

**Arlington Works, Arlington  
Road, St Margaret's,  
Twickenham**  
Health Impact Assessment

indigo.

**Arlington Works, Arlington Road, St  
Margaret's, Twickenham**

**Health Impact Assessment**

July 2018

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# Arlington Works, Arlington Road, St Margaret's, Twickenham

## Health Impact Assessment

July 2018

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Appendix 1 - Healthcare facilities plan

Appendix 2 - Site layout plan

# 1. Introduction

- 1.1. Indigo Planning has prepared this health impact assessment (HIA) to support the redevelopment proposals for Sharpe Refinery Service Ltd at Arlington Works, Arlington Road, London Borough of Richmond.
- 1.2. The proposal will decommission the existing oil recycling plant and remove this incongruous use from the local residential area. The dilapidated workshops will also be demolished, decontaminating the site to create a new mixed use commercial and residential development.
- 1.3. The proposed development will provide 24 new apartments (a mix of one, two and three bedroom apartments) with associated car parking and landscaping, as well as 7 self-contained commercial units within the refurbished Victorian cottage buildings (designated as a Buildings of Townscape Merit).
- 1.4. The HIA is structured as follows:
  - **Section 2** – describes the **methodology** employed to assess health impacts, including the data and reference sources used to support the HIA;
  - **Section 3** – reviews the key **health-related planning policies** for the London Borough of Richmond;
  - **Section 4** – assesses the **baseline health conditions** in the borough and the local area;
  - **Section 5** – provides an audit of **healthcare infrastructure** near the site;
  - **Section 6** – evaluates the health impacts of the redevelopment proposals, including both **temporary health impacts** during the construction phase and **permanent health impacts**;
  - **Section 7** – identifies other relevant **socio-economic impacts** from the redevelopment proposals; and
  - **Section 8** – outlines the **monitoring plan** for the HIA; and
  - **Section 9** – highlights the **overall conclusions** from the HIA.
- 1.5. The HIA includes the following appendices:
  - **Appendix 1** – plan showing the **healthcare facilities** near the site; and
  - **Appendix 2** – plan showing the **site layout** for the proposed development.

## 2. Methodology

### Approach to the HIA

- 2.1. In preparing this HIA, Indigo Planning has followed the approach set out in the Healthy Urban Planning Checklist (Third Edition) published by the London Healthy Urban Development Unit in April 2017.
- 2.2. The Healthy Urban Planning Checklist (Third Edition) identifies a total of 30 questions relating to the potential health impacts of a development proposal. In completing this HIA, Indigo Planning has considered these questions, noting where applicable if a question is not relevant to the redevelopment proposals for the Arlington Works site.

### Impact areas

- 2.3. The HIA includes a high level assessment of the baseline health conditions experienced by Richmond residents and by those communities living closest to the development site. In assessing baseline health conditions, Indigo Planning has used the following impact areas:
  - Local impact area – as defined by the Twickenham Riverside ward boundary; and
  - Wider impact area – as defined by the Richmond borough boundary.
- 2.4. The HIA is also supported by a desktop audit undertaken by Indigo Planning of the existing healthcare facilities within a 1 km radius of the development site.

### Information sources

- 2.5. In undertaking this HIA, Indigo Planning has drawn on advice and guidance provided by the following sources:
  - Healthy Urban Planning Checklist (Third Edition) – London Healthy Urban Development Unit, April 2017.
- 2.6. Indigo Planning has employed data from the following sources:
  - Annual Business Survey 2016 Revised Results – Office for National Statistics, May 2018;
  - English Indices of Deprivation 2015 Map Explorer – Department for Communities and Local Government, 2018;
  - Family Spending 2017 – Office for National Statistics, December 2017;
  - Richmond upon Thames Health Profile 2017 – Public Health England, July 2017;
  - Richmond upon Thames Child Health Profile 2016 – Public Health England, June 2018; and
  - New Homes Bonus Calculator for 2018/19 – Department for Communities and Local Government, June 2018.

### 3. Planning policy review

- 3.1. Indigo Planning has undertaken a review of local planning policy in order to help understand the strategic aspirations on health outcomes for the London Borough of Richmond upon Thames (LBRuT).

#### **London Plan (2017) Consultation Draft**

- 3.2. Policy GC3 'Creating a healthy city' aims to improve Londoners' health and reduce health inequalities. This policy highlights potential impacts of development proposals on the health and wellbeing of communities must be considered, through the use of Health Impact Assessments, in order to mitigate any potential negative impacts and help reduce health inequalities.
- 3.3. Policy S2 'Health and social care facilities' highlights the need to assess health and social care facilities locally and sub-regionally and the need to identify opportunities to make better use of existing and proposed new health infrastructure through integration, co-location or reconfiguration of services

#### **London Plan (2016)**

- 3.4. Policy 3.2 identifies that the potential health impact of development proposals will be considered by the Mayor, to help improve the health of all Londoners. London will be promoted as a healthy place for all through the following means:
- Coordination of investment in physical improvements in deprived, run-down areas of London, which are not conducive to good health;
  - Coordination of planning and action on the environment, climate change and public health; and
  - Promotion of a strong and diverse economy.
- 3.5. Policy 3.2 Part C states the impacts of all major development proposals on the health and wellbeing of communities will be considered during the application process, which can be achieved through the use of HIAs.
- 3.6. The need for new developments to be designed, constructed and managed to promote healthy lifestyles among the population, whilst helping to reduce health inequalities, is outlined at Policy 3.2 part D.

#### **Mayor of London Social Infrastructure SPD (2015)**

- 3.7. Policy 3.2 'Improving health and addressing health inequalities' confirms the Mayor will work to reduce the inequalities and improve the health of all Londoners and promote London as a healthy place for all including homes, neighbourhoods and across the city as a whole. The impacts of major development proposals on the health and wellbeing of communities should be considered through the use of Health Impact Assessments.

#### **LB Richmond Local Plan (2018)**

- 3.8. The LBRuT adopted its new Local Plan on 3 July 2018.
- 3.9. Policy LP 30 'Health and Well Being' indicates that the council will promote and support healthy and active lifestyles and measures to reduce health inequalities. The emerging policy states that a Health Impact Assessment must be submitted with all major development proposals.

## **LB Richmond Core Strategy (2009)**

- 3.10. Core Strategy Policy CP17 relates to health and well-being in the borough, with CP17.A noting that all new development should encourage and promote healthier communities and places.
- 3.11. CP17.B identifies that support will be given to proposals for new or improved health and social care facilities, if they are located in sustainable locations and are accessible to all, with priority given to those in areas of relative deprivation (which CP13 identifies as being Castlenau, Ham, Hampton Nursery Lands, Heathfield and Mortlake).
- 3.12. Additionally, a pattern of land uses will be promoted to encourage active transport and leisure and recreation facilities to help provide a healthy lifestyle for the local population, which includes provisions for open and play space within new development as and when appropriate, as stated in CP17. C.
- 3.13. CP17.D explains that existing health, social care, leisure and recreation provision within the Borough will be retained where such facilities meet, or can be adapted to meet, the needs of local residents. Land that is available for such uses will be safeguarded, whilst the potential of re-using or redeveloping existing sites will be maximised.



## 4. Baseline health conditions

- 4.1. This section of the HIA provides a high level overview of the existing health conditions in Richmond upon Thames. It considers baseline health conditions across the borough, as well as for the local area surrounding the Arlington Works site.

### Health conditions in Richmond

- 4.2. The health of people in Richmond upon Thames is generally better than the England average. Life expectancy for both men and women is higher than the England average. Male life expectancy at birth in Richmond for the period 2013 to 2015 was 82 years compared with 79.5 years for England as a whole. Female life expectancy at birth in Richmond for the same time period was 85.4 years, compared with 83.1 years for England as a whole.

	Richmond	London	England
<b>Male</b>	82.0	79.2	79.5
<b>Female</b>	85.4	82.9	83.1

Table 1. Life expectancy at birth, 2013 to 2015 (Public Health England, 2017)

- 4.3. However, as shown by Figure 1 below, local health inequalities exist in Richmond, with men living in the most deprived area of the borough having a life expectancy which is 5.8 years lower than those living in the least deprived areas (Public Health England, 2017).
- 4.4. A smaller, though still significant, gap exists for women, for whom there is a life expectancy gap of 3.3 years between the most deprived and least deprived local areas in Richmond.

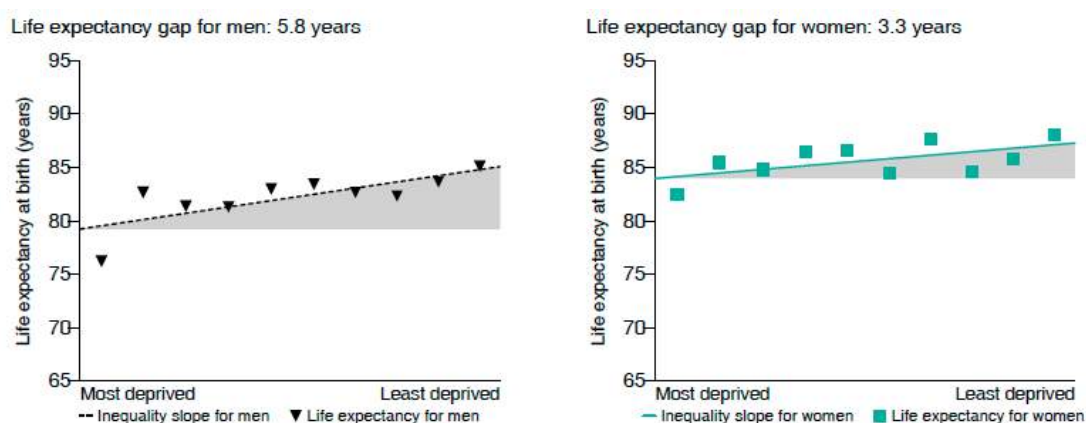


Figure 1. Life expectancy gaps in Richmond (Public Health England, 2017)

- 4.5. On average, the borough's population has lower rates of early deaths (those affecting people under 75) than the rest of England. The least deprived members of the local population have significantly lower early death rates than the England average. However, this is not true for the entire population, with the rate for the most deprived males consistently worse than the England average between 2003 and 2014 and the rate for the most deprived females worse than the England average between 2003 and 2007 (see Figure 2 below).

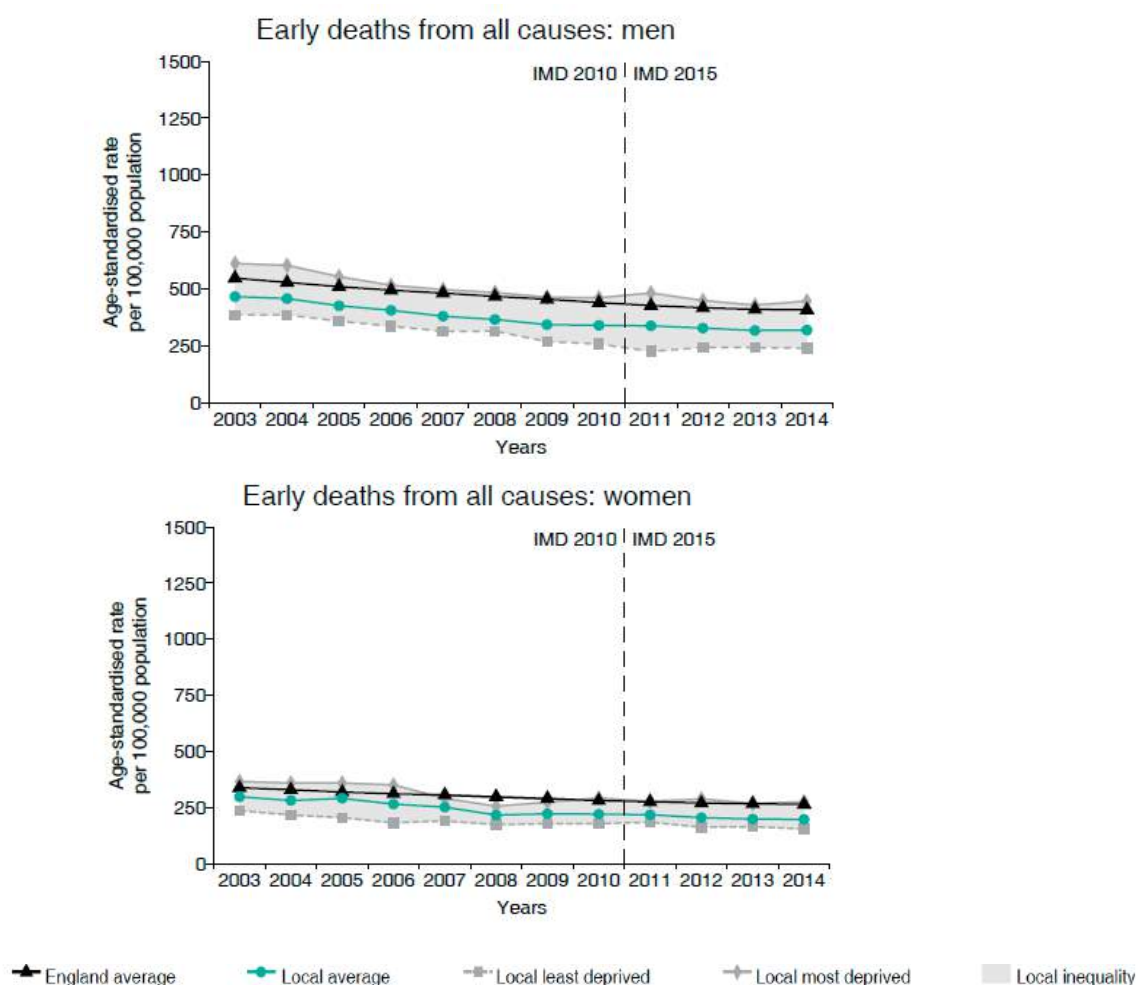


Figure 2. Health inequalities: early death rates - changes over time (Public Health England, 2017)

- 4.6. Estimated levels of adult excess weight, smoking and physical activity are better in Richmond than the England average. Between 2013 and 2015, excess weight in adults in Richmond was 53% which is lower than the England average of 64.8%. Similarly, in 2015, the percentage of physically active adults in Richmond was 68.5%, which is above the England average of 57%.
- 4.7. All aspects of adult health in Richmond are as positive, with no indicators significantly worse than the England average. Hospital stays for self-harm (117.1 per 100,000 population) and alcohol-related harm (459.2 per 100,000 population) in Richmond in 2015/16 are lower than the England averages of 196.5 and 647 respectively. In 2014/15, the recorded diabetes rate in Richmond was 3.7%, compared with the England average of 6.4%.
- 4.8. The health of children across Richmond upon Thames can also be viewed as generally positive. At 2015/16, the proportion of children classified as obese or with excess weight at Reception (age 4-5 years) is 5.2% and Year 6 (age 10-11 years) is 13.1%, which is significantly lower than the England averages of 16.5% and 25.3% respectively (see Figure 3 below).

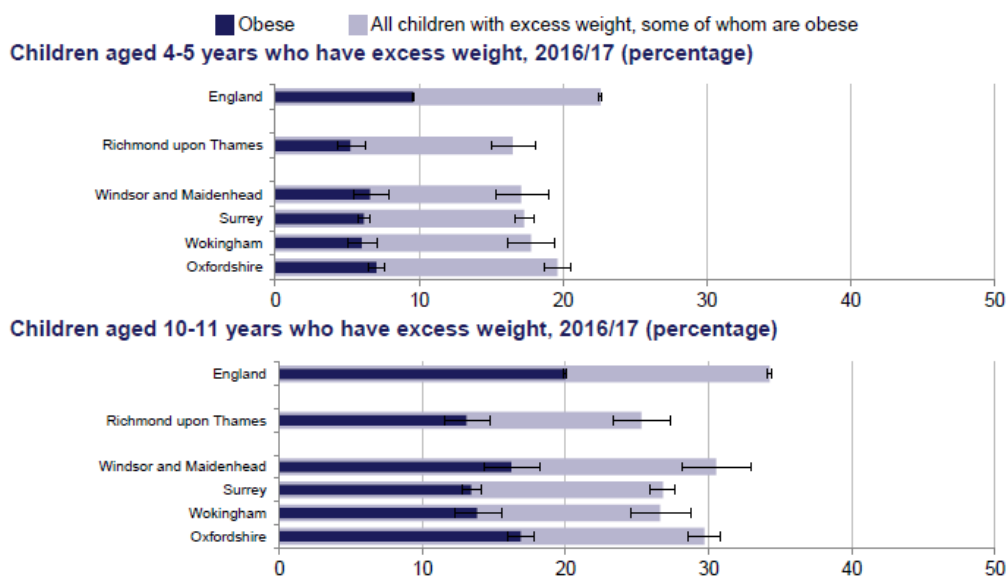


Figure 3. Childhood obesity (Public Health England Child Health Profiles, June 2018)

- 4.9. Many of the child population (aged 10 to 24 years) in Richmond suffer from mental health conditions, with 65.5 young people per 100,000 admitted to hospital for mental health reasons in 2016/17. However, this figure is below the England average of 81.5, although it is considerably higher than the England best of 14.3.
- 4.10. Alcohol and substance abuse is lower among Richmond's young population (aged under 18 years) than across England. Hospital admissions due to alcohol-specific conditions stood at a crude rate of 22.5 per 100,000 in the period 2014/15-2016/17, compared to an England average of 34.2.
- 4.11. In addition, during the period from 2014/15 to 2016/17, 49.3 people per 100,000 aged 15 to 24 years old were admitted to hospital for substance misuse in Richmond. This figure is lower than the English average of 89.8 and significantly lower than the England worst of 339.

### Health conditions in the local area

- 4.12. The English Indices of Deprivation (EID 2015) enable comparisons to be made for a range of deprivation indicators at the small area level. The small areas, or neighbourhoods, are known as lower level super output areas (LSOAs) which on average contain around 1,500 people. There are 32,844 of these neighbourhoods across England as a whole.
- 4.13. The EID 2015 provides an overall index of multiple deprivation which is based on seven separate deprivation domains. Each deprivation domain is weighted, as shown below:
- Income deprivation – with a weighting of 22.5%;
  - Employment deprivation – with a weighting of 22.5%;
  - Education, skills and training deprivation – with a weighting of 13.5%;
  - Health deprivation and disability – with a weighting of 13.5%;
  - Crime – with a weighting of 9.3%;
  - Barriers to housing and services – with a weighting of 9.3%; and
  - Living environment deprivation (9.3%).
- 4.14. The local impact area is the Twickenham Riverside ward boundary. Where more detailed analysis of the local impact area can be obtained, we have used the super output area level which is Richmond upon Thames 009B. Figure 4 below identifies the Twickenham Riverside ward boundary, Richmond upon Thames 009B LSOA and the Arlington Works site (orange pointer).



Figure 4. Twickenham Riverside ward boundary and Richmond upon Thames 009B LSOA (Pitney Bowes Geolnsight, 2018).

- 4.15. The Arlington Works site is located within Richmond upon Thames 009B LSOA (i.e. Twickenham Riverside), which is ranked 27,041 out of 32,844 LSOAs in England; where 1 is the most deprived LSOA. This is amongst the 20% least deprived neighbourhoods in the country. The Twickenham Riverside ward (009B) is one of 115 LSOAs in the Richmond upon Thames local authority district. Figure 5 below shows the Richmond upon Thames 009B LSOA boundary outlined in blue, whilst the Arlington Works site is marked by the blue pointer.

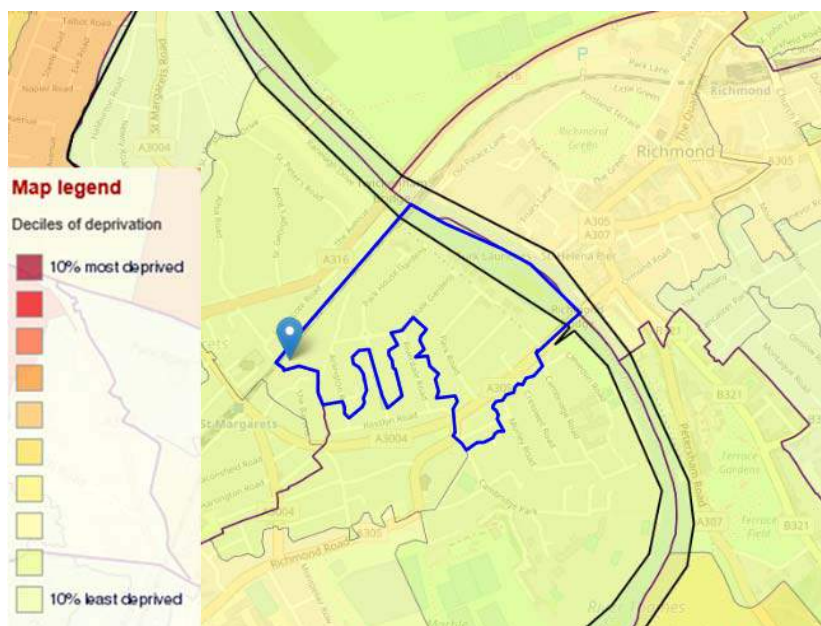


Figure 5. Richmond upon Thames 009B LSOA (Twickenham Riverside) and site location (DCLG, 2015)

- 4.16. Figure 6 highlights the neighbourhood in which the site is located is ranked 31,700 out of 32,844 LSOAs in England on the health and deprivation and disability domain of the EID 2015. This figure indicates that the local area is among the 10% least deprived neighbourhoods in England.

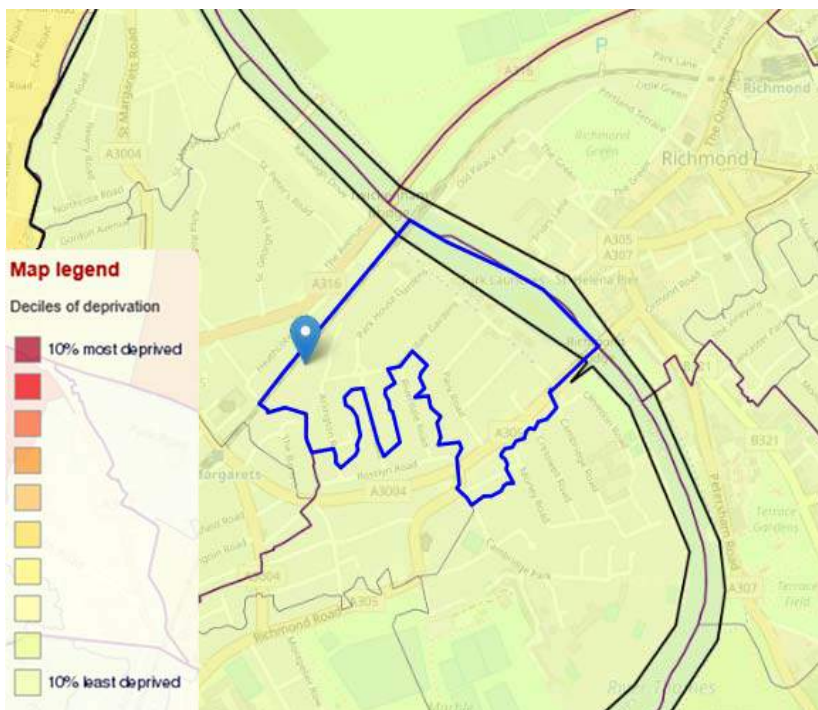


Figure 6. Health Deprivation and Disability Domain (DCLG, 2015)

- 4.17. When considering barriers to housing and services, the neighbourhood is ranked around the middle of English LSOAs, with a ranking of 13,358 out of 32,844 LSOAs putting the area just within the 50% most deprived neighbourhoods in the country, as shown in Figure 7 below.

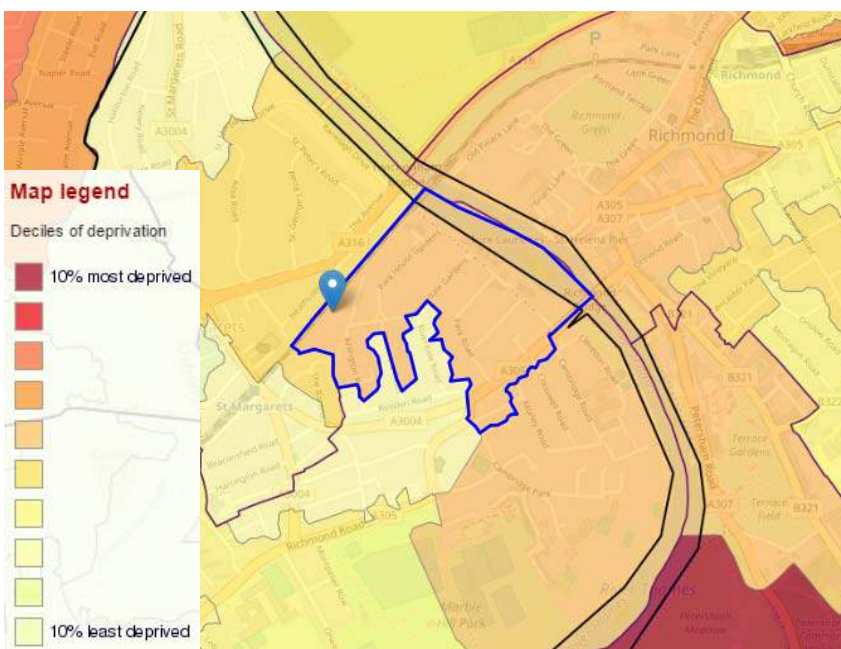


Figure 7. Barriers to housing and services (DCLG, 2015)

- 4.1. The 2011 Census asked people to describe their general health over the preceding 12

months, by ranking their health from 'very good' to 'very bad'. Although a subjective method, this helps to identify the perceived health of the population of the local area in which the site is located. Table 2 below compares the results of this question within the local neighbourhood of Richmond upon Thames LSOA (009B), Twickenham Riverside ward and England as a whole.

Descriptor	Richmond upon Thames 009B (LSOA)	Twickenham Riverside (ward)	England
<b>Very good</b>	59.7%	60.4%	47.6%
<b>Good</b>	27.9%	29.6%	33.6%
<b>Fair</b>	9.0%	7.6%	1.7%
<b>Bad</b>	2.4%	1.9%	4.3%
<b>Very bad</b>	1.0%	0.5%	1.3%

Table 2. Description of individual health from the 2011 Census (Pitney Bowes Geolnsight, 2018)

- 4.2. Table 2 reveals that 87.6% of people residing in the LSOA which the site is located within described their health as either good or very good at the time of the 2011 Census. This figure is slightly below the Twickenham Riverside ward figure of 90%, but is higher than the national figure of 81.2%, indicating a largely positive view of personal health in the local area.

### Summary

- 4.3. Health conditions in Richmond borough as a whole are generally very good, exceeding the England average on a wide range of commonly used health indicators. The life expectancy of people in Richmond is better than the England average and with London as a whole.
- 4.4. Local variations in health conditions can be seen within the borough, with a near six year difference in life expectancy when comparing men living in the most deprived areas of the borough compared with men living in the least deprived local areas in Richmond, and a three year difference for women. These variations are also apparent when investigating early death rates in men and women. Males and females living in the locally least deprived areas of the borough have significantly fewer early deaths than those living within the locally most deprived areas and the local average in Richmond.
- 4.5. The overall good health of the borough can also be seen at the more local level, with the health deprivation and disability domain of the EID 2015 identifying the area surrounding the site as falling within the 10% least deprived areas of England.

## 5. Healthcare infrastructure audit

### Introduction

- 5.1. In preparing this HIA, Indigo Planning has undertaken a desktop audit of the healthcare facilities within a 1 km radius of the Arlington Works site on Arlington Road, Twickenham. Appendix 1 provides a plan showing the spatial distribution of healthcare facilities within 1 km of the Arlington Works site.
- 5.2. Indigo Planning also conducted a telephone survey of all GPs and dentists to establish the most up-to-date information relating to the surgeries. The surveys of GP practices sought to establish whether the surgery had a defined catchment area and if they were taking on new patients. For dentists, the survey sought to understand whether the practice is taking on new patients (NHS, private or both) and if the practice has a defined catchment area.
- 5.3. **Appendix 1** reveals that the following healthcare facilities are located within a 1 km radius of the site:
- 5 medical centres or GP surgeries;
  - 3 dental practices; and
  - 3 pharmacies.
- 5.4. Indigo Planning has undertaken desk based research on the capacity of the surgeries and the level of demand to ascertain whether the existing healthcare infrastructure can accommodate the new population generated.
- 5.5. Indigo Planning has also reviewed the Joint Strategic Needs Assessment (JSNA) Newsletters published and updated frequently online. The JSNA highlights Richmond residents remain generally positive about their health and wellbeing. For many in Richmond, health and wellbeing is already much better than the average. However, there are pockets of deprivation, and an ageing population means the demands for health and social care services are likely to increase in the coming years.

### Medical centres and GP surgeries

- 5.6. There are 5 GPs or medical centres within a 1 km radius of the site. The site is within the catchment area of 5 of the GP surgeries as follows:
- Richmond Lock Surgery, 300 St Margaret's Road;
  - St Margaret's Practice, St Margaret's Road;
  - Cole Park Surgery, 224 London Road;
  - Twickenham Park Surgery - Johal, 17 Rosslyn Road; and
  - Richmond Green Medical Centre, 19 The Green.
- 5.7. From Indigo Planning's research, the key messages are as follows:
- The surgeries each have thousands of patients enrolled. St Margaret's Medical Practice has over 12,850 patients enrolled, Twickenham Park Surgery and Richmond Lock Surgery has over 8,000 patients enrolled, whilst Richmond Green Medical Centre has

nearly 2,000 patients enrolled. No data was available for Cole Park Surgery;

- All the surgeries advised that they have capacity to accommodate more patients, both NHS and private;
- Doctors' appointments can be booked on the day or two weeks in advance. The surgeries offered the option to book appointments online with many patients receiving appointments promptly. This demonstrates that the doctor surgeries and medical centres are able to cope with the current demand;
- All the GP surgeries and medical centres offer evening and weekend appointments which offers more flexibility for patients;
- The GP surgeries and medical centres clearly benefit from the ability for residents to book appointments online; and
- All the GP surgeries and medical centre offer an electronic prescription service and the ability to order and view repeat prescriptions online.

5.8. In April 2017 Richmond Borough Council updated the '*Infrastructure Delivery Plan*' which analyses and assesses the existing infrastructure provision. The Plan identifies the current shortfalls in the existing services and predicts future needs or demands for the borough to support new development and a growing population. It states there is a shortfall in GP premises floorspace, with the greatest shortfall in the Teddington and Hampton locality. Some of the shortfall can be addressed by extending GP opening hours and increasing the use of clinical rooms within practices. However, population growth, particularly in Twickenham and Richmond will place increasing pressure on GP premises in these areas.

5.9. Indigo Planning's research has found that the GP surgeries surveyed have sufficient capacity and are of a high quality and could accommodate the population growth as a result of the proposed development.

## Dentists

5.10. There are 3 dentist practices within a 1 km radius of the site. The 3 dentist practices are as follows:

- Amber Dental Surgery, 165 St Margaret's Road;
- Claremont Dental Practice, 57 Crown Road; and
- The Bridge Dental Centre (part of Perfect Smile Group), 402 Richmond Road.

5.11. From our desk top research and discussions with the practices, we have drawn out the following key messages:

- All the dentist practices have capacity to accommodate more patients for both NHS and private treatments. All the dentists surveyed were accepting new patients (NHS and private). This demonstrates that the practices are coping with the demand and have sufficient capacity to accommodate further demand;
- Claremont Dental Practice had flexible opening hours and is open between 08:00 to 18:00/19:00 during the week and is open for a half day on a Saturday providing more flexibility to patients;
- Amber Dental Surgery is open normal working hours (between 09:00 to 17:30 Monday to Friday) whilst The Bridge Dental Centre practice is open normal working hours (between 08:00/09:00 to 17:00/18:00). Both practices are closed on Saturdays; and



- It is possible to book appointments online via the practices' websites.

## Pharmacies

- 5.12. There are 3 pharmacies within a 1 km radius of the site which include:
- Boots Pharmacy, 61 – 64 George Street;
  - Charles Harry Pharmacy, 366 Richmond Road; and
  - St Margaret's Pharmacy, 38 Crown Road.
- 5.13. Richmond's *Pharmaceutical Health Needs Assessment* (2018) confirms that Richmond residents are served by 45 pharmacies. The number of pharmacies per 100,000 population in Richmond (23.1) is higher than the South London average (20.3), whilst on average, they dispense fewer items. All residents are within 1,200m (3/4 mile) of a pharmacy. This suggests there is capacity within the existing network of pharmacies to absorb an increase in dispensing volume.

## Hospitals

- 5.14. There are no hospitals within 1km of the site. The closest hospital is West Middlesex University Hospital which is approximately 3.2km to the north of the site.
- 5.15. West Middlesex University Hospital is operated by the Chelsea and Westminster Hospital NHS Foundation Trust, who also operate the Chelsea and Westminster Hospital. It is a teaching hospital associated with the Imperial College School of Medicine and is a designated academic health science partner (Imperial College Academic Health Sciences Partnership) which focuses on research, clinical services, education and training.
- 5.16. The hospitals have over 5,000 staff caring for nearly 1 million people locally, regionally and nationally. Specialist clinical services include A&E, acute medicine, care of the elderly, surgery and maternity wards. The hospital trust was ranked 27 out of 135 trusts nationally (October 2017).

### St John's House and Amyand House

- 5.17. St John's House and Amyand House is located to the south west of the site and is within the 1km radius. Prior to 1995, St John's House and Amyand House was St John's Hospital. It is now a mental health facility under the control of South West London and St George's Mental Health NHS Trust. The mental health facility closed in 2009.

## Summary

- 5.18. Paragraphs 7.2 and 7.3 of this HIA describe the methodology used for estimating the net additional residential population created by the redevelopment proposals for the Arlington Works site. The proposed development will have the following impacts on the local resident population:
- **New households** – the proposals will create 24 net additional households; and
  - **New residents** – the proposals will create 54 net additional new residents.
- 5.19. The conventional rule of thumb is that one GP is required per 1,800 patients. The net additional residential population at the Arlington Works site will therefore create the demand for an additional 0.03 GPs.
- 5.20. The conventional rule of thumb is that one dentist is required per 1,500 patients. The net additional residential population at the Arlington Works site will therefore create the demand

for an additional 0.04 dentists.

- 5.21. The audit of healthcare infrastructure has confirmed that the increase to the local residential population can be accommodated by the existing supply of local healthcare facilities.

## 6. Evaluation of health impacts

### Evaluation framework

- 6.1. In this section of the HIA, Indigo Planning considers both the temporary and permanent health impacts of the redevelopment proposals for the site.
- 6.2. The Healthy Urban Planning Checklist Third Edition recommends the assessment of potential health impacts under four main thematic areas, as follows:
- Healthy housing;
  - Active travel;
  - Healthy environment; and
  - Vibrant neighbourhoods.
- 6.3. In evaluating the health impacts of the scheme, the HIA addresses the questions raised by the Healthy Urban Planning Checklist Third Edition for each of these thematic areas.

### Temporary health impacts

- 6.4. The key questions to address are as follows:
- Construction impacts – does the proposal minimise construction impacts such as dust, noise, vibration and odours?
  - Local employment and healthy workplaces – does the proposal include commercial uses and provide opportunities for local employment and training, including temporary construction and permanent “end-use” jobs?

### Construction impacts

- 6.5. The planning application includes a Construction Management Plan in line with the London Borough of Richmond guidelines. The Construction Management Plan explains the steps that will be taken to minimise construction impacts, such as dust generation and plant vehicle emissions.
- 6.6. The Plan provides operational strategies during construction works which will be implemented to reduce the impact of the works on surrounding commercial and residential buildings. All machinery that may be fitted with muffling or noise suppression mechanisms will be used with these mechanisms installed correctly at all times and in accordance with recommended guidance. Wherever possible, operational strategies will be employed to minimise any vibration generated by the proposed works. Filtration systems and odour eliminating mechanisms will be employed wherever necessary. It also describes the anticipated construction traffic routes.

### Local employment and healthy workplaces

- 6.7. The proposals for the Arlington Works site will include a construction phase which will generate turnover and temporary employment for construction firms and related trades.
- 6.8. It is possible to estimate the temporary construction employment impacts based on the anticipated build cost for the scheme. The total construction cost for the proposed development is anticipated to be £7.8 million at 2018 prices.
- 6.9. Data from the Annual Business Survey 2016 Revised Results published in May 2018 reveals

that total turnover in the construction sector during 2016 was £251,782 million. The average number of people employed in the construction sector during 2016 was 1.41 million, suggesting that average turnover per full time equivalent construction job in 2016 was £178,569.

- 6.10. Using the build cost estimate of £7.8 million and the average turnover per full time equivalent construction job in 2016 of £178,569, Indigo Planning estimates that the proposed development will generate 43.7 person years of temporary construction employment. This is equivalent to 44 construction workers being employed on a full-time basis for twelve months.
- 6.11. The standard convention in economic impact assessment is that ten person years of construction employment equate to one full-time equivalent, permanent job in the construction sector. This means that the construction of the scheme will support the equivalent of around 4.4 permanent construction jobs.

#### Gross value added

- 6.12. Gross value added (GVA) is a conventional measure of economic well-being. In essence, GVA measures the value of output generated by a producer minus the costs associated with the production of the output.
- 6.13. The Annual Business Survey 2016 also provides estimates of the approximate gross value added by different sectors of the UK economy. During 2016 the approximate gross value added by the construction sector was £96,805 million.
- 6.14. With an average number of people employed in the construction sector of 1.41 million, this suggests that the gross value added per full time equivalent construction job in 2016 was £68,656.
- 6.15. Indigo Planning estimates that the 43.7 person years of temporary construction employment generated by the proposed development will create gross value added to the local economy of around £3 million.

#### Construction training opportunities

- 6.16. The proposals for the Arlington Works development offer the opportunity to provide training, apprenticeships and work experience in a range of construction trades.
- 6.17. For example, there could be opportunities for local young people to gain NVQ Level 2 and Level 3 training and practical experience in a range of different construction and engineering trades. Initiatives of this sort are typically run by a training provider in partnership with the main contractor for the construction programme.

## **Permanent health impacts**

### **Healthy housing**

- 6.18. The key questions to address as part of the healthy housing theme are as follows:
- **Healthy design** – does the proposal meet all the standards for daylight, sound insulation, private space and accessible and adaptable dwellings?
  - **Accessible housing** – does the proposal provide accessible homes for older or disabled people?
  - **Accessible housing** – does the proposal ensure that every non-ground floor dwelling is accessible by a lift which can accommodate an ambulance trolley?
  - **Healthy living** – does the proposal provide dwellings with adequate internal space,

including sufficient storage space and separate kitchen and living spaces?

- **Healthy living** – does the proposal encourage the use of stairs by ensuring that they are well located, attractive and welcoming?
- **Housing mix and affordability** – does the proposal provide affordable, family-sized homes?

## Healthy design

- 6.19. The Design and Access Statement which accompanies the planning application, identifies that all proposed blocks will provide suitable and adaptable dwellings which all receive good levels of daylight and sunlight. A full daylight and sunlight assessment is not required.
- 6.20. An Acoustic Assessment, prepared by Aulos Acoustics, demonstrates that the proposed development would meet the relevant criteria relating to noise impacts. The design meets all sound insulation requirements.
- 6.21. Private amenity spaces are provided for all units which either meet or exceed London Plan standards, through the provision of balconies. The site provides communal spaces and 500 sqm of amenity space.

### Accessible housing

- 6.22. The proposal development provides total of 24 residential units, of which 3 are proposed as M4(3) wheelchair user dwelling adaptable and accessible. This equates to 12.5% which exceeds the requirement set out in London Plan Policy 3.8 Housing and Choice of 10%. In addition, all homes will be built to lifetime home standards.
- 6.23. All the units proposed, except for two duplex apartments (Unit 23 and 24), are M4(2) adaptable and accessible. Units 23 and 24 are compliant with M4(2) standards in all regards, other than not providing lift access to the upper floors.
- 6.24. The apartments within the main block are split into two separate lift accesses, each servicing 10 units. Both lifts are eight person wheelchair accessible (min. 1400x1100mm). The smaller second apartment block contains two ground floor units and two upper duplex units with their own internal circulation.
- 6.25. Lift access is not provided within this block due to the limited space available within the site constraints. The lifts are not large enough to accommodate an ambulance trolley.

### Healthy living

- 6.26. All units exceed the required Technical Housing Standards Nationally Described Space Standards and the London Plan standards for internal space and storage space.
- 6.27. The units are designed to feature high-quality combined open plan kitchen and living spaces which will have definitive kitchen and living room spaces within the open plan area, and exceed space standards.
- 6.28. The lifts and staircases are located together, avoiding any subservience of the stairs. The stairs are located to the rear elevation with the lifts adjacent which provides maximum natural light and ventilation into the internal stair cores, ensuring they are as welcoming and pleasant as possible. The cores are located to the rear to maximise the residential accommodation aspect to the south, away from the trainlines.
- 6.29. Private amenity spaces are provided for all units through the provision of balconies, which either meet or exceed London Plan standards.

Housing mix and affordability

- 6.30. The housing mix comprises 5 one bed apartments, 12 two bed apartments and 7 three bed apartments. Four of the apartments will be affordable units.

**Active travel**

- 6.31. The key questions to address as part of the active travel theme are as follows:
- **Promoting walking and cycling** – does the proposal promote cycling and walking through measures in a travel plan, including adequate cycle parking and storage?
  - **Safety** – does the proposal include traffic management and calming measures and safe and well lit pedestrian crossings and routes?
  - **Connectivity** – does the proposal connect public realm and internal routes to local and strategic cycle and walking networks and public transport?
  - **Minimising car use** – does the proposal seek to minimise car use by reducing car parking provision, supported by the controlled parking zones, car free development and car clubs?

Promoting walking and cycling

- 6.32. The proposal includes policy compliant cycle parking provision, with London Plan standard provision for both the commercial and residential uses. Due to the scale and nature of the development proposal, a Travel Plan is not necessary for the site. A Travel Plan document can be provided by condition or legal agreement if it is requested by the Council.

Safety

- 6.33. A Transport Assessment has been carried out by Caneparo Associates which assesses the access into and out of the site, as well as providing swept path analysis for cars and servicing vehicles.
- 6.34. The local network of pedestrian footways is suitable for the location, with appropriate widths and regular street lighting columns. Transport for London's (TfL) Local Cycling Guide No.9 indicates that Arlington Road, Rosslyn Road, Park House Gardens are '*marked or signed for use by cyclists*', whilst part of St Margaret's Road is marked as an '*other road that has been recommended by cyclists*'. Local roads have therefore been established as safer roads for use by cyclists.
- 6.35. There are inherent traffic calming measures on the existing highway network, with on-street parking bays restricting the effective width of local roads and encouraging vehicles to drive more slowly. Roads surrounding the site are local roads truncated by railway lines and the River Thames which provide limited through access. As a result, vehicles on the local highway network are typically bound for local residential buildings. St Margaret's Road forms the main strategic road in the local area and provides regular formal push button crossing opportunities for pedestrian priority.

Connectivity

- 6.36. The Transport Assessment carried out by Caneparo Associates confirms there are pedestrian footways on either side of carriageways leading to and from the development site allowing pedestrian and cycle access to the local network. The footways are typically two or more metres in width.
- 6.37. The site is well connected to public transport opportunities, with bus stops located approximately a four minute walk to/from the site, whilst national rail services are available

from St Margaret's station, a 7.5 minute walk time to/from the site. National Cycle Network route no. 75 passes the site to the west in a north-south direction and is accessible to/from the site using a network of roads included in TfL's network of cycle friendly roads.

- 6.38. A more detailed analysis of transport connections can be found in the submitted Transport Assessment, prepared by Caneparo Associates.

#### Minimising car use

- 6.39. The LPA requires car parking to be provided at the theoretical maximum standard, providing 24 car parking spaces, therefore the proposed development is in accordance with local and regional standards. The proposal does however seek to provide a balance between car parking and promoting sustainable transport.
- 6.40. On-street car parking is currently managed in accordance with a Controlled Parking Zone. The proposed commercial and residential elements of the development site will be restricted from applying for a permit to park on-street via a Permit Free Agreement.
- 6.41. The site is located in an area which is well supported by car sharing facilities, with 5 on-street car club vehicles in the local area. The site will also be provided with London Plan standard cycle parking provision, further reducing the need for residents and employees to use a private car.

#### **Healthy environment**

- 6.42. The key questions to address as part of the healthy environment theme are as follows:
- **Construction** – does the proposal minimise construction impacts such as dust, noise, vibration and odours?
  - **Air quality** – does the proposal minimise air pollution caused by traffic and energy facilities?
  - **Noise** – does the proposal minimise the impact of noise caused by traffic and commercial uses through insulation, site layout and landscaping?
  - **Open space** – does the proposal retain or replace existing open space and in areas of deficiency, provide new open or natural space, or improve access to existing spaces?
  - **Open space** – does the proposal set out how new open space will be managed and maintained?
  - **Play space** – does the proposal provide a range of play spaces for children and young people?
  - **Biodiversity** – does the proposal contribute to nature conservation and biodiversity?
  - **Local food growing** – does the proposal provide opportunities for food growing, for example by providing allotments, private and community gardens and green roofs?
  - **Flood risk** – does the proposal reduce surface water flood risk through sustainable urban drainage techniques, including storing rainwater, use of permeable surfaces and green roofs?
  - **Overheating** – does the design of buildings and spaces avoid internal and external overheating, through use of passive cooling techniques and urban greening?

#### Construction

- 6.43. A Construction Management Statement, prepared by Caneparo Associates, accompanies the application and identifies that the impact during construction, such as through dust generation and plant vehicle emissions, are anticipated to be of short duration and the risk of dust impacts will be low.
- 6.44. Operational strategies during construction works will be implemented to reduce the impact of the works on surrounding commercial and residential buildings. Measures will be used to reduce the generation of dust and airborne particulate, for occasions when this is not feasible, fine spray mist will be applied to all dust generating materials.
- 6.45. All machinery that may be fitted with muffling or noise suppression mechanisms will be used with these mechanisms installed correctly at all times and in accordance with recommended guidance. Wherever possible, operational strategies will be employed to minimise any vibration generated by the proposed works. Filtration systems and odour eliminating mechanisms will be employed wherever necessary.
- 6.46. The Construction Management Plan explains the steps that will be taken to minimise construction impacts, including dust and noise suppression.

#### Air quality

- 6.47. The planning application is accompanied by Air Quality Assessment, prepared by WSP, which addresses the potential air quality impacts during the construction and operational phases of the proposed development.
- 6.48. An assessment of the construction phase impacts highlights there is a low to medium risk of dust soiling impacts and a negligible to low risk of increases in particulate matter concentrations due to construction activities. Through good site practice and the implementation of suitable mitigation measures, the effect of dust and particulate matter releases would be significantly reduced. The residual effects of the construction phase on air quality are considered to be not significant.
- 6.49. The proposed development is not predicted to result in a significant increase in traffic once operational and therefore, no significant effects on air quality are anticipated at existing receptors. The redevelopment of the site will provide a mixed land-use scheme including residential and commercial uses and the residual effects are considered to be not significant.

#### Noise

- 6.50. There are no protected or special interest soundscapes identified near the development site. The area surrounding the site is a residential area. However, the site is bordered to the north west by the railway line which is the main source of transportation noise. The application is accompanied by an Acoustic Assessment, prepared by Aulos Acoustics, which notes that future residents of the scheme are not likely to be disturbed by noise.
- 6.51. The site is landscaped and has been sensitively designed in response to the existing site context, helping to minimise the impact of noise on the site.
- 6.52. The proposed building will provide ventilation and sound insulation to protect habitable rooms. There will also be vibration insulation to some or all residential buildings where required. The proposed development removes significant sources of industrial, light industrial and goods vehicle noise close to residential areas.
- 6.53. The proposed residential accommodation meets the Minimum Building Regulations Part E relating to sound insulation to and within the dwellings. The proposal includes measures to enable reasonable urban external environment for amenity use and it focuses on the protection of inside and outside spaces against noise and vibration from the railway.

#### Open space



- 6.54. No open space will be lost as a result of the proposed development. The proposed development improves the open space through the provision of a total of 500 sqm of amenity space through the creation of new green space with soft landscaping and tree planting.
- 6.55. The site is within easy walking distance (approximately a 12-minute walk) to Marble Hill Park which is located less than 1 km to the south of the site. The proposal will improve resident's access to open space which will have a positive impact on the health and wellbeing of future residents.

#### Play space

- 6.56. The proposal development does not incorporate any dedicated playground spaces for children and young people. However, there are four parks and play areas within the St Margaret's area, with the closest playground (Moormead and Bandy Recreational Ground) approximately a 10 minute walk from the site.
- 6.57. A financial contribution will be provided towards existing play spaces within close proximity to the site.

#### Biodiversity

- 6.58. A Preliminary Ecological Appraisal and Preliminary Roost Assessment, prepared by Arbtech, accompanies the planning application and identifies that no adverse impacts on protected species or priority habitats are predicted, and sets out recommendations ensuring nature conservation and biodiversity are incorporated within the scheme.
- 6.59. The scheme incorporates the recommendations and will therefore make a positive contribution to nature conservation and biodiversity.

#### Local food growing

- 6.60. Spatial limitations within the site restrict the inclusion of any growing space or allotments as part of this proposal. Both buildings have been designed with flat roofs with an additional south west facing terrace on the second floor of the main block. It may be possible to include a green or brown roof in each of these spaces. However, this would encroach the roof space needed to provide the required amount of roof-mounted PV panels.

#### Flood risk

- 6.61. A sustainable urban drainage systems (SuDS) management strategy is provided as part of the Flood Risk Assessment, prepared by Paul Garrad Hydrology, detailing how SuDS have been incorporated in the development.
- 6.62. Other measures, including green roofs, are not required in order for the proposal to meet the relevant standard for SuDS on this site.

#### Overheating

- 6.63. Representative Standard Assessment Procedure (SAP) calculations have been prepared for a number of apartments, as well as testing the carbon emissions from specific units which allow units to be tested for overheating. Apartments on the south-east elevation have been assessed and all are considered as having a 'medium' risk of overheating. They all therefore comply with the requirements of the Building Regulations.
- 6.64. All apartments are dual aspect, allowing for passive cross ventilation. Large opening windows and balconies to living space standards have been included in the design, providing passive cooling techniques.

### Vibrant neighbourhoods

- 6.65. The key questions to address as part of the vibrant neighbourhoods theme are as follows:
- **Health services** – has the impact on healthcare services been addressed?
  - **Education** – has the impact on primary, secondary and post-19 education been addressed?
  - **Access to social infrastructure** – does the proposal contribute to new social infrastructure provision that is accessible, affordable and timely?
  - **Access to social infrastructure** – have opportunities for multi-use and the co-location of services been explored?
  - **Local employment and healthy workplaces** – does the proposal include commercial uses and provide opportunities for local employment and training, including temporary construction and permanent ‘end-use’ jobs?
  - **Local employment and healthy workplaces** – does the proposal promote the health and well-being of future employees by achieving BREEAM health and wellbeing credits?
  - **Access to local food shops** – does the proposal provide opportunities for local food shops?
  - **Access to local food shops** – does the proposal avoid an over concentration of hot food takeaways in the local area?
  - **Public realm** – does the design of the public realm maximise opportunities for social interaction and connect the proposal with neighbouring communities?
  - **Public realm** – does the proposal allow people with mobility problems or a disability to access buildings and places?

#### Health services

- 6.66. The healthcare infrastructure audit included at Section 5 of this HIA and health infrastructure plan contained within Appendix 1 confirms that the increase to the local residential population can be accommodated by the existing supply of local healthcare facilities.
- 6.67. Doctor surgeries, medical centres and dentist surgeries within a 1 km radius of the site are able to accommodate the current demand for services and have capacity to take on more patients. In any case, the increase in population generated from this development will yield only the modest demand for an additional 0.03 GPs and 0.04 dentists.

#### Education

- 6.68. Indigo Planning has calculated that 7 children are likely to be generated from the proposed development. Indigo Planning has considered the Education and Skills Funding Agency’s School Capacity: Academic Year 2015-2016 (published 3 April 2017) to ascertain the demand for school places across local primary schools in the area.
- 6.69. The closest primary schools to the site are:
- St Stephen’s Church of England Primary School;
  - Orleans Primary School;
  - St Mary’s Church of England Primary School;

- Ivybridge Primary School; and
  - Worplesdon Primary School.
- 6.70. The school capacity worksheet demonstrates that four out of five primary schools listed above has capacity to take on more students. The capacity is varied with some schools having more capacity than others. For example, Ivybridge Primary School has 354 pupils enrolled but has capacity for 420 pupils. St Mary's Church of England Primary School currently has 625 pupils enrolled and a capacity of 630 pupils, whilst St Stephen's Church of England Primary School has 412 pupils enrolled and a capacity of 420. Orleans Primary School was operating at capacity with 420 pupils.
- 6.71. Nevertheless, collectively there is capacity across all year groups to accommodate 6 additional primary level pupils. Therefore, it is likely that once the development is built out the modest child yield will be able to be accommodated in the existing local primary schools.
- 6.72. In relation to secondary schools, the closest to the site are Orleans Park School (a mixed-gender school with academy status) and St Richard Reynolds Catholic College (a mixed-gender school). Indigo Planning has considered the Education and Skills Funding Agency's School Capacity: Academic Year 2015-2016 (published 3 April 2017) to ascertain the demand for school places across local secondary schools in the area. Orleans Park School has 1,210 students enrolled and is operating in excess of capacity (1,000). However, St Richard Reynolds Catholic High School has capacity (750) with 439 students enrolled.
- 6.73. Deer Park School opened in September 2015 on a temporary site at Richmond Adult Community College and is a free school sponsored by Bellevue Place Education Trust. From the 2019/20 academic year, the two-form entry school will open alongside the new Lidl foodstore at 391 Richmond Road, which is less than one mile from the application site. By the 2045/25 academic year, the school will have a capacity of 420 pupils.
- 6.74. The number of pupils at secondary school age that will be generated by the proposed development is likely to be a small proportion of the total child yield ie 1 out of the 7. Indigo Planning's judgement is that secondary schools in and outside of the borough have enough capacity to accommodate the modest secondary school places required by the new residential population at the Arlington Works site.

#### Access to social infrastructure

- 6.75. The proposed development does not include the provision of new social infrastructure, although the scheme brings a disused brownfield site back into use and provides significant amenity space for future occupiers across the landscaped site.
- 6.76. The Arlington Road site is located on the edge of St Margaret's town centre which provides a wide range of social and community facilities. New residents at the Arlington Works site will have easy access on foot to a range of churches, pubs, restaurants, cafes and coffee shops. The larger town centres in nearby Twickenham and Richmond are both within each reach using public transport.

#### Local employment and healthy workplaces

- 6.77. This theme in the Health Urban Planning Checklist (Third Edition) considers both employment creation and the promotion of good health and well-being for future employees.

#### *Existing employment*

- 6.78. In the absence of empirical evidence on the existing employment at the various small businesses currently occupying space at Arlington Works, Indigo has estimated the existing employment using conventional employment densities.

6.79. **Table 3** below summarises the findings.

**Table 3 – Estimate of existing employment at Arlington Works**

Existing use	Floor space in sqm GIA	FTE jobs	Comments and assumptions
B1a office	218.5 sqm	14.5	Based on an employment density of 12 and net internal area at 80% of gross internal area.
B1c light industrial	111 sqm	2	Based on an employment density of 47 and net internal area at 80% of gross internal area.
B2 industrial & manufacturing	188.5 sqm	5	Based on an employment density of 36.
B8 storage	313 sqm	4	Based on an employment density of 77.
D2	18.5 sqm	1	We have assumed 1 FTE job.
<b>Total existing employment</b>		<b>26.5 FTE jobs</b>	

6.80. **Table 3** reflects evidence provided by the Employment Density Guide (Third Edition, 2015). Employment density refers to the average floor space in sqm per full-time equivalent (FTE) job. Employment density describes the intensity of use within a building and is an indicator of the amount of space typically occupied by one person in a commercial building.

6.81. Based on these assumptions, Indigo estimates that there are currently 26.5 FTE jobs located at the Arlington Works site.

*Employment creation*

6.82. The proposed development at the Arlington Works site is a mixed-use scheme which includes 7 B1(a) office units (total floorspace 610m<sup>2</sup>) which are employment generating uses. The new office and commercial units will provide local employment opportunities.

6.83. **Table 4** below outlines the employment generating floorspace within the proposed development, the assumptions used when estimating the employment creation and the estimated number of jobs that will be created.

**Table 4 – Gross, on site permanent jobs**

Use class	Use	Floor space (sqm NIA*)	FTE jobs	Comments and assumptions
<b>B1(a) Offices</b>	General Office	488	37 to 48	Employment density of 10-13
<b>Total jobs</b>			<b>37 to 48</b>	

\* Net internal area (NIA) has been calculated as 80% of the gross internal area (GIA), as recommended by the Employment Density Guide (Third Edition, 2015).

6.84. **Table 4** reflects the following assumptions:

- **Employment density** – evidence provided by the Employment Density Guide (Third Edition, 2015) has been used;
- **B1(a) floorspace** – the employment density range of one FTE member of staff per 10 to 13 sqm provided by the Employment Density Guide (Third Edition, 2015) for B1(a) Use

Classes has been adopted. It is not yet known exactly what type of B1(a) office use the units will be occupied in (i.e. corporate, professional services, public sector, Technology, Media and Telecom sector (TMT), or finance and insurance), therefore we have used lowest range (10 sqm per FTE for finance and insurance uses) to highest range (13 sqm per FTE for corporate uses).

- 6.85. Based on these assumptions, the proposed development would create 37 to 48 FTE permanent jobs. After allowing for the loss of the existing 26.5 FTE jobs at Arlington Works, the gross on site employment at the proposed development will be 10.5 to 21.5 FTE jobs.
- 6.86. The 10.5 to 21.5 FTE jobs that will be created by the proposed development represent a gross employment figure. In order to understand the real employment effects of the proposed development, adjustments have been made for several factors which, when considered together, allow an assessment of the net additional jobs that will be generated on this site.
- 6.87. The following adjustment factors have been allowed for:
- **Displacement effects** – will occur if some employees simply switch jobs from one location to another, for example by staff moving from an existing operation in Slough to the proposed development;
  - **Leakage effects** – will occur if some of the jobs created by the proposed development are taken up by people living outside the local area;
  - **Substitution effects** – occur when firms substitute one activity or input for a similar one to take advantage of public funding;
  - **An indirect multiplier effect** – is likely to create supply chain effects which will benefit local firms such as cleaning and maintenance contractors, training agencies and other suppliers of goods and services to the occupiers of the proposed development. This effect is also known as a **supply linkage multiplier**; and
  - **An induced multiplier effect** – is associated with increased expenditure in the local area by people deriving incomes from the direct and indirect effects of the scheme. The induced effects of the scheme will bring benefits to local shops and other service providers. This effect is also known as a **consumption multiplier**.
- 6.88. In estimating the size of these effects advice provided by the *Additionality Guide* (Fourth Edition, 2014) has been drawn on in this assessment. This guidance provides ready reckoner values which can be used to model the scale of these adjustment factors in the absence of empirical evidence on their value. **Table 5** below shows the ready reckoner values used.

**Table 5 – Adjustment factors used in estimating net additional employment**

Adjustment factor	Scale of adjustment	Adjustment value
Displacement effects	Low	25%
Leakage effects	Low	10%
Substitution effects	None	0%
Combined multiplier effects	Medium supply linkages	1.3

- 6.89. Based on these assumptions, the net additional jobs that will be created by the proposed development has been calculated using the following formula:

Gross on site jobs x (1 – displacement) x (1 – leakage) x combined multiplier effects = net

additional jobs

$10.5 \text{ to } 21.5 \times (1 - 0.25) \times (1 - 0.10) \times 1.3 = 32 \text{ to } 42$  net additional jobs

- 6.90. After allowing for displacement, leakage and multiplier effects, it is estimated that the proposed development will create 9 to 19 net additional jobs.

*Gross value added*

- 6.91. Indigo has used evidence published in GLA Working Paper number 87 on *Productivity Trends: GVA per workforce job estimates for London and the UK, 1997 to 2015* (GLA Economics, March 2017) to estimate the gross value added that will be created by the net additional employment at the proposed development.
- 6.92. Table 2.1 provides an estimate of £56,741 for GVA per workforce job in 2015 for professional, scientific and technical employment. This estimate is similar to the average GVA per workforce job in 2015 of £58,424 across all sectors in London.
- 6.93. Indigo estimates that the 9 to 19 net additional permanent jobs will create GVA added to the local economy of between £510,000 and £1.1 million per annum. This benefit will be enjoyed in perpetuity as long as the commercial space at the proposed development remains fully occupied.

Health and wellbeing of employees

- 6.94. The proposal promotes the health and wellbeing of future employees by achieving BREEAM health and wellbeing credits. The commercial units in B1(a) office use will achieve credits for visual comfort (ie high levels of natural daylight). The units will also benefit from natural ventilation and will be acoustically insulated from the railway and tested internally. A suitable security consultant will be used for safety and security matters.

Access to local food shops

- 6.95. The Arlington Works site is within easy walking distance of local food shops in St Margaret's. Residents of the proposed development will also have easy access by public transport to an extensive range of food shopping in surrounding local areas. A list of local services is provided below:
- Everydays;
  - Tesco Express;
  - Gaia Wholefoods;
  - Cambridge Convenience Store; and
  - Co-op Food Twickenham.

Public realm

- 6.96. The site is located at the end of a long driveway behind a large block of offices and studios which means it will have limited interaction and connection to the surrounding neighbouring communities. There is limited opportunity to create new links to the site, other than via the current driveway.
- 6.97. The change of use of the site from a former oil recycling plant and small commercial/industrial estate with offices to residential development, provides better access to existing buildings which are of high townscape merit located towards the rear of the site. Feedback from the public consultation highlighted a number of residents were not aware that there are currently Victorian workers cottages present on the site, as these are not currently accessible to the general public.
- 6.98. The single access into the site and the provision of car parking integrated with landscaping

forms a central courtyard space. From here, all communal entrances are accessed which encourages integration and provides opportunities for social interaction between residents. Seating alongside each of the entrance pathways within the main block gardens would provide further opportunities for social interaction within the site.

- 6.99. This proposed development is designed to the standards set out in Part M of the Building Regulations. Therefore, the development is accessible to those with disabilities or mobility problems. There is very little change in levels across the entirety of the site which allows for level access to each of the proposed buildings from Arlington Road and the accessible parking spaces provided.

### **Summary**

- 6.100. The redevelopment proposals for the Arlington Works site have carefully considered the potential positive health impacts of the development proposals for the future residents of the development, as well as the existing residents of the surrounding area.
- 6.101. The new residential accommodation at Arlington Works site has been designed to maximise the opportunities for residents to enjoy active and healthy lifestyles. The scheme will encourage physical activity and social interaction amongst residents due to its location close to existing local play spaces and opportunities for social interaction within the site.
- 6.102. The new floorspace proposed will generate a CIL contribution of approximately £370,000 which will provide funds for local infrastructure. This highlights the ability of the scheme to make a positive contribution to the local area. In addition, the proposals will generate a Mayoral CIL contribution of around £115,000 which will provide funds for Crossrail. These estimates of CIL are indicative and will be subject to further negotiation with the local planning authority.
- 6.103. This HIA demonstrates that the redevelopment proposals will make a significant positive contribution to promoting healthy housing, active travel, a healthy environment and vibrant neighbourhoods.

## 7. Socio-economic effects

### Introduction

7.1. This section of the HIA assesses the anticipated socio-economic effects of the redevelopment proposals for the Arlington Works site. It considers the following socio-economic effects:

- Net addition to the local population;
- Additional Council Tax receipts;
- New Homes bonus payments; and
- Increased consumer spending.

7.2. We have not included the creation of job opportunities or gross value added to the local economy in this section. These matters are covered in Section 6 of this report.

### Net additional population

7.3. In order to estimate the net addition to the local population Indigo Planning has made the following assumptions:

- Each of the 5 one bedroom properties will have one occupant;
- Each of the 12 two bedroom properties will have two occupants; and
- Each of the 7 three bedroom properties will have an average of 3.5 occupants.

7.4. Based on these assumptions the redevelopment proposals for the Arlington Works site will accommodate a total of 54 occupants.

### Additional Council tax receipts

7.5. The new residential accommodation at the Arlington Works site will have a beneficial impact on the annual Council Tax receipts for the London Borough of Richmond.

7.6. In order to estimate the scale of this effect, Indigo Planning has made the following assumptions:

- All new properties at the proposed development are rated as Council Tax Band D. Band D Properties in the London Borough of Richmond are subject to an annual Council Tax charge of £1,706.94 in 2018/19;
- The 5 one bedroom apartments could well be occupied by only one person. Indigo Planning has therefore assumed that these 5 properties will be occupied by people qualifying for the single adult discount of 25% on the standard Band D charge; and
- All the residential units are fully occupied.

7.7. The London Borough of Richmond is required to pay a Greater London Authority (GLA) precept of £294.23 per Band D property. The net Council Tax receivable by the London Borough of Richmond per Band D property is therefore £1,412.71. The net Council Tax receivable by the London Borough of Richmond per Band D property with a single adult



discount is therefore £1,059.54.

- 7.8. Based on these assumptions, Indigo Planning estimates that the 24 new households at the Arlington Works site will generate additional Council Tax receipts for the London Borough of Richmond of £25,429 per annum at 2018/19 prices.
- 7.9. This additional Council Tax revenue will be generated in stages as the residential accommodation at Arlington Works site is constructed and then occupied. The full effect of the increased Council Tax receipts will be felt on completion and occupation of the new residential accommodation by 2022.

### **New Homes Bonus payments**

- 7.10. The “New Homes Bonus” is a Government scheme which is designed to encourage local authorities to grant planning permissions for the construction of new houses in return for additional revenue. The scheme provides a lump sum payment for each new home built and is payable for a total of four years.
- 7.11. Indigo Planning has used the New Homes Bonus Calculator tool, provided by the Department for Communities and Local Government, to estimate the New Homes Bonus payment which will be generated by the redevelopment proposals for the Arlington Works site. Based on the overall total of 24 new homes, and assuming that all the new homes fall into Council Tax Band D, the scheme will generate New Homes Bonus payments to the London Borough of Richmond of £40,966 in year 1. The total New Homes Bonus payment to the London Borough of Richmond over a four year period will be £163,866.
- 7.12. The New Homes Bonus scheme also includes an additional premium of £350 per year for each new affordable home built. The proposed development at the Arlington Works site includes four affordable apartments for rent. The scheme will therefore qualify for an affordable housing premium of £1,400 per year, with total additional New Homes Bonus payments of £5,600 over four years.
- 7.13. Some care is required in considering these estimates. The precise timing of New Homes Bonus payments will depend on the construction programme for delivering the new residential accommodation at the Arlington Works site. There is also a lag between the construction of new homes and the commencement of New Homes Bonus payments to local authorities.
- 7.14. Indigo Planning has also assumed that all the new homes fall into Council Tax Band D. In reality, there could be a mix of properties falling into more than one Council Tax band.
- 7.15. These factors mean that the estimates of New Homes Bonus payments provided by this section are likely to differ slightly from the final sums that will be received by the London Borough of Richmond. Notwithstanding this, the figures provide a sensible indicative estimate of the New Homes Bonus payments that will be generated by the new residential accommodation at the Arlington Works site.

### **Increased consumer spending**

- 7.16. The new residential population at the Arlington Works site will generate additional demand by increasing household spending in the local area.
- 7.17. The report on Family Spending 2017 published by the Office for National Statistics in January 2018 provides data for the financial year ending 2015 to the financial year ending 2017 on household expenditure. The results reflect the Living Cost and Food Survey for 2017 which is based on a sample of 4,982 households across Great Britain.
- 7.18. Family Spending 2017 reveals that the average weekly household expenditure in London for the period from 2015 to 2017 was £643.70. The survey also shows that, on average, each

household in the London region spends £122 per week on net housing (excluding mortgage interest payments and Council Tax), fuel and power costs. Since this spending typically goes to major national institutions with only modest impacts on the local economy, Indigo Planning has deducted this spending from average weekly household expenditure.

- 7.19. This means that for the period from 2015 to 2017 (net) average weekly household expenditure in the London region was £521.70, which is equivalent to an annual figure of £27,128. Assuming that VAT of 20% had been paid on all of this spending, the average annual household expenditure (net of indirect taxation and housing, fuel and power costs) was £21,702 for the London region during the period from 2015 to 2017.
- 7.20. Based on this analysis and the net addition of 24 new households, Indigo Planning estimates that the gross additional household expenditure generated by the new residential population at the Arlington Works site will be around £520,850 per annum. This assumes that the scheme's 24 households demonstrate spending patterns typical of the London region as a whole.
- 7.21. This additional household expenditure of £520,850 per annum is a gross effect. Some of this spending will clearly leak out of the Richmond area. Indigo Planning has assumed that 25% of the additional household expenditure generated by the new residential population at the Arlington Works site will be spent outside the wider impact area defined for the HIA.
- 7.22. This means that the net additional household expenditure generated by the new residential population at the Arlington Works site will be around £390,636 per annum.
- 7.23. This net additional household expenditure will be generated in stages as the residential accommodation is constructed and then occupied. The full effect of the net additional household expenditure will be felt on completion and occupation of the new residential accommodation by 2022.

## 8. Monitoring plan

- 8.1. This HIA identifies over 30 potential health impacts for the Arlington Works scheme. The monitoring plan focuses on a smaller number of health impacts which are representative of the overall scope of the HIA.
- 8.2. The purpose of the monitoring plan is to ensure that Richmond Council is able to track the delivery of several of the key health impacts identified by the HIA.

### Monitoring plan

- 8.3. **Table 6** below provides the monitoring plan for this health impact assessment.

**Table 6 – Monitoring plan**

Health impact	Scale of impact	Monitoring activity	Monitoring evidence	Monitoring timeframe
<b>Temporary health impacts</b>				
Construction jobs	43.7 person years	Main contractor to record site attendance by staff each day	Main contractor to provide total person days of site employment	On completion of construction phase
<b>Permanent health impacts – healthy housing</b>				
Accessible housing	24 accessible new homes	Richmond Building Regulations team to monitor build process	Main contractor to provide as built drawings	On completion of construction phase
<b>Permanent health impacts – active travel</b>				
Promoting walking and cycling	Provision of cycle parking	Richmond Building Regulations team to monitor build process	Main contractor to provide as built drawings	On completion of construction phase
<b>Permanent health impacts – vibrant neighbourhoods</b>				
Public realm and amenity space	Connections for residents through the site, footpath links, communal areas and private balconies	Richmond Building Regulations team to monitor build process	Main contractor to provide as built drawings	On completion of construction phase
<b>Socio-economic effects</b>				
Council Tax revenue	Additional receipts of £25,429 per annum at 2018/19 prices	Richmond Council Tax team to confirm Council Tax banding	Richmond Council Tax team to estimate receipts from the 24 new homes	On occupation of the new residential accommodation

## 9. Conclusions

- 9.1. Indigo Planning has undertaken a detailed desktop health impact assessment (HIA) of redevelopment proposals for Arlington Works site in the London Borough of Richmond.
- 9.2. In evaluating the health impacts of the scheme, the HIA has addressed the questions raised by the London Healthy Urban Development Unit's *Healthy Urban Planning Checklist (Third Edition)* for each of four thematic areas, as follows:
- Healthy housing;
  - Active travel;
  - Healthy environment; and
  - Vibrant neighbourhoods.
- 9.3. The HIA identifies over 30 potential health impacts for the Arlington Works scheme. The monitoring plan focuses on a smaller number of health impacts which are representative of the overall scope of the HIA. The monitoring plan will ensure that Richmond Council is able to track the delivery of several of the key health impacts identified by the HIA.
- 9.4. The key findings from the health impact assessment are summarised below.

### Health conditions

- 9.5. Health conditions across Richmond borough as a whole are generally very good, exceeding the England average based on a wide range of commonly used health indicators. The life expectancy of people in Richmond is better than the England average.
- 9.6. Local variations in health conditions can be seen within the borough, with a near six year difference in life expectancy when comparing men living in the most deprived areas of the borough compared with men living in the least deprived local areas in Richmond, and a three year difference for women.
- 9.7. These variations are also apparent when investigating early death rates in men and women. Males and females living in the locally least deprived areas of the borough have significantly fewer early deaths than those living within the locally most deprived areas and the local average in Richmond.
- 9.8. The Arlington Works site is located within Richmond upon Thames 009B LSOA (i.e. Twickenham Riverside), which is ranked 27,041 out of 32,844 LSOAs in England; where 1 is the most deprived LSOA.
- 9.9. The neighbourhood in which the site is located is ranked 31,700 out of 32,844 LSOAs in England on the health and deprivation and disability domain of the EID 2015. This figure indicates that the local area is among the 10% least deprived neighbourhoods in England.

### Healthcare infrastructure

- 9.10. Indigo Planning has undertaken a desktop audit of the healthcare facilities within a 1 km radius of the Arlington Works site.
- 9.11. The audit reveals that there are five medical centres or GP surgeries, three dental practices and three pharmacies within 1 km of the development site. There is a very wide choice of high quality health care facilities near the site, many of which are within walking distance.
- 9.12. The audit of healthcare infrastructure has confirmed that the modest increase to the local

residential population (54 people) at the Arlington Works site can be accommodated by the existing supply of local healthcare facilities.

### Temporary health impacts

- 9.13. At this stage the arrangements for the construction phase of the project have still to be confirmed. However, it is anticipated that a range of measures will be agreed with the London Borough of Richmond as part of a planning condition designed to minimise the impact of construction traffic, dust, noise and vibration on residents of the surrounding streets.
- 9.14. Indigo Planning estimates that the redevelopment of the site will generate 43.7 person years of temporary construction employment. This is equivalent to 44 construction workers being employed on a full-time basis for twelve months and 4.4 permanent construction jobs.
- 9.15. Indigo Planning estimates that the 43.7 person years of temporary construction employment generated by the proposed development will create gross value added to the local economy of around £3.0 million.
- 9.16. There is scope during the construction phase of the development to provide opportunities for local young people to gain NVQ Level 2 and Level 3 training, as well as practical experience in a range of different construction and engineering trades.

### Permanent health impacts

- 9.17. The redevelopment proposals for the Arlington Works site have carefully considered the potential positive health impacts of the development proposals for the future residents of the development as well as the existing residents of the surrounding area.
- 9.18. The new residential accommodation at the Arlington Works site has been thoughtfully designed to maximise the opportunities for residents to enjoy active and healthy lifestyles and is located in close proximity to four play spaces.
- 9.19. This HIA has demonstrated that the redevelopment proposals will make an overwhelmingly positive contribution to promoting healthy housing, active travel, a healthy environment and vibrant neighbourhoods.

### Socio-economic effects

- 9.20. The redevelopment proposals for Arlington Works site will also bring a range of socio-economic benefits for the local community in St Margaret's, as well as for the borough more widely.
- 9.21. The main socio-economic effects will be as follows:
- **Gross value added to the local economy** – the 43.7 person years of temporary construction employment will create GVA to the local economy of around £3 million;
  - **Permanent construction jobs** – the construction of the scheme will support the equivalent of around 4.4 permanent construction jobs;
  - **Permanent employment** – the proposed development will create 9 to 19 net additional permanent jobs, contributing GVA to the local economy of between £510,000 and £1.1 million per annum. This benefit will be enjoyed in perpetuity as long as the commercial space at the proposed development remains fully occupied;
  - **Additional Council Tax receipts** – the 24 new households at the Arlington Works site will generate additional Council Tax receipts for the London Borough of Richmond of £25,429 per annum at 2018/19 prices;

- **New Homes bonus payments** – the New Homes Bonus payment to the London Borough of Richmond over a four year period will be £163,866. The proposed development at the Arlington Works site includes four affordable apartments for rent. The scheme will therefore qualify for an affordable housing premium of £1,400 per year, with total additional New Homes Bonus payments of £5,600 over four years; and
- **Increased consumer spending** – the net additional household expenditure generated by the new residential population at the Arlington Works site will be around £390,636 per annum.

# Appendix 1

## Key

### GP Surgeries and Medical Practices

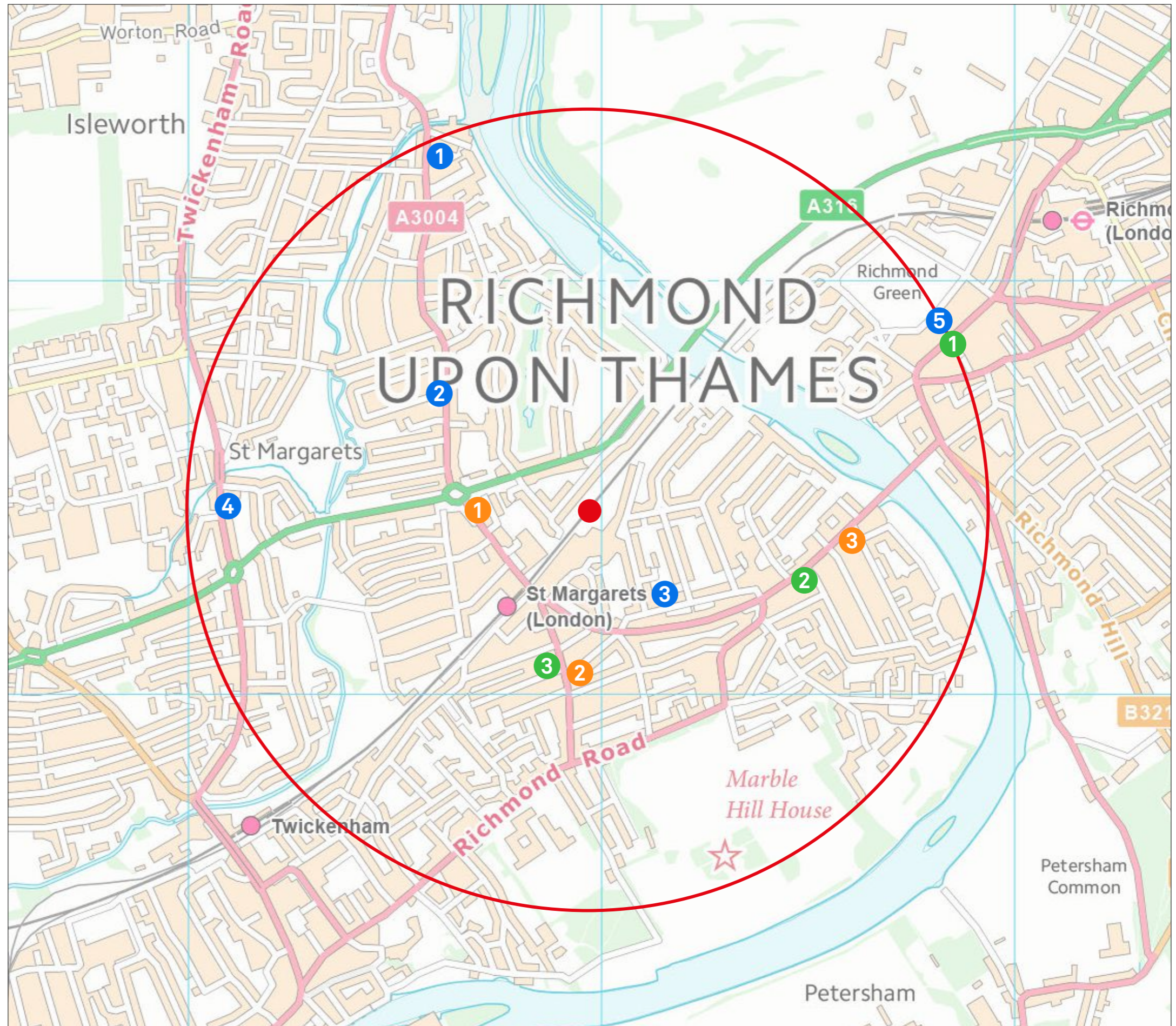
- 1 Richmond Lock Surgery, 300 St Margaret's Road
- 2 St. Margarets Practice, St Margaret's Road
- 3 Twickenham Park Surgery - Johal, 17 Rosslyn Road
- 4 Cole Park Surgery, 224 London Road
- 5 Richmond Green Medical Centre, 19 The Green

### Dentists

- 1 Amber Dental Surgery, 165 St Margaret's Road
- 2 Claremont Dental Practice, 57 Crown Road
- 3 The Bridge Dental Centre (part of Perfect Smile Group), 402 Richmond Road

### Pharmacies

- 1 Boots Pharmacy, 61-64 George Street
- 2 Charles Harry Pharmacy, 366 Richmond Road
- 3 St. Margaret's Pharmacy, 38 Crown Road



- Site location
- 1 km radius

<b>Project</b>	Arlington Works, Arlington Road - HIA
<b>Title</b>	Healthcare Facilities Plan
<b>Client</b>	Sharpe Refinery Service (Hydro-Carbons)

<b>LPA</b>	London Borough of Richmond upon Thames
<b>Date:</b>	10.07.18
<b>Scale:</b>	NTS
<b>Project No:</b>	25240003
<b>Drawing No:</b>	25240003/1
<b>Drawn By:</b>	CM

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**indigo.**



# Appendix 2

<p><b>Car Parking</b></p> <p>Site PTAL: 3</p> <p>Site Density: 79.2 units/ha</p> <p>Average Unit has 3 Habitable Rooms</p> <p>Table 6.2 of The London Plan (MALP) March 2016 - Urban setting requires up to 1 space per unit as per car parking standards matrix</p>	<p><b>Refuse and Recycling Storage</b></p> <p><b>Commercial</b> 2.6 cubic meters per 1,000m<sup>2</sup> = 1.7 cubic meters (1 x 1,100l eurobin)</p> <p><b>Residential</b> 70l per bedroom refuse + 2 x 1,100l recycling = 5630l (6 x 1,100l eurobin)</p>	<p><b>Cycle Storage</b></p> <p><b>Commercial</b> 7 per 90m<sup>2</sup> + 1 per 500m<sup>2</sup> (visitor) = 8 cycles</p> <p><b>Residential</b> 1 per 1 bed unit + 2 per 2 bed unit + 1 per 40 units (visitor) = 42 cycles</p>
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Area Schedule - Offices				
Level	Type	NSA (m <sup>2</sup> )	NSA (ft <sup>2</sup> )	
C1				
00 - Ground Floor	Office / Commercial	42 m <sup>2</sup>	454 ft <sup>2</sup>	
01 - First Floor	Office / Commercial	42 m <sup>2</sup>	454 ft <sup>2</sup>	
C2				
00 - Ground Floor	Office / Commercial	51 m <sup>2</sup>	553 ft <sup>2</sup>	
01 - First Floor	Office / Commercial	51 m <sup>2</sup>	553 ft <sup>2</sup>	
C3				
00 - Ground Floor	Office / Commercial	40 m <sup>2</sup>	429 ft <sup>2</sup>	
01 - First Floor	Office / Commercial	40 m <sup>2</sup>	429 ft <sup>2</sup>	
C4				
00 - Ground Floor	Office / Commercial	38 m <sup>2</sup>	410 ft <sup>2</sup>	
01 - First Floor	Office / Commercial	38 m <sup>2</sup>	409 ft <sup>2</sup>	
C5				
01 - First Floor	Office / Commercial	41 m <sup>2</sup>	442 ft <sup>2</sup>	
00 - Ground Floor	Office / Commercial	41 m <sup>2</sup>	443 ft <sup>2</sup>	
C6				
01 - First Floor	Office / Commercial	49 m <sup>2</sup>	528 ft <sup>2</sup>	
00 - Ground Floor	Office / Commercial	49 m <sup>2</sup>	528 ft <sup>2</sup>	
C7				
00 - Ground Floor	Office / Commercial	44 m <sup>2</sup>	469 ft <sup>2</sup>	
01 - First Floor	Office / Commercial	44 m <sup>2</sup>	469 ft <sup>2</sup>	
<b>Total</b>		<b>610 m<sup>2</sup></b>	<b>6569 ft<sup>2</sup></b>	



1 Bedroom
  3 Bedrooms  
 2 Bedrooms
  B1 (A) Office

Area Schedule - Residential						
Number	Type	No beds	No persons	NSA (m <sup>2</sup> )	NSA (ft <sup>2</sup> )	
Unit 1	Residential	2	3	74 m <sup>2</sup>	797 ft <sup>2</sup>	
Unit 2	Residential	2	3	62 m <sup>2</sup>	667 ft <sup>2</sup>	
Unit 3	Residential	2	3	62 m <sup>2</sup>	667 ft <sup>2</sup>	
Unit 4	Residential	1	2	51 m <sup>2</sup>	545 ft <sup>2</sup>	
Unit 5	Residential	3	4	76 m <sup>2</sup>	819 ft <sup>2</sup>	
Unit 6	Residential	3	4	76 m <sup>2</sup>	823 ft <sup>2</sup>	
Unit 7	Residential	1	2	51 m <sup>2</sup>	545 ft <sup>2</sup>	
Unit 8	Residential	2	4	76 m <sup>2</sup>	822 ft <sup>2</sup>	
Unit 9	Residential	2	4	76 m <sup>2</sup>	822 ft <sup>2</sup>	
Unit 10	Residential	1	2	51 m <sup>2</sup>	545 ft <sup>2</sup>	
Unit 11	Residential	3	4	76 m <sup>2</sup>	819 ft <sup>2</sup>	
Unit 12	Residential	3	4	76 m <sup>2</sup>	823 ft <sup>2</sup>	
Unit 13	Residential	1	2	51 m <sup>2</sup>	545 ft <sup>2</sup>	
Unit 14	Residential	2	4	76 m <sup>2</sup>	822 ft <sup>2</sup>	
Unit 15	Residential	2	4	76 m <sup>2</sup>	822 ft <sup>2</sup>	
Unit 16	Residential	1	2	51 m <sup>2</sup>	545 ft <sup>2</sup>	
Unit 17	Residential	3	4	76 m <sup>2</sup>	819 ft <sup>2</sup>	
Unit 18	Residential	2	3	72 m <sup>2</sup>	776 ft <sup>2</sup>	
Unit 19	Residential	2	3	71 m <sup>2</sup>	769 ft <sup>2</sup>	
Unit 20	Residential	2	4	78 m <sup>2</sup>	840 ft <sup>2</sup>	
Unit 21	Residential	2	3	62 m <sup>2</sup>	672 ft <sup>2</sup>	
Unit 22	Residential	2	3	62 m <sup>2</sup>	672 ft <sup>2</sup>	
Unit 23	Residential	3	4	101 m <sup>2</sup>	1088 ft <sup>2</sup>	
Unit 24	Residential	3	4	101 m <sup>2</sup>	1088 ft <sup>2</sup>	
<b>Total Units: 24</b>				<b>1686 m<sup>2</sup></b>	<b>18149 ft<sup>2</sup></b>	

Site Area Approx. 3030m<sup>2</sup>

**PRELIMINARY**

Rev	Description	Issued	Drawn	Checked
7	Updated Parking Layout	09/07/2018	PF	CH
6	Updated Preliminary Planning	04/07/2018	PF	CH
5	Issued to Consultants	27/06/2018	PF	CH
4	Public Consultation	11/05/2018	PF	CH
3	DWG Issue to Consultants	06/06/2018	PF	CH
2	Issued to Consultants	17/05/2018	PF	CH
1	Updated Design	14/05/2018	PF	CH

Client  
Sharpe Refinery Service Ltd.

Project  
Redevelopment of:  
**Arlington Works**  
**Twickenham TW1 2BB**

Drawing  
**PROPOSED**  
**Mixed Use Scheme**  
**Ground Floor Site Plan**

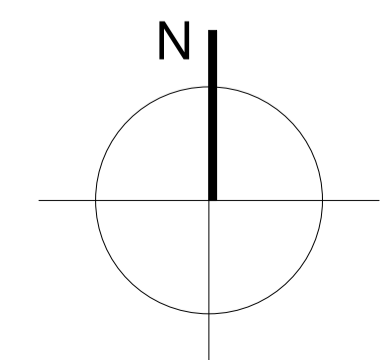
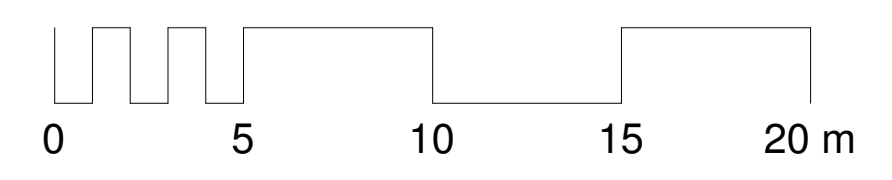
Scale	Date	Drawn	Checked
1 : 200@A1	14/05/18	PF	CH

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1 Proposed - Ground Floor Site Plan  
1 : 200



Rev. No.			
4786	3	10	P7

