 0.93%) in the average winter cloud cover.

⁸⁹ DBEIS, (2021); Sub-regional fuel poverty, 2019 data. Accessed online 09.02.2022 [URL: <https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-data-2021>]

⁹⁰ UK Climate Projections (UKCP18). Accessed Online 09.02.2022 [URL: <http://ukclimateprojections.metoffice.gov.uk/>]

⁹¹ Probabilistic projections give a range of possible climate change outcomes and their relative likelihoods i.e. unlikely, likely or very likely ranging across 10th to 90th percentiles.

⁹² British Standard BS EN 1990:2002, (2002); Eurocode – Basis of Structural Design

5. Health Impact Assessment

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
1. Housing Design and Affordability				
Does the proposal seek to meet all 16 design criteria of the Lifetime Homes Standard or meet Building Regulation requirement M4 (2)?	Yes	<p>Although the Lifetime Homes assessment criteria are no longer in existence, all aspects and areas of the Proposed Development have still been designed to meet these pre-existing requirements.</p> <p>The proposal is also fully compliant with the Building Regulations Part M requirements, including Parts M(2) and M(3), which are a London Plan requirement, with particular reference for all adaptable wheelchair user units.</p> <p>In addition to meeting Building Regulations requirements, the Proposed Development has been cross checked against all Mayoral SPG guidance to ensure a compliant and inclusive development.</p>	+ve	N/A
Does the proposal address the housing needs of older people, i.e. extra care housing, sheltered housing, lifetime homes and wheelchair accessible homes?	Yes	<p>The Proposed Development does not include any 'Extra Care Housing' or 'Sheltered Housing', however the Proposed Development does cater for the needs of older people, details as follows:</p> <ul style="list-style-type: none"> 10 of the residential units have been identified as Wheelchair M4(3) units in accordance with the requirement of a 10% provision. 2 of these are 3-bedroom houses along the mews street; the other 8 are apartment units at a variety of floor levels. All accessible apartments at first floor and above are served by two lifts. These units are designed specifically for ease of use for visually impaired, ambulant disabled and wheelchair bound residents, and provide a balanced mix of unit sizes and tenure. Where residents may wish to use stairs, all staircases have been designed with handrails, to provide support. The layouts of the 'accessible apartments' and mews houses have been designed to be fully Building Regulation compliant and accessible by wheelchair users. This includes but is not limited to, the building's approach, level access, corridor widths, turning circles, passenger lifts, stairs, balustrades and handrails, and refuge points. 	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<ul style="list-style-type: none"> A well designed car park, which comprises of 10% spaces being disabled access car parking spaces. Pavement widths, curb heights and surface textures have been designed with both wheelchair users and guide dogs in mind. Selected apartments have direct level access to the podium at 1st floor suitable for disabled users. 		
Does the proposal include homes that can be adapted to support independent living for older and disabled people?	Yes	Please see above.	+ve	N/A
Does the proposal promote good design through layout and orientation, meeting internal space standards?	Yes	<p>The layout and positioning of the scheme has been informed by the urban grain of the local context and its history, as well as key site constraints such as the existing sewerline and the 8m river corridor. All apartments and mews houses have been developed with layout and orientation in mind, and have been designed to meet internal space standards, for example:</p> <ul style="list-style-type: none"> Ensuring all homes have an appropriate amenity space has been a key part of the design development process. All 3-bedroom houses will have a minimum of 19m² private amenity space which is private and secure. For the apartment buildings (A, E & F) and smaller 2-bedroom houses (G) amenity has been maximised with terraces and balconies ensuring that every apartment has a private amenity space either equal to or above the London Plan minimum requirements (except for 2 apartments in building F where they were removed to avoid overlooking existing neighbouring gardens). The industrial / commercial building has been designed to meet current market standards whilst minimizing impacts on near neighbours. The regular orthogonal shape creates the most flexible and usable spaces for a range of industrial uses. Buildings to the north of the site have been laid out to avoid the creation of single large blocks which are over dominant for the area. These buildings have been set back from the river edge to provide room for surface parking and riverside. 	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<ul style="list-style-type: none"> • The mews street is set at 13m wide to allow for a driveway and front garden to the houses on the east side, and an integrated garage to the houses on the west side, whilst maintaining a large shared surface road a walkway. • The use of discrete lighting along Mews Street to prevent nuisance to residents with front facing windows. • Residential floor areas in line with the National Described Space Standards. • Dual aspect homes for enhanced outlook and daylighting and to avoid direct overlooking of habitable rooms. • The proposal will create a new residential street with terrace houses in keeping with the surrounding context and will involve boundary treatment to avoid overlooking at ground floor. • Privacy and overlooking has been a key consideration throughout the design process. In order to mitigate potential overlooking and loss of privacy, terrace houses have minimal windows on upper floors which will have opaque finish ensuring overlooking is mitigated. These rooms will serve as a bedroom or bathroom, where a bedroom is situated in this location larger second windows which do not face Norcutt Road will be implemented. The industrial building has no windows on the east elevation facing Norcutt Road houses and as such avoids overlooking. 		
<p>Does the proposal include a range of housing types and sizes, including affordable housing responding to local housing needs?</p>	<p>Yes</p>	<p>The Proposed Development includes a range of housing types, sizes and tenure mixes.</p> <p>The Proposed Development comprises a total of 97 residential units which include 33 x 1 bed apartments, 28 x 2 bed apartments, 4 x 3 bed apartments, 5 x 2 bed townhouses, and 27 x 3 bed townhouses.</p> <p>19% of the total number of habitable rooms will be affordable accommodation. The affordable housing will be provided within 1, 2 and 3-bedroom units. The 3-bedroom unit provision will be within both apartments and townhouses.</p>	<p>+ve</p>	<p>N/A</p>

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
Does the proposal contain homes that are highly energy efficient (e.g. a high SAP rating)?	Yes	<p>The Proposed Development aims to minimise CO₂ emissions to the atmosphere arising from the operation of, and within, the building.</p> <p>To minimise CO₂ emissions, the energy strategy devised for the Proposed Development follows the three step energy hierarchy outlined in the London Plan. In order of priority, these steps are:</p> <ul style="list-style-type: none"> • Be lean, i.e. adopt energy efficient design construction; then • Be clean, i.e. use low-carbon energy supply; then • Be green, i.e. use on-site renewable energy generation and storage. <p>SAP calculations, undertaken by Decso, have been carried out for the residential and industrial units of the Proposed Development and the results have been area weighted averaged.</p> <p>It has been estimated a 17% carbon saving over Part L 2013⁹³ will be achieved through 'be lean' measures, a 47% reduction through 'be clean' measures and a 10% reduction through 'be green' measures for the Proposed Development. The Proposed Development therefore exceeds the 35% reduction over Part L 2013 target for the residential and commercial elements of the Proposed Development.</p> <p>Therefore, the Proposed Development contains homes that are energy efficient.</p>	+ve	N/A
2. Access to Health and Social Care Services and Other Social Infrastructure				
Does the proposal retain or re-provide existing social infrastructure?	No	<p>The site currently stands as a single industrial unit previously occupied by Greggs Bakery. The bakery buildings include offices, sheds, production buildings and hardstanding. Two tall silos are prominently located towards the Edwin Road entrance. The Proposed Development will provide 883m² of E (g)(iii) Use Class and 117m² of E Use Class space, which will generate employment.</p> <p>No social infrastructure (i.e. health space, education, community, play space etc.) is currently provided on-site, as such there is no existing social infrastructure to retain or re provide as part of the Proposed Development.</p>	N/A	N/A
Does the proposal assess the impact on health and social care services and has local NHS organisations been contacted regarding	Yes	<p>This HIA has been undertaken to help define and address any health issues in a systematic way, including the impact of the Proposed Development on healthcare services. The methodology, baseline health context and health impact assessment are presented in this report.</p>	-ve Minor Adverse (effect on GPs)	Not Required.

⁹³ HM Government, (2016); *The Building Regulations 2010. Approved Document L1A: Conservation of fuel and power in new dwellings (2013 edition with 2016 amendments)*. ISBN: 978 1 85946 510 3

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
existing and planned healthcare capacity?		<p>As previously discussed, the Proposed Development is expected generate a population of approximately 217 people. This is based on the provision of 19% affordable housing (by habitable room), and on the residential unit mix for social / affordable housing as identified in Section 1.</p> <p>Typically, in terms of healthcare services, consideration is given to the availability of GPs and dentists to serve an incoming resident population.</p> <p>The baseline research suggests that there is capacity within the local GPs to take on additional patients, with five of these seven surgeries operating with lower patient numbers per FTE GP than the HUDU benchmark. Additionally, all of the GPs within a 1-mile radius of the site are accepting new patients (including those that currently have greater patient numbers per FTE GP). According to the HUDU standards, the incoming community (with a projected population of 217), would require 0.12 GP FTE</p> <p>There is one NHS dental practice available within 1 mile walking distance of the site: Dhiman Dental Surgery, which is located just approximately 0.7 miles from the site. As the NHS Choices database did not identify the number of practicing dentists at the surgery, a review of the Dhiman Dental website was undertaken. This identified that there are three practicing dentists at the surgery and this surgery is accepting new NHS patients at the time of writing. It is possible that the Proposed Development will increase the pressure on available dental services, and that incoming residents will need to travel further than 1 mile to find a facility accepting new NHS patients. The capacity of dentists, pharmacies and opticians cannot be assessed in the same manner as GPs as people can choose to attend dental practices/opticians/pharmacies at their own discretion and are not limited to being close to their home. By contrast, in the case of NHS GPs, residents must register with a GP within the catchment area of where they live. As such, the impacts on local dentists, opticians and pharmacies are considered neutral.</p> <p>The Proposed Development does not provide new health facilities within the Proposed Development.</p> <p>Engagement with health organisations would be expected during discussion on securing planning obligations including financial contributions such as Section 106 and Community Infrastructure Levy (CIL).</p>	= Neutral effect on dentist capacity	
Does the proposal include the provision, or replacement of a healthcare facility and does the facility meet NHS requirements?	No	<p>The Proposed Development does not provide a dedicated healthcare facility.</p> <p>There is no existing healthcare provision to retain or re provide as part of the Proposed Development.</p>	N/A	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
<p>Does the proposal assess the capacity, location and accessibility of other social infrastructure, e.g. primary, secondary and post 19 education needs and community facilities?</p>	<p>Yes</p>	<p>In terms of schools, there are 14 schools offering primary education within a 2km radius of the site; this is the recognised catchment area for walk distance to a school by a primary school aged pupil. As demonstrated within the baseline, there is existing capacity within the local primary schools.</p> <p>Secondary schools in the local area (4.6km radius from the site which is the recognised travel to school distance for secondary school aged pupils, of which there are 20 schools) have surplus capacity.</p> <p>The incoming community will include 16 primary school pupils, as discussed in the population distribution in Section 1. These incoming pupils are not likely to have a significant impact on the available capacity of the local primary schools.</p> <p>The incoming community will include 7 secondary school pupils. These incoming pupils are expected to be served by the existing spare capacity of the local secondary schools.</p> <p>In terms of social care, the LBRuT offers a wide range of services, including care for the elderly, and help lines for those currently a victim of domestic abuse.</p> <p>In terms of community facilities, a number of community centres are located in the LBRuT which offer a wide range of activities and events, including libraries, sport and fitness facilities and community halls. The LBRuT also offer a 'Richmond Card' which gives card holders exclusive deals from local and independent businesses. The card covers a range of offers, from home and leisure, to health, culture and fitnesses.</p> <p>There are 13 libraries within the LBRuT, with Twickenham Library the closest library to the site, and which is located approximately 950m to the east of the site.</p> <p>There are also a number of gyms in proximity to the site (within 800m), which offer fitness opportunities and organised classes. Additionally, the Whitton Sports and Fitness Centre, an LBRuT managed facility, is located approximately 1.5km to the west of the site.</p> <p>The nearest Youth Club, 'Heatham House', is located approximately 770m to the east of the site. This youth club is for young people aged between 11 and 19 and offers a wide range of activities for young people.</p> <p>The site is considered to be well served for community facilities.</p> <p>The Proposed Development does not provide any education provision.</p> <p>As discussed above, the incoming community is not likely to have a significant impact on the available capacity of the local primary or secondary schools.</p>	<p>= Neutral effect on primary and secondary schools</p> <p>= Neutral effect on social care or community facilities</p>	<p>Not Required.</p>

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Does the proposal explore opportunities for shared community use and co-location of services?	Yes	Whilst the Proposed Development does not include provision for community uses or the co-location of services, the landscaping strategy provides usable publicly accessible areas. Communal roof terraces are also provided within Building F, which help to encourage the sense of community.	-ve	N/A
3. Access to Open Space and Nature				
Does the proposal retain and enhance existing open and natural spaces?	Yes	The existing site comprises of a single industrial building, which includes offices, shed, production buildings and hardstanding and therefore does not currently comprise any existing open and natural space. However, the Proposed Development will enhance the River Crane natural space, with planting of new hedgerow and understory planting to improve biodiversity. The Proposed Development will provide external amenity spaces, in the form of a roof terrace and a green corridor with trees and planting.	+ve	N/A
In areas of deficiency, does the proposal provide new open or natural space, or improve access to existing spaces?	Yes	<p>The LBRuT comprises plentiful open spaces, of which the site is located in close proximity to. In accordance with the requirements of regional and local planning policy, the Proposed Development provides for:</p> <ul style="list-style-type: none"> • New public realm with landscaping and riverside walk; • Podium and roof level external amenity space is provided to block F which is only accessible by residents. The podium will include hard and soft landscaped environments that - accessible to residents and visitors. These will comprise of timber seating, planting and tree canopy; • Public amenity space is primarily located along the River Crane and consists of benches and designated play area with equipment for children 5-11; • The site will include a green corridor which will comprise planted borders and trees bordering the pathway. Where possible, trees with large canopies have been specified to improve urban greening, soften the street scene, improve biodiversity and provide shelter along the streets. • Planting along the River Crane has been enhanced with a new hedgerow, and understory planting to improve the biodiversity and riverfront experience. 	+ve	N/A
Does the proposal provide a range of play spaces for children and young people?	Yes	All mews houses are provided with private gardens, and thus private play spaces for children and young people. The Proposed Development also accommodates publicly accessible children's playspace alongside the River Crane and multifunctional space on the roof terraces of Block F. These spaces are	=Neutral	N/A

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		<p>overlooked by the residential frontages creating passively surveyed space and promoting an active environment.</p> <p>Play opportunities are provided for 0-5-year olds within private gardens, the podium gardens and along the river front.</p> <p>5-12+ play is accommodated in the surrounding area and throughout the scheme, particularly along the river front where opportunity for social interaction is encouraged.</p> <p>Natural play features such as logs, stumps, mounds, boulders and stepping stones will be dotted throughout the play garden.</p> <p>Dedicated play space with formal equipment is also provided along the River Crane. Some of this equipment is located within a gated space with fencing and hedging along the periphery to provide a safe, enclosed space for children.</p> <p>Using the GLA Population Yield Calculator, alongside the GLA guideline for total play space, the total playspace required for the site is 437m², 220m² of which should be allocated to under 5 year olds.</p> <p>The Proposed Development provides 533m² of publicly accessible playspace for 0-5 year olds, and a further 275m² of multifunctional space on the podiums. 5-12+ playspace is accommodated in the surrounding area. Crane Park and Twickenham Green, located approximately 250m and 320m (walking distance) from the site respectively, are within the 400m Play and Informal Recreation SPG distance, and are thus suitable for 5-11 year olds.</p> <p>The scheme is also designed so that all age groups can sit, relax and socialise along the River Crane.</p> <p>There are further parks within 800m of the site (suitable for 12+ year olds, as per the Play and Informal Recreation SPG distance). These include, in addition to the above, Craneford Way Recreation Park and Kneller Gardens.</p> <p>In addition to the above, all mews houses will be provided with a minimum of 17m² private open space, in the form of gardens to the rear of the property.</p>		
Does the proposal provide links between open and natural spaces and the public realm?	Yes	The Proposed Development site to the south of the River Crane, and as such provides a natural link between the open spaces provided within the landscaping strategy, with natural spaces.	+ve	N/A
Are the open and natural spaces welcoming and safe and accessible for all?	Yes	<p>A high quality public realm is proposed that is well designed and which caters for all, both in terms of varied uses and spaces for play, relaxing, outdoor seating and leisure pursuits as well as accessibility.</p> <p>The public realm will be accessible to all as part of an inclusive design philosophy. Users with disabilities are not segregated and are able to move through the public realm and the buildings. They will use the same entrance, corridors and rooms as everyone else without detour</p>	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<p>Lighting columns are proposed to be integrated along the streetscape. A sensitive lighting approach is required along the river front to avoid light spill that could negatively impact wildlife.</p> <p>More discrete lighting will be used along the Mews Street to prevent nuisance to residents with front facing windows.</p> <p>Feature lighting is also proposed within the communal podium spaces to create an attractive environment and used as wayfinding. A sensitive approach with recessed lighting is proposed to avoid light glare into apartments that overlook these spaces.</p> <p>The public realm has a good level of surveillance from the proposed residential, this will include site wide, a CCTV system installed at main points of entry to the site and each apartment block to enhance safety.</p>		
Does the proposal set out how new open space will be managed and maintained?	Yes	<p>The soft landscape strategy is a key element of the Proposed Development therefore careful consideration has been given to the feasibility of planting in order to best ensure the success of the landscaping strategy. Planting of appropriate size and type is chosen depending on available space, available sunlight, exposure, amenity value and ease of maintenance.</p> <p>The landscaped elements of the Proposed Development have been designed to be practical, low-maintenance and robust.</p> <p>As part of the estate-wide management strategy, there will be a landscape maintenance team and cleaning team who will maintain the external areas of the development, on a regular basis.</p> <p>The soft landscape will be manually watered at agreed intervals through the year and will be controlled and regulated by the maintenance team throughout the year to maintain plant health.</p>	+ve	N/A
4. Air Quality, Noise and Neighbourhood Amenity				
Does the proposal minimise construction impacts such as dust, noise, vibration and odours?	Yes	<p>During construction works associated with the Proposed Development, standard management controls will be in place to minimise construction impacts from dust, noise, vibration and odours. These standard measures have been included within a Construction Environmental Management Plan (CEMP), which has been prepared and will be submitted in support of the planning application. Measures include, but are not limited to:</p> <ul style="list-style-type: none"> Measures to minimise noise, dust and vibration levels e.g. the dampening down of hard surfaces will reduce the dispersal of dust generated during construction activities; The site will be registered to the Considerate Constructors Scheme (CCS) - one of the Applicant's commitments commits all live construction sites 	=Neutral	Preparation of a CEMP (as a pre-commencement condition)

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<p>registered with CCS to achieve a minimum score of 38 points in each site audit;</p> <ul style="list-style-type: none"> • Any site person receiving a concern or complaint from adjacent properties or passing pedestrians shall refer the matter immediately to the site manager, who will record the fact and refer the matter to the management team who will subsequently carry out an investigation. • The site will follow best practice measures in accordance with GLA guidance for air quality, which will be agreed with the LBRuT prior to the commencement of demolition and construction works as appropriate; • The prohibition of any unauthorised burning of material on-site; • Use of dust-suppressed tools for all operations; • Ensuring that all construction plant and equipment is maintained in good working order and not left running when not in use; and • Vibration monitoring following British Standard 5228:2009 Part 2. 		
<p>Does the proposal minimise air pollution caused by traffic and energy facilities?</p>	<p>Yes</p>	<p>The air quality assessment report undertaken by AQC has identified that although the Proposed Development will generate additional traffic on the local road network, there will be no significant effects on air quality at any existing sensitive receptors. The assessment has demonstrated that future residents and users of the Proposed Development will experience acceptable air quality, with pollutant concentrations (including NO₂ and PM_{2.5}) below the air quality objectives.</p> <p>Construction related vehicles entering and egressing the site from / to the local road network would have the potential to increase local air pollutant concentrations, particularly in respect of NO₂ and particulate matter (both PM₁₀ and PM_{2.5}). However, it is anticipated that the average number of additional heavy vehicle movement on local roads will be well below the 25 AADT screening criterion, and therefore it is not necessary to assess the impacts of traffic emissions during the construction phase, as effects will be minimal.</p> <p>The Proposed Development does not include any combustion plant for the routine provision of electricity, heating or hot water, and thus will have no direct building emissions. It is therefore better than air quality neutral in terms of building emissions.</p> <p>However, the Proposed Development is not air quality neutral in terms of transport emissions, as such mitigation will be required to offset the emissions. The following mitigation strategy has been proposed by the Project Transport Consultant:</p>	<p>=Neutral</p>	<ul style="list-style-type: none"> • Electric car charging outlets for a minimum of 20% of the parking spaces with the potential to provide 100% (electric vehicle) EV chargers for all the parking spaces at a later stage if required; • The applicant will be providing a contribution to a new car club on Edwin Road; and • Provision of a Framework Travel Plan, including a Residential Travel Plan and Workplace Travel Plan, with the aim of promoting sustainable travel for the residents. The plan includes a number of measures for promoting sustainable travel, including the employment of a marketing strategy for future residents.

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<ul style="list-style-type: none"> • Electric car charging outlets for a minimum of 20% of the parking spaces with the potential to provide 100% (electric vehicle) EV chargers for all the parking spaces at a later stage if required; • The applicant will be providing a contribution to a new car club on Edwin Road; and • Provision of a Framework Travel Plan, including a Residential Travel Plan and Workplace Travel Plan, with the aim of promoting sustainable travel for the residents. The plan includes a number of measures for promoting sustainable travel, including the employment of a marketing strategy for future residents. 		
Does the proposal minimise noise pollution caused by traffic and commercial uses?	Yes	<p>The Proposed Development incorporates car parking spaces, as such there will be traffic within the Proposed Development and thus traffic-associated noise as a result of the Proposed Development. The Environmental Noise Assessment prepared by Paragon Acoustic Consultants has identified that the noise levels exceed the target noise levels presented within the baseline section above. The noise pollution results from rail and aircraft noise, as well as traffic-related noise and nearby industrial noise sources.</p> <p>The Proposed Development seeks to minimise noise pollution caused by traffic and commercial uses as far as possible.</p> <p>Due to the noise climate in the location of the Proposed Development it is predicted that windows will have to remain closed in order to meet with the target internal noise criteria established.</p> <p>Prediction show that external amenity space noise will not meet the noise level targets, but the impact is partially off-set as residents will have access to a relatively quiet, protected, publicly accessible external amenity space, such as Twickenham Green, which is a 5 minute walk from the site.</p> <p>The proposals for Mews Street – a new residential street – and thoroughfares incorporate changes in orientation and paving material types. As such they favour pedestrian and non-vehicular access, with traffic flow infrequent and slow moving. This helps to minimise noise pollution from transport related noise.</p> <p>The surrounding acoustic environment was taken into account in relation to the internal layout of residential units proposed. Where possible bedrooms were located on quieter facades and there are habitable spaces in units which do not overlook the railway line to the north. Consideration has also been given to noise insulation requirements.</p> <p>The Proposed Developments building envelope acoustic performances can in principle be maintained by suitably selected building constructions of the walls, roof, ventilation products and glazing systems.</p>	=Neutral	Not required above and beyond the mitigation incorporated during the design of the Proposed Development.

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
5. Accessibility and Active Travel				
Does the proposal address the ten Health Streets indicators?	Yes	<p>The Proposed Development will have a positive impact on a number of the Healthy Street Indicators as set out by TfL, and listed below:</p> <ul style="list-style-type: none"> • Pedestrians from all walks of life – London’s streets should be welcoming places for everyone to walk, spend time and engage in community life • People choose to walk, cycle and use public transport – a successful transport system enables more people to walk and cycle more often. • Clean air – improving air quality delivers benefits for everyone and reduces unfair health inequalities. • People feel safe - the whole community should feel comfortable and safe on our streets at all times. People should not feel worried about road danger. • Not too noisy – reducing the noise impacts of traffic will directly benefit health and improve the ambience of our streets. • Easy to cross – making streets easier to cross is important to encourage more walking and to connect communities. • Places to stop and rest – a lack of resting places can limit mobility for certain groups of people. • Shade and shelter – providing shade and shelter enables everybody to use our streets, whatever the weather. • People feel relaxed – more people will walk or cycle if our streets are not dominated by motor traffic, and if pavements and cycle paths are not overcrowded, dirty or in disrepair. • Things to see and do – people are more likely to use our streets when their journey is interesting and stimulating, with attractive views, buildings, planting and street art. <p>There is currently no route through the site for pedestrians. The Proposed Development provide a new route through the site, connecting the public realm to the River Crane. The site is also well serviced by good footpath connectivity and is within walking distance of several local amenities and services, thus</p>	+ve	

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<p>reducing the need for residents to travel by private car. The provision of cycle parking and associated facilities will also serve to encourage active travel, therefore overall improving the people choose to walk, cycle and use public transport indicator.</p> <p>The public realm will be accessible to all as part of an inclusive design philosophy, so users with disabilities are not segregated and are able to move through the public realm and the buildings. Surface materials and textures will balance the needs of crutch and stick users and wheelchair users, improving the pedestrians from all walks of life indicator.</p> <p>The southern entry to the Proposed Development allows for the footway on Edwin Road to continue across the access with pedestrians holding right of way over vehicle traffic in the site. The scheme also incorporates a through route which means large vehicles are not required to turn on site, increasing the site usability and safety. The landscaping design has also incorporated traffic calming features, such as planting elements, forcing drivers to drive slowly through the site. These factors improve the people feel safe, people feel relaxed and easier to cross indicators.</p> <p>Additionally, as a result of the high-quality design of the Proposed Development there will be a beneficial effect with regards to the things to see and do indicator. The landscaped public realm areas will include street furniture for people to sit on and trees will allow for shade across the Proposed Development as well as providing some barrier with regards to noise between the Proposed Development and the adjacent road network, addressing the places to stop and rest, shade and shelter, not too noisy and things to see and do indicators.</p>		
Does the proposal prioritise and encourage walking (such as through shared spaces?)	Yes	<p>The Proposed Development will provide a wide range of open spaces, including riverside seating, public realm seating, habitat, children's playspace etc.</p> <p>A green corridor has been implemented in the north west corner of the site this will slow down traffic towards the river and creates a 'thoroughfare' which will encourage walking through the site.</p> <p>These shared open spaces encourage walking and outdoor activities.</p> <p>Furthermore, tree line streets with footpaths provide an attractive and welcoming environment to encourage residents and visitors to walk.</p>	+ve	N/A
Does the proposal prioritise and encourage cycling (for example by providing secure cycle parking, showers and cycle lanes)?	Yes	<p>The Proposed Development will deliver a total of 202 cycle parking spaces for the residential element and 12 cycle parking spaces for the light industrial commercial element.</p>	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<p>All proposed houses have secure cycle storage within garages or in external stores, providing 54 cycle spaces. Apartments have dedicated cycle stores within each building in the form of two-tier cycle racks and Sheffield stands, providing 142 long-stay cycle parking spaces (including 18 accessible). Within the landscape, residential visitor cycle parking is provided in the form of 6 short-stay cycle parking spaces.</p> <p>The 1,010m² (GEA) of Class E light industrial commercial use is provided with a secure external store comprising 10 long-stay and 2 short-stay cycle spaces.</p> <p>The Proposed Development will provide a total of:</p> <ul style="list-style-type: none"> • 196 long-stay cycle parking spaces; • 6 short-stay cycle parking spaces; and • 12 commercial cycle parking spaces. 		
Does the proposal connect public realm and internal routes to local and strategic cycle and walking networks?	Yes	<p>The new green corridor landscaping space, creating a thoroughfare through the Proposed Development, will connect pedestrians with pavements and, consequently, walking paths.</p> <p>The River Crane, which borders the northern site boundary, is currently the focus of the 'River Crane Restoration Project'. The Proposed Development has considered the opportunity to integrate elements of the restoration strategy into the project design. Small scale improvements are currently being trialled at various locations, which are in the process of being implemented. These improvements include: the provision of a continuous, accessible link between Hounslow Heath and Twickenham Station via a long-distance footpath; the introduction of signage and way marking for walking routes around the River Crane to form a network of leisure routes for local residents.</p> <p>These improvements seek to connect the Proposed Development even further to the public realm.</p> <p>There are no local cycle paths in proximity to the site. However, cycle parking provision is provided for residents within secure compounds as well Sheffield cycle stands within the public realm and streetscape.</p>	+ve	N/A
Does the proposal include traffic management and calming measures to help reduce and minimise road injuries?	No	The proposals for Mews Street – a new residential street – and thoroughfares favour pedestrian and non-vehicular access, with traffic flow infrequent and slow moving. This has been achieved with changes in orientation and paving material types.	=Neutral	NA
Is the proposal well connected to public	Yes	The site has been calculated to currently have a PTAL rating of 2 (poor) at Gould Road entrance and 3 (moderate) at Edwin Road. Twickenham rail station is	=Neutral	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
transport, local services and facilities?		<p>approximately 15 minute walk east of the site and Whitton rail station is approximately 20 minute walk to the west.</p> <p>There are several bus stops located along The Green (A305). The nearest bus stop is 'GC' which is accessed within a 5 minute walk located along The Green (A305) which is serviced by 26 buses per hour in each direction. This bus stop is serviced by the 110, 490 and H22 bus services.</p> <p>Thus, the Proposed Development will connect new residents and users of the site with public transport, however the existing PTAL rating is poor, and as such will have a neutral potential impact on the connectivity of the Proposed Development with the local transport network.</p> <p>With regards to accessibility to local conveniences, the closest convenience store to the site is the Sainsburys local located 250m to the south, there is also a Tesco Express Supermarket, located approximately 330m to south east both of which are within a 5-minute walk from the site. Waitrose and Partners is located approximately 930m east of the site and is within a 15-minute walk from the site.</p>		
Does the proposal seek to reduce car use by reducing car parking provision, supported by the controlled parking zones, car clubs and travel plans measures?	Yes	<p>The Proposed Development provides 105 car parking spaces, distributed across the site as follows:</p> <ul style="list-style-type: none"> • 83 residential parking space (10 being accessible); • 22 industrial parking space (5 being accessible); and • 1 on-street car club parking space on Edwin Road (not included in total provision). <p>LBRuT advocates car clubs as an alternative to private motor car, promoting their integration across the council website. The new car club bay facilitated by the Proposed Development would not be exclusively for the use of residents at the site and would thus provide a communal benefit for surrounding residential properties. The implementation of the car club bay would be agreed with the Applicant, car club provider and Local Authority as a condition of consent</p> <p>Despite the inclusion of limited commercial spaces and a car club space, these arrangements for the future residents of the site would not significantly restrict travel by private car, due to the quantity of residential car-parking spaces provided.</p> <p>The Residential Travel Plan, prepared for the planning application by Velocity Transport Planning, identifies an appropriate package of measures aimed at promoting sustainable travel, with an emphasis on 'promoting alternatives to cars'.</p> <p>The Travel Plan will be a 'living document' requiring monitoring, regular reviews and revisions to ensure it remains relevant to the site and those using the site</p>	=Neutral	Implementation of the Residential Travel Plan as a pre-commencement condition

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<p>and provides continuous improvements for its duration. A Sustainable Travel Manager (STM) will be appointed to take responsibility for the site wide management of the plan, and for ensuring its delivery. The STM role for the site will be fulfilled by an appointed consultant or the Estate Management Company.</p> <p>A marketing strategy will be employed with the aim of increasing sustainable travel by the residents of the Proposed Development: a travel pack, detailing information on local public transport options, route maps, and information on nearby amenities and services</p>		
Does the proposal allow people with mobility problems or a disability to access buildings and places?	Yes	<p>Users of the Proposed Development will access and be guided through the building and the site, without discrimination or limitation.</p> <p>All accessible apartments at first floor and above are served by two lifts. These units are designed specifically for ease of use for visually impaired, ambulant disabled and wheelchair bound residents, and provide a balanced mix of unit sizes and tenure.</p> <p>Where residents may wish to use stairs, all staircases have been designed with handrails, to provide support.</p> <p>The layouts of the 'accessible apartments' and mews houses have been designed to be fully Building Regulation compliant and accessible by wheelchair users. This includes but is not limited to, the building's approach, level access, corridor widths, turning circles, passenger lifts, stairs, balustrades and handrails, and refuge points;</p> <p>A well designed car park has been included within the design proposals, which comprises of 10% spaces being disabled access car parking spaces.</p> <p>Surface textures have been considered with both wheelchair users and guide dogs in mind.</p> <p>Selected apartments have direct level access to the podium at 1st floor suitable for disabled users. Selected apartments have direct level access to the podium at 1st floor suitable for disabled users.</p>	+ve	N/A
6. Crime Reduction and Community Safety				
Does the proposal incorporate elements to help design out crime?	Yes	<p>The Proposed Development will enhance the character of the local area, by providing a new residential road to the north and new industrial yard to the south on a currently vacant and disused site. The Proposed Development uses improve the character of the site. The landscaped aspect of the Proposed Development provides open spaces that enhance the sense of 'community'.</p> <p>The external site areas will include lighting throughout the scheme. The proposed lighting highlights the boardwalk and green corridor enhancing them to make the areas welcoming and safer in the evening but without negatively impacting wildlife.</p>	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<p>The tight urban grain of the new street and those nearby creates a level of comfort and safety when walking down the street, whilst also creating a sense of community.</p> <p>A CCTV system shall be installed at main points of entry to the site and each apartment block.</p>		
Does the proposal incorporate design techniques to help people feel secure and avoid creating 'gated communities'?	Yes	<p>As above, the Proposed Development will comprise open spaces to enhance the sense of community. Roof terraces and the communal amenity spaces provide open areas that residents can use. Communal areas such as the communal amenity roof space and the external landscaped areas can provide meeting places to help develop the future community.</p> <p>The existing Edwin Road frontage includes pillars fronting the road. Due to the south of the site remaining as industrial use these are to be retained. However the entrance gates to the north/residential element of the site are to be removed so the Proposed Development is more open, and provides a more public sense of space in keeping with the local area. As such the Proposed Development has been designed to avoid the 'gated community' feel, but with secure design measures incorporated (as discussed above), for residents and public users of the space to feel safe and secure when using.</p>	+ve	N/A
Does the proposal include attractive, multi-use public spaces and buildings?	Yes	<p>The Proposed Development does not include provision for any indoor community space, however, roof terraces within Building F provide communal spaces for residents to congregate, adding a sense of 'community' to the Proposed Development. Also, publicly accessible amenity spaces are included as part of the landscaping strategy.</p>	=Neutral	N/A
Has engagement and consultation been carried out with the local community?	Yes	<p>Public consultation has occurred throughout the pre-application process and is summarised in the Statement of Community Involvement which is submitted as part of the planning application. This report demonstrates that public consultation has been undertaken and has:</p> <ul style="list-style-type: none"> • Informed local residents, businesses, councillors and other stakeholders about the redevelopment aspirations for the site. • Helped gain a full understanding of local views of the proposal and engaged with the local and wider community; and • Demonstrated how the Applicant has responded to the issues raised by the community and stakeholders. 	+ve	N/A
7. Access to Healthy Food				

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
Does the proposal facilitate the supply of local food, i.e. allotments, community farms and farmers' markets?	No	There are no plans for any allotments or community farms.	N/A	N/A
Is there a range of retail uses, including food stores and smaller affordable shops for social enterprises?	No	The Proposed Development will not provide any retail uses on site.	N/A	N/A
Does the proposal avoid contributing towards an overconcentration of hot food takeaways in the local area?	Yes	The Proposed Development will not provide any hot food takeaways.	+ve	N/A
8. Access to Work and Training				
Does the proposal provide access to local employment and training opportunities, including temporary construction and permanent 'end-use' jobs?	Yes	A number of construction related jobs will be generated over the demolition and construction period. This employment would include a broad range of job types and occupations, both on-site as well as off-site. Based on the Employment Density Guide (3rd Edition, November 2015), a Light Industrial workspace would generate a density ratio of 47m ² per full time equivalent and affordable workspace approximately 10 – 15m ² per full time equivalent, based on the Net Internal Area. The Proposed Development would therefore create in the region of 26 full time jobs and would generate local employment. The proposals will provide high quality floorspace more appropriate within the residential environment.	+ve	N/A
Does the proposal provide childcare facilities?	Yes	The Proposed Development will not provide any childcare facilities.	-ve	N/A
Does the proposal include managed and affordable workspace for local businesses?	Yes	117m ² of affordable workspace will be provided. In addition, the industrial space could be occupied by local business.	=Neutral	N/A
Does the proposal include opportunities for work for local people via local procurement arrangements?	Uncertain	Details regarding staff procurement are not known at this stage	Uncertain	N/A (at present)
9. Social Cohesion and Inclusive Design				

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
Does the proposal consider health inequalities by addressing local needs through community engagement?	Yes	The Proposed Development has been designed, and will be constructed and managed, to ensure that health and healthy lifestyles are promoted to reduce health inequalities. The housing will be of high-quality which will ensure a healthy standard of living for residents. Additionally, the landscaping proposals will help to create and develop healthy and sustainable places and communities for residents. Children will have access to high quality play space provision.	+ve	N/A
Does the proposal connect with existing communities, i.e. layout and movement which avoids physical barriers and severance and land uses and spaces which encourages social interaction?	Yes	The landscaping strategy has been designed to accommodate personal and social interaction. Additionally, the change in use from a currently publicly inaccessible site, to facilitating pedestrian movement through the site along the proposed internal road towards the River Crane, encourages social interaction and interaction with nature and open spaces.	+ve	N/A
Does the proposal include a mix of uses and a range of community facilities?	Yes	The Proposed Development includes Use Classes E (industrial and commercial processes) and C3 (dwellings). The Proposed Development includes communal areas, such as the communal amenity roof space in Building F, which is conducive to communal gatherings and encourages interaction amongst users.	+ve	N/A
Does the proposal provide opportunities for the voluntary and community sectors?	No	The Proposed Development does not provide designated opportunities for the voluntary and community sectors.	N/A	N/A
Does the proposal take into account issues and principles of inclusive and age-friendly design?	Yes	The site is located within 5 minutes walking distance of existing Heath Road amenities, bus stops (along Heath Road) and green spaces and is a 15 minute walk from Twickenham station. 10 of the proposed residential units have been identified as Wheelchair units and have been specifically designed for those who are visually impaired, ambulant disabled and wheelchair bound. The Proposed Development includes communal areas, such as the communal amenity roof space in Building F, which is conducive to communal gatherings and encourages interaction, and the forming of social networks, amongst users. The Proposed Development provides a range of residential units, with a mix of different unit sizes. The Proposed Development also includes affordable housing as well as market housing. The Proposed Development has a landscaping strategy which reflects the residential nature of the development and has been designed to encourage social and personal interaction. These spaces include the communal roof terraces, landscaped areas, and connectivity to the river frontages along the	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		River Crane. The Proposed Development provides high quality play space for children.		
10. Minimising the use of Resources				
Does the proposal make best use of existing land?	Yes	<p>The Proposed Development provides new residential units and industrial space on the former Gregg's bakery site. Despite the loss of industrial warehouses on-site, the site is a brownfield site which will be developed so as to be in-keeping with the local surrounding residential area whilst retaining the maximum amount of industrial suitable for the site.</p> <p>In addition, the Proposed Development will provide new homes to the residents of LBRuT, including the provision of new affordable homes.</p> <p>The landscaping strategy has been designed to encourage social and personal interaction and connect in to the frontage of the River Crane.</p>	+ve	N/A
Does the proposal encourage recycling (including building materials)?	Yes	<p>The Proposed Development will implement a CEMP during the demolition and construction phases. This CEMP will outline construction management measures, including measures specific to waste. The CEMP will be implemented during the demolition and construction works, as a component of the Demolition and Construction Management Plan. This will include the management of wastes in accordance with the Waste Hierarchy. As part of the hierarchy, the emphasis is firstly on waste avoidance and minimisation, and subsequently recycling, with landfill the final (and least desirable) option.</p> <p>The demolition and enabling works required prior to commencement of construction, will require the removal of the existing infrastructure and services associated with the former Gregg's bakery.</p> <p>During construction works, waste can arise from a number of activities and actions (such as the over-ordering of materials). This plan will implement a range of measures to manage and minimise the creation of waste, and encourage recycling:</p> <ol style="list-style-type: none"> 1. There will be no stockpiling of construction materials on site; 2. Construction materials will be stored appropriately, so as to prevent damage e.g. from adverse weather conditions; and 3. Construction materials required will be carefully quantified so as to help prevent overordering of materials. <p>Once the Proposed Development is completed and occupied, waste recycling (from operational waste arisings) will be encouraged, via the provision of waste recycling bins. This will be managed by a Refuse, Recycling and Servicing Strategy.</p>	+ve	N/A
Does the proposal incorporate sustainable	Yes	The provision of cycle parking which is compliant with local and regional parking standards will encourage the adoption of sustainable and green travel.	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
design and construction techniques?		<p>In line with the above philosophy, the application of low energy lighting and passive improvements to building fabric are proposed.</p> <p>Photovoltaic cells will be installed to the roof of each townhouse, which will be sized and the quantity selected to contribute to the site wide reduction in carbon dioxide emissions. The residential apartments will be served by a centralised air source heat pump and condenser water loop connected to individual heat pumps within each apartment providing space heating, hot water generation and tempered cooling. The residential townhouses will be served by standalone air source heat pump systems, to provide space heating and hot water generation. These measures will help minimise energy consumption.</p> <p>The industrial building will be served by a variable refrigerant flow (VRF) system, providing simultaneous space heating and cooling, with mechanical ventilation with heat recovery to provide the fresh air requirements to the building. Hot water will be generated through electric point of use water heaters. LED lighting will be installed throughout the building. PV panels will be sized and the quantity selected to contribute to the site wide reduction in carbon dioxide emissions.</p> <p>The Proposed Development has been designed to minimise CO₂ emissions associated with their operational energy consumption.</p> <p>Construction materials will be selected with sustainability in mind, with the aim to efficiently use of natural resources and consider potential environmental impacts.</p>		
11. Climate Change				
Does the proposal incorporate renewable energy?	Yes	The Proposed Development will incorporate renewable energy. PV cells will be incorporated to contribute to the site wide reduction in carbon dioxide emissions of 74% on the combined building regulation L1 and L2 target emissions.	+ve	N/A
Does the proposal ensure that buildings and public spaces are designed to respond to winter and summer temperatures, ie ventilation, shading and landscaping?	Yes	<p>The Proposed Development has been designed with passive energy reduction measures in place, and include thermal insulation, air tightness, maximising daylighting, and passive solar gain.</p> <p>The investment in thermal insulation to heated spaces will result in an improvement in heat losses and hence reduction in annual heating fuel consumption.</p> <p>The residential apartments will incorporate a centralised air source heat pump and condenser water loop, connected to individual heat pumps within each apartment. This will provide space heating, hot water generation and tempered cooling. The residential townhouses will include standalone air source heat pump systems, which will provide space heating and hot water generation.</p> <p>A mechanical ventilation system with heat recovery captures heat energy from the outgoing air extracted from kitchens and bathrooms within the homes and warms the fresh air being blown into the home. Heat recovery on the background ventilation further reduces heat loss complementing the improvements in the</p>	+ve	N/A

Assessment Criteria	Relevant?	Details/Evidence	Potential Health Impact?	Recommended Mitigation or Enhancement Measures
		<p>building fabric. The heat exchanger shall be bypassed during the summer months to ensure that the general background ventilation provided through the MVHR assists in cooling the homes.</p> <p>The industrial space will include a variable refrigerant flow system, providing simultaneous space heating and cooling, with mechanical ventilation with heat recovery to provide the fresh air requirements to the building.</p> <p>The Proposed Development provides new trees, the trees to be planted will allow light to penetrate and will not create extensive shadow.</p>		
Does the proposal maintain or enhance biodiversity?	Yes	<p>The Proposed Development will achieve a measurable, significant biodiversity net gain. The planting strategy will consist of tree, shrubs, perennials and grass areas. This vegetation will provide a food source for bats and potential roosting habitat.</p> <p>The plant palette is designed with consideration of biodiversity. The species chosen will benefit bats by providing either a food source for insects or roost potential. Additionally, bat and bird boxes, as well as invertebrate hotels will be provided throughout the scheme and in larger mature trees.</p> <p>Additionally, wildflower rich green roof systems located throughout will provide storm water management and create a habitat for wildlife.</p>	+ve	Delivery of mitigation measures secured through a CEMP (as a pre-commencement condition) and Landscape and Ecology Management Plan (pre-commencement condition).
Does the proposal incorporate sustainable urban drainage techniques?	Yes	<p>The Proposed Development includes Sustainable Urban Drainage Systems (SUDS), in conjunction with Policy SC1, the London Plan drainage hierarchy. This will reduce surface water runoff rates.</p> <p>Permeable paving and surfaces can be seen in the SuDS strategy diagram. A total of 4,725m² of permeable surface is proposed across the ground floor.</p> <p>A total area of 507m² of biodiverse rich green roofs are also proposed across the scheme.</p>	+ve	N/A

6. Conclusions

149 This Rapid HIA has been prepared in line with relevant legislation, policy and guidance. A baseline review has identified information relating to the following 11 key determinants of health:

- Housing Design and Affordability;
- Access to Health and Social Care Services and Other Social Infrastructure;
- Access to Open Space and Nature;
- Air Quality, Noise and Neighbourhood Amenity;
- Accessibility and Active Travel;
- Crime Reduction and Community Safety;
- Access to Healthy Food;
- Access to Work and Training;
- Social Cohesion and Inclusive Design;
- Minimising the Use of Resources; and
- Climate Change.

150 The health impacts relating to the above 11 health determinants have been assessed against the Proposed Development, in the context of the site location, using the 'HUDU Rapid Health Impact Assessment Matrix'. Impacts on the future residents of the Proposed Development, and the local community, have been identified and are detailed in the Assessment Matrix in Section 5 of this HIA.

151 The primary health benefits identified, include but are not limited to:

- The new industrial building, offering new employment opportunities (approximately 26 full-time jobs) to the site;
- The new residential units that will be available (19% (by habitable room) of which will be affordable) that comprise a range of housing types, sizes and tenure mixes;
- Well-designed accessible spaces within the Proposed Development, that cater for the needs of the disabled and elderly, as well as for the able-bodied;
- A comprehensive landscaping strategy, including private gardens to the mews houses, some private and some communal spaces for the residential apartments, streetscaped public realm areas, play space areas etc. The public realm spaces will be varied in use and will include spaces for play, relaxing, outdoor seating and leisure pursuits. Access to the River Crane will be available. The outdoor spaces will have a positive impact on health and wellbeing;
- Improvement of the current brownfield site, to provide a more cohesive space to the new and existing communities. Lighting will be embedded within the landscape throughout the Proposed Development. The proposed lighting highlights the boardwalk and green corridor enhancing them making them more welcoming and safer in the evening. The public realm has a good level of surveillance from the proposed residential, this will include site wide, a CCTV system installed at main points of entry to the site and each apartment block to enhance safety. Thus providing a safe environment for future residents of the site, and existing members of the local community;
- In total, the Proposed Development accommodates a total of 214 cycle spaces, promoting cycling for future residents and users of the Proposed Development; and
- The jobs that will be created during the construction phase, and when the Proposed Development is complete and occupied.

- 152** The main health impacts requiring mitigation to offset adverse effects are associated with the car parking provision and the finding that the Proposed Development is not air quality neutral in terms of traffic emissions.
- 153** A number of mitigation measures have been developed, with the aim of both promoting sustainable travel whilst concurrently reducing traffic related air quality emissions, these include: EV charging for a minimum of 20% of parking spaces will be provided within the Proposed Development from opening day, with the potential to convert the remaining spaces to provide EV chargers at a later date, if required; a new car club parking space will be provided on Edwin Road; and a Framework Travel Plan, which will include a Residential Travel Plan and a Workplace Travel Plan Statement has been prepared, which has the aim of promoting sustainable travel for the residents and employees of the Proposed Development. This plan includes a number of measures for promoting sustainable travel, including the employment of a marketing strategy for future residents. This plan should be secured via a pre-commencement planning condition, and monitored regularly.

APPENDIX A Policy and Legislation Summary

The Localism Act 2011

1. The Localism Act 2011 is an Act to “*make provision about the functions and procedures of local and certain other authorities; to make provision about the functions of the Commission for Local Administration in England; to enable the recovery of financial sanctions imposed by the Court of Justice of the European Union on the United Kingdom from local and public authorities; to make provision about local government finance; to make provision about town and country planning, the Community Infrastructure Levy and the authorisation of nationally significant infrastructure projects; to make provision about social and other housing; to make provision about regeneration in London; and for connected purposes.*”
2. In short, the Act enshrines the ‘neighbourhood plan’, a new layer of development plan. Neighbourhood Development Plans are initiated by communities and become part of the Local Plan and the policies contained within them are then used in the determination of planning applications. Neighbourhood Development Orders and Community Right to Build Orders allow communities to grant planning permission either in full or in outline for the types of development they want to see in their areas.

Health and Social Care Act 2012

3. “An Act to establish and make provision about a National Health Service Commissioning Board and clinical commissioning groups and to make other provision about the National Health Service in England; to make provision about public health in the United Kingdom; to make provision about regulating health and adult social care services; to make provision about public involvement in health and social care matters, scrutiny of health matters by local authorities and co-operation between local authorities and commissioners of health care services; to make provision about regulating health and social care workers; to establish and make provision about a National Institute for Health and Care Excellence; to establish and make provision about a Health and Social Care Information Centre and to make other provision about information relating to health or social care matters; to abolish certain public bodies involved in health or social care; to make other provision about health care; and for connected purposes.”
4. The Health and Social Care Act 2012 was introduced following the Health and Social Care Bill 2011. The Act was established in order to promote and improve the NHS.

National Planning Policy Framework (2021)

5. The National Planning Policy Framework (NPPF), which was updated in July 2021, sets out the Government’s planning policies for England and how these are expected to be applied. The NPPF provides a framework for which local people and their respective councils can produce their own local and neighbourhood plans, which are relevant to the needs and priorities of their communities.
6. The achievement of sustainable development is a key theme within the NPPF, and the three key themes to sustainable development (economics, social and environmental) are present throughout the NPPF. The NPPF states that the following objectives are required from the planning system when considering the social dimension of sustainable development: “*...to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being*”.

7. Section 8 of the NPPF revolves around 'Promoting Healthy and Safe Communities'. This section of the NPPF states that:

"Planning policies and decisions should aim to achieve healthy, inclusive and safe places which:

- *promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighborhoods and active street frontages;*
- *are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of clear and legible pedestrian routes, and high-quality public space, which encourage the active and continual use of public areas; and*
- *enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling."*

Planning Practice Guidance (2019)

Health and Wellbeing

8. The Planning Practice Guidance (PPG) is an online resource which collates planning guidance on various topics into one place. The PPG was launched in March 2014.
9. Of relevance to Healthy and Safe Communities (updated 2019), the PPG states that local planning authorities should use the guidance to *"promote healthy and inclusive communities and support appropriate health infrastructure"*.
10. The PPG provides guidance on a range of health and wellbeing issues, including: achieving healthy and inclusive communities; promoting the benefits of estate regeneration; supporting the delivery of sufficient school places; and supporting safe communities.

Fair Society, Healthy Lives (the Marmot Review) (2010)

11. The Marmot Review, published in 2010, was undertaken by Prof. Sir Michael Marmot in 2008. The Review is an independent review aimed at proposing the most cost-effective evidence-based strategies for reducing health inequalities in England. The Review had four main tasks:
- *"Identify, for the health inequalities challenge facing England, the evidence most relevant to underpinning future policy and action;*
 - *Show how this evidence could be translated into practice;*
 - *Advise on possible objectives and measures, building on the experience of the current PSA target on infant mortality and life expectancy; and*
 - *Publish a report of the Review's work that will contribute to the development of a post- 2010 health inequalities strategy"*
12. The review states that reducing health inequalities will require action on six policy objectives:
- *"Give every child the best start in life;*
 - *Enable all children young people and adults to maximise their capabilities and have control over their lives;*
 - *Create fair employment and good work for all;*

- *Ensure healthy standard of living for all;*
- *Create and develop healthy and sustainable places and communities; and*
- *Strengthen the role and impact of ill health prevention”*

Healthy Lives, Healthy People: Our strategy for Public Health in England (2010)

13. This document focuses on public health in England, with regard to its current state, and the commitment to protecting the population from serious health threats; helping people live longer, healthier and more fulfilling lives; and improving the health of the poorest, fastest.
14. This document was produced in response to The Marmot Review, and adopts its framework for tackling the wider social determinants of health.
15. As stated in paragraph 7 of the document, “...*People living in the poorest areas will, on average, die 7 years earlier than people living in richer areas and spend up to 17 more years living with poor health. They have higher rates of mental illness; of harm from alcohol, drugs and smoking; and of childhood emotional and behavioural problems. Although infectious diseases now account for only 1 in 50 deaths, rates of tuberculosis and sexually transmitted infections (STIs) are rising and pandemic flu is still a threat.*”

NHS England’s Challenging Health Inequalities Report (2016)

16. This document aims to help identify areas of variation in emergency admissions in more and less deprived CCGs and to promote a discussion where variation occurs.
17. Health inequalities are currently estimated to cost the NHS a total of at least £20 billion each year so it is imperative to harness the influence of each Clinical Commissioning Group to challenge where health inequalities can be reduced and greater equality established.

The London Plan: The Spatial Development Strategy for Greater London

18. The London Plan was updated in March 2021 from the previous 2016 London Plan. The London Plan is the strategic plan for London with sets out the framework for the development of London over the next 20-25 years and the Mayor’s vision for Good Growth. The London Plan contains a number of policies relevant to HIA, the key ones of which are outlined below.

Policy GG1 Building strong and inclusive communities

19. This policy puts onus on those involved in planning and development to seek to ensure that London continues to generate a wide range of economic and other opportunities that everyone is able to benefit from, as well as ensuring that good quality community spaces, services, public places and open space, buildings and streets are designed well, to promote and build strong and inclusive communities.

Policy GG3 Creating a healthy city

20. This policy states that “*To improve Londoners’ health and reduce health inequalities, those involved in planning and development must:*

- A) *Ensure that the wider determinants of health are addressed in an integrated and coordinated way...;*
 - B) *Promote more active and healthy lives for all Londoners...;*
 - C) *Use the Healthy Streets Approach to prioritise health in all planning decisions;*
 - D) *Assess the potential impacts of development proposals and development plans on the mental and physical health and wellbeing of communities ...for example through the use of Health Impact Assessments;*
 - E) *Plan for appropriate health and care infrastructure to address the needs of London's changing and growing population;*
 - F) *Seek to improve London's air quality, reduce public exposure to poor air quality and minimise inequalities in levels of exposure to air pollution.*
 - G) *Plan for improved access to and quality of green spaces, the provision of new green infrastructure, and space for play, recreation and sports;*
 - H) *Ensure that new buildings are well-insulated and sufficiently ventilated to avoid the health problems associated with damp, heat and cold; and*
 - I) *Seek to create a healthy food environment, increasing the availability of healthy food and restricting unhealthy options."*
21. Other London Plan policies relevant to the HIA include, but are not limited to: 'Policy D6 Housing Quality and Standards'; 'Policy D7 Accessible Housing'; 'Policy H4 Delivering Affordable Housing'; 'Policy S1 Developing London's Social Infrastructure'; 'Policy S2 Health and Social Care Facilities'; and 'Policy E11 Skills and Opportunities for All'.

The Greater London Authority's London Health Inequalities Strategy (2018)

22. This document sets out the Mayor of London's aims and objectives for addressing health inequalities in London. It provides a vision for the health of Londoners and sets a direction of travel for collaborative working over the next 10 years.
23. Part 1 outlines the Mayor's key objectives, actions and targets, arranged under five themes (healthy children, healthy minds, healthy places, healthy communities and healthy living). Part 2 outlines the 14 population health indicators to be used to monitor progress in reducing health inequalities over the next 10 years.

The Greater London Authority's Social Infrastructure Supplementary Planning Document (2015)

24. Social infrastructure includes services and facilities that contribute to quality of life, such as; health, education, recreation and sports facilities, community and faith facilities, emergency facilities and so on. This SPG focuses on elements of social infrastructure facing strategic challenges, specifically; health, education, sport, faith and burials.
25. In the introduction to the SPG, the then Mayor of London Boris Johnson suggested that, "The purpose of this Supplementary Planning Guidance (SPG) is to help anyone engaged in development or plan-making to understand the quantity and types of social infrastructure needed to support growth. Against a changing background of provision in our public services it provides sensible guidance that will help planners and non-planners to work together. This SPG sets out realistic steps to promote the delivery of infrastructure that is well-phased and located to meet identified need. One way of

achieving this is through colocation of social infrastructure facilities with each other and with housing development so that we can help to meet both housing and social infrastructure needs at the same time.”

Public Health England’s Health Impact Assessment in Spatial Planning (2020)

26. Public Health England exists to protect and improve the nation’s health and wellbeing and reduce health inequalities. This guide is for local authority public health and planning teams and supports the use of Health Impact Assessment in the spatial planning process.
27. The guide describes the health and wellbeing outcomes that are influenced through planning and how these outcomes can be optimised through the process of plan-making (when developing policies in local plans) and planning applications (designing proposals for development projects). It also describes how these health outcomes can be considered in other impact assessments (such as strategic and environmental impact assessments). The guide is targeted towards local authority public health and planning teams, planning applicants, impact assessment practitioners, and others involved in the planning process.

Joint Strategic Needs Assessment (JSNA) for Richmond upon Thames

28. The JSNA is a process by which local authorities and health services assess the health, care and wellbeing needs of the community within Local Authority geographic areas. It identifies and provides an understanding of current and future health and wellbeing needs of the population and helps reduce health inequalities and improves the health and wellbeing of the whole community.
29. The JSNA 2021 is structured across: ‘People’, ‘Start Well’, ‘Live Well’, ‘Age Well’, ‘Vulnerable Groups’, ‘Community Voice’ and ‘Protect Well’.
30. The JSNA provides key information as a basis for the improvement of existing services and planning of future services, with the ultimate aim of improving health and wellbeing of people in the LBRuT.

Whole-school and Community Approaches to Health and Wellbeing in Richmond upon Thames: Celebrating and Building Success, Annual Report of the Director of Public Health 2020 (2020)

31. The Annual Public Health Report describes the current context in which many of the national strategies call upon local areas to apply whole-school and community approaches to address health issues prevalent in children and young people. The report was informed by a wide range of engagement with over 60 stakeholders collaborating to improve the health and wellbeing of children and young people. The report sets out some steps that the council will take to strengthen the health and wellbeing.

London Borough of Richmond upon Thames Joint Health and Wellbeing Strategy 2016-2021 (2016)

32. The LBRuT’s Joint Health and Wellbeing Strategy aims to build on the achievements and aspirations of Richmond’s Health and Wellbeing Board. The Strategy is split into various chapters with carefully selected actions, which will be reviewed on an annual basis: ‘Start Well’, which recognises what happens in early life; ‘Live Well’, which tackles the four main unhealthy behaviours of smoking, overconsumption of alcohol, poor diet and lack of physical activity, and poor emotional and mental wellbeing; and ‘Age Well’, which recognises the disparity between the number of people in the

borough living longer with a diminished quality of life.

London Borough of Richmond upon Thames Local Plan July 2018 (2018)

33. The Local Plan was adopted by the LBRuT on 3 July 2018. The Council's Local Plan sets the policies and guidance for the development of the LBRuT up to 2033, and identifies where the main developments will take place, and how places within the borough will change, or be protected from change.
34. The policies set out in the Local Plan follow the approach of the presumption in favour of sustainable development and show how it is expressed locally. The Plan states that the Council will ensure that planning applications that accord with policies in the adopted Local Plan and the London Plan will be approved without delay, unless material considerations indicate otherwise.
35. The Local Plan has three inter-related themes of 'Protecting Local Character', 'A Sustainable Future' and 'Meeting People's Needs'. These three themes form the basis of the Local Plan Strategic Vision, which describes what the borough will be like in 2033.
36. With regards to the 'Protecting Local Character' theme, the Plan discusses that it has the aim of the LBRuT being the best place in London to live as a result of the quality of the built environment which considers the health of the local environment. With regards to 'Meeting People's Needs', the Plan states the following key objective: *"Encourage the creation of healthy environments and support healthy and active lifestyles, including through measures to reduce health inequalities. This includes ensuring there is an appropriate range of health facilities that meet local needs, and tackling childhood obesity by restricting access to unhealthy foods, particularly fast food takeaways, in proximity to schools."*
37. Policy LP30 Health and Wellbeing of the Local Plan discusses that for all major developments, a Health Impact Assessment must be submitted.
38. Policy LP 44 in 11.1 'Sustainable Travel Choices' promotes active travel such as cycling and walking, including easy access to public transport. Policy LP 1 in 4.1 'Local Character and Design Quality' ensures that walking and the public realm should be designed to be safe and accessible for all ages and levels of disabilities.
39. The plan discusses that housing development should consider the needs of the older population. Opportunities to enable older people to downsize is recognised in policy LP 35 in 9.2 'Housing Mix and Standards', along with higher standards for inclusive access, and new accommodation should meet identified local needs as set out in policy LP 37 in 9.4 'Housing Needs of Different Groups'.

London Borough of Richmond upon Thames Draft Local Plan (2021)

40. LBRuT are currently preparing a new Local Plan which will replace the current Local Plan and the Twickenham Area Action Plan. Consultation began in March 2020, with the 'Pre-Publication' draft published in December 2021. This plan has not yet been adopted and therefore only carries limited weight at the time of submitting the planning application.
41. The 'Pre-Publication' Draft Local Plan sets out a strategic vision, objectives and spatial strategy to manage growth and guide development across the borough over a 15-year period.
42. Policy 1 'Living Locally and the 20-minute neighbourhood' aims to create environments which make it *"easier to be physically active, enhance opportunities for walking and cycling safely, create high quality public spaces and public realm, improve connectivity and accessibility for all..."*. This policy

states that all development should demonstrate how they will support the 'live locally' concept.

43. Policy 14 'Affordable Housing' states that all new housing developments should provide at least 50% affordable housing, which include Social Rent, London Affordable Rent, London Living Rent and Shared Ownership.
44. Policy 28 'Local Character and Design Quality' requires developments to take opportunities to improve the quality and character of buildings, spaces and local areas. Developments must demonstrate that they promote active travel and wellbeing, maximise opportunities for urban greening, the public realm is safe, accessible, inclusive and well-connected, and minimise opportunities for crime.
45. Policy 37 'Public Open Space, Play, Sport and Recreation' states that *"new open spaces, play facilities and formal and informal land for sport and recreation should be linked to the wider green infrastructure network as they play an important role in creating social cohesion, encouraging and promoting healthier and more active lifestyles"*.
46. Policy 47 'Sustainable Travel Choices' promotes the development of safe, sustainable, accessible transport to *"reduce traffic congestion, reduce air pollution, including carbon dioxide emissions, improve public health"*.
47. Policy 49 'Social and Community Infrastructure' seeks to ensure adequate provision of community services and facilities, and *"proposals for 10 or more residential units should assess the potential impacts on existing social and community infrastructure in order to demonstrate to the Council that there is sufficient capacity within the existing infrastructure to accommodate the needs arising from the new development"*.
48. Policy 51 'Health and Wellbeing' promotes healthy lifestyles and the reduction health inequalities, and discusses that for all major developments, a HIA must be submitted.

London Borough of Richmond upon Thames Health Impact Assessment Supporting Document (2021)

49. The Draft Local Plan is informed by multiple supporting documents, including a Health Impact Assessment, which evaluates the potential health effects of the Draft Local Plan. It provides an up-to-date borough profile. The report concludes that the Draft Local Plan is not anticipated to have any negative effects on the health and wellbeing of the borough residents.

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