



Teddington Direct River Abstraction

Preliminary Environmental Information Report
Appendix 16.4 – Approach to the Equality Impact
Assessment

Volume: 3

Date: June 2025

Table of Contents

Appendix 16.4 – Approach to the Equality Impact Assessment..... 1

A.1 Introduction..... 1

A.2 Relevant standards and guidance2

A.3 Scope of assessment3

A.4 Establishing the baseline.....8

A.5 Identifying and assessing equality effects22

A.6 Stages of assessment24

A.7 Relationship to other deliverables24

A.8 Potential impacts and equality effects27

A.9 Assumed mitigation31

A.10 Assumptions and risks37

A.11 References39

List of Appendix Tables

Table A.1 Protected characteristics under the Equality Act 2010	3
Table A.2 Population by age group	9
Table A.3 Population by disability	10
Table A.4 Population by gender identity	10
Table A.5 Population by marital status	11
Table A.6 Maternity statistics	12
Table A.7 Population by race and ethnicity	13
Table A.8 Population by religion or belief	15
Table A.9 Population by sex	16
Table A.10 Population by sexual orientation	16
Table A.11 Community resources	17
Table A.12 Sources of impact and potential equality effects	27
Table A.13 Assumed mitigations	32

List of Appendix Plates

Plate A.1 Draft Order limits and study area for the assessment	6
Plate A.2 Draft Order limits and local authority district boundaries	6
Plate A.3 Identifying equality effects	23

Appendix 16.4 – Approach to the Equality Impact Assessment

A.1 Introduction

- A.1.1 Thames Water (TW) is proposing to apply to the Secretary of State for a development consent order (DCO) to authorise the construction, operation, and maintenance of the Teddington Direct River Abstraction Project, hereafter referred to as ‘the Project’.
- A.1.2 The Project is a drought resilience scheme designed to provide additional water capacity to London under specific conditions. It would operate intermittently, supplying up to a maximum of 75 megalitres per day when required. Modelling scenarios indicate that the Project would typically function during low flow periods in the River Thames, averaging once every two years, primarily between August and November. The Project involves establishing a new abstraction site on the River Thames near Teddington Weir. The abstracted water would be transferred to Lockwood Pumping Station, part of Thames Water’s Lee Valley reservoirs in north-east London, and replaced by recycled water from a new tertiary treatment plant (TTP) within the existing Mogden sewage treatment works (STW) through a new outfall also near Teddington Weir.
- A.1.3 To deliver the Project, TW will apply for an order granting development consent under the Planning Act 2008 (as amended).
- A.1.4 An Equality Impact Assessment (EqIA) is an assessment tool which supports compliance with the Equality Act 2010 (hereafter referred to as ‘the Equality Act’). The Equality Act requires that disadvantages experienced by people due to their protected characteristics (see Table A.1) are considered, reduced as much as possible, and that steps are taken to meet the different needs of sensitive social groups that share protected characteristics (referred to hereafter as ‘equality groups’). It also requires that participation from these groups is actively encouraged, especially when their involvement is disproportionately low. The EqIA allows a common means of understanding the potential effects of a proposed development or project on equality groups through:
- a. Providing a written record of the equality considerations which have been taken into account;
 - b. Ensuring that decision-making includes a consideration of the actions that would help to avoid or mitigate any negative effects on particular equality groups; and
 - c. Supporting evidence-based and transparent decision-making.
- A.1.5 The Project is likely to result in both positive and negative effects on the people living in the communities around the infrastructure and abstraction site. Due to the diversity of local communities, some people may experience those effects in a way that is different to those experienced by the population at large. It is therefore important for the success of the Project to understand what those

effects may be, who may experience them, and the measures that can be put in place to maximise positive outcomes and minimise negative outcomes. As such, the EqIA process helps to support design development, good decision making, planning for different people's needs, and delivering services that are appropriate and inclusive for all.

- A.1.6 The completion of the EqIA will rely on information generated by an Environmental Impact Assessment (EIA). EIA is a process that is required as part of the consenting of certain projects depending on their size, activities, location and potential to give rise to significant effects on the environment. Information about an EIA and its findings is presented within an Environmental Statement (ES). The ES is fundamental to the decision-making process, allowing decision makers (for the Project this is the Secretary of State for Environment, Food and Rural Affairs) to exercise their responsibilities by weighing up environmental issues and ensuring that the necessary measures to prevent or lessen potential negative effects form part of any consent and the powers inherent in it.
- A.1.7 This document sets out the approach to the EqIA of the Project. This has been prepared alongside the Preliminary Environmental Information (PEI) Report. A full EqIA will be completed and submitted alongside the DCO application and using the information generated by the EIA.
- A.1.8 This document describes the methodologies that will be used to identify the potential for impacts and effects on equality groups as defined under the Equality Act. It also outlines the issues that will be addressed by the EqIA and the types of equality effects that may arise. It sets out:
- a. The criteria used in assessing them (the technical scope of the assessment);
 - b. The geographical coverage of these effects and the assessment (the spatial scope); and
 - c. The periods of time in which the effects are likely to arise during construction and operation (the temporal scope).

A.2 Relevant standards and guidance

Guidance

- A.2.1 Guidance on undertaking an EqIA is limited and there is no statutory guidance for the process. Available national guidance includes:
- a. Meeting the Equality Duty in Policy and Decision-Making (Equality and Human Rights Commission, 2014a) - which covers areas of EqIA good practice
 - b. Engagement and the Equality Duty: A Guide for Public Authorities (Equality and Human Rights Commission, 2014b) - which provides suggestions for effective engagement with equality groups

- c. Equality Act 2010 – Handbook for Advisors (Equality and Human Rights Commission, 2018) - which covers the general requirements of the Equality Act

A.2.2 Available national guidance will be used alongside professional judgement to inform the EqIA process.

A.3 Scope of assessment

Technical scope: equality groups

A.3.1 The Equality Act provides a single legislative framework to effectively tackle disadvantage and discrimination toward people with protected characteristics. The protected characteristics (Equality and Human Rights Commission, 2021) are set out in Table A.1.

Table A.1 Protected characteristics under the Equality Act 2010

Protected characteristic	Equality and Human Rights Commission definitions
Age	A person belonging to a particular age (for example 32 year olds) or range of ages (for example 18 to 30 year olds).
Disability	A person has a disability if they have a physical or mental impairment, which has a substantial and long-term adverse effect on that person's ability to carry out normal day-to-day activities.
Gender reassignment	Where a person undergoes, or proposes to undergo, a process for the purpose of reassigning their sex.
Marriage and civil partnership	Marriage is a union between a man and a woman or between a same-sex couple. Couples can also have their relationships legally recognised as 'civil partnerships'. Civil partners must not be treated less favourably than married couples (except where permitted by the Equality Act).
Pregnancy and maternity	Pregnancy is the condition of being pregnant or expecting a baby. Maternity refers to the period after the birth and is linked to maternity leave in the employment context. In the non-work context, protection against maternity discrimination is for 26 weeks after giving birth, and this includes treating a woman unfavourably because she is breastfeeding.
Race	A race is a group of people defined by their colour, nationality (including citizenship) ethnicity or national origins. A racial group can be made up of more than one distinct racial group, such as Black British.
Religion and belief	Religion refers to any religion, including a lack of religion. Belief refers to any religious or philosophical belief and includes a lack of belief. Generally, a belief should affect your life choices or the way you live for it to be included in the definition.

Protected characteristic	Equality and Human Rights Commission definitions
Sex	Sex refers to whether a person is a man or a woman. The associate equality groups of men or women are considered here.
Sexual orientation	Whether a person's sexual attraction is towards their own sex, the opposite sex or to both sexes.

A.3.2 Equality groups have been identified within certain protected characteristics, based on the desk-based evidence review to improve the assessment:

- a. Within 'age', all ages and age ranges are considered, but specific equality groups include children (aged under 16 years), younger people (aged 16 to 24 years), and older people (aged 65 and over).
- b. Within 'pregnancy and maternity', pregnant women are reported as an equality group where an effect only relates to pregnancy.
- c. Within 'race', all races and ethnicities are considered, but people from ethnic minority groups or backgrounds are identified as referring to people from all ethnic groups excluding White British.
- d. Within 'religion and belief', all religious, faith and belief groups are considered, but the term 'minority faith groups' is used to refer to religious groups who are not Christian (i.e. including Buddhist, Hindu, Jewish, Muslim, Sikh, and 'other'). People who profess no religion or belief are considered, but are not included within 'minority faith groups'.
- e. Within 'sexual orientation' and 'gender reassignment', all sexual orientations and gender statuses are considered, but the 'lesbian, gay, bisexual, transgender, queer (or questioning) +' (LGBTQ+) community is considered as an equality group.
- f. Within 'sex', the equality groups of men and women are used.

A.3.3 In line with best practice, additional equality groups have been identified for inclusion in the EqlA, which are not covered by the protected characteristics set out in the Equality Act. Understanding the unique perspectives of these groups can lead to more targeted interventions and promote equity and inclusivity. They include:

- a. People living in deprived neighbourhoods – defined as people living within the most deprived Lower Layer Super Output Areas, using national Indices of Deprivation.
- b. Carers – defined as anyone, including children and adults, who looks after a family member, partner or friend who needs help because of their illness, frailty, disability, a mental health problem or an addiction and cannot cope without their support. The care they give is unpaid (NHS England, 2023).
- c. Ex-offenders – defined as persons who have criminal convictions.
- d. Homeless people – defined as people living on the street or staying temporarily with friends/family, in hostels or bed and breakfasts.
- e. Veterans – defined as former armed forces personnel.

- f. Intersex people – defined as individuals born with any of several sex characteristics including chromosome patterns, gonads or genitals that do not fit typical binary notions of male or female bodies. This equality group is not protected under equality legislation, but is considered within the EqlA where relevant.

A.3.4 Intersectionality recognises the interconnected nature of social characteristics, such as race, gender and other identity markers and acknowledges that individuals may experience overlapping forms of discrimination or privilege based on the intersections of these characteristics. The EqlA will consider the intersectionality to identify and address the challenges faced by individuals with multiple protected characteristics identities.

Geographic scope: study area

A.3.5 Based on good practice and experience undertaking EqlAs, and based on the likely effects, a study area of 500m from the draft Order limits will be used to consider equality impacts. The study area will focus on those locations where the land use of receptors (Institute of Environmental Management & Assessment, 2022)¹ is likely to change temporarily or permanently, and areas affected by disturbance because of construction activities or the operation of the Project. In addition, some temporary and permanent components of the Project may result in changes in accessibility to community receptors. This may result in impacts that occur beyond 500m from the Order limits. These instances will be considered separately (informed by baseline analysis, stakeholder engagement and professional judgement).

¹ In the context of IEMA (Institute of Environmental Management & Assessment) guidance, receptors are points of interest within a study area that experience land use modifications, disturbances, and potential changes in accessibility due to the activities associated with a project or scheme.

Plate A.1 Draft Order limits and study area for the assessment

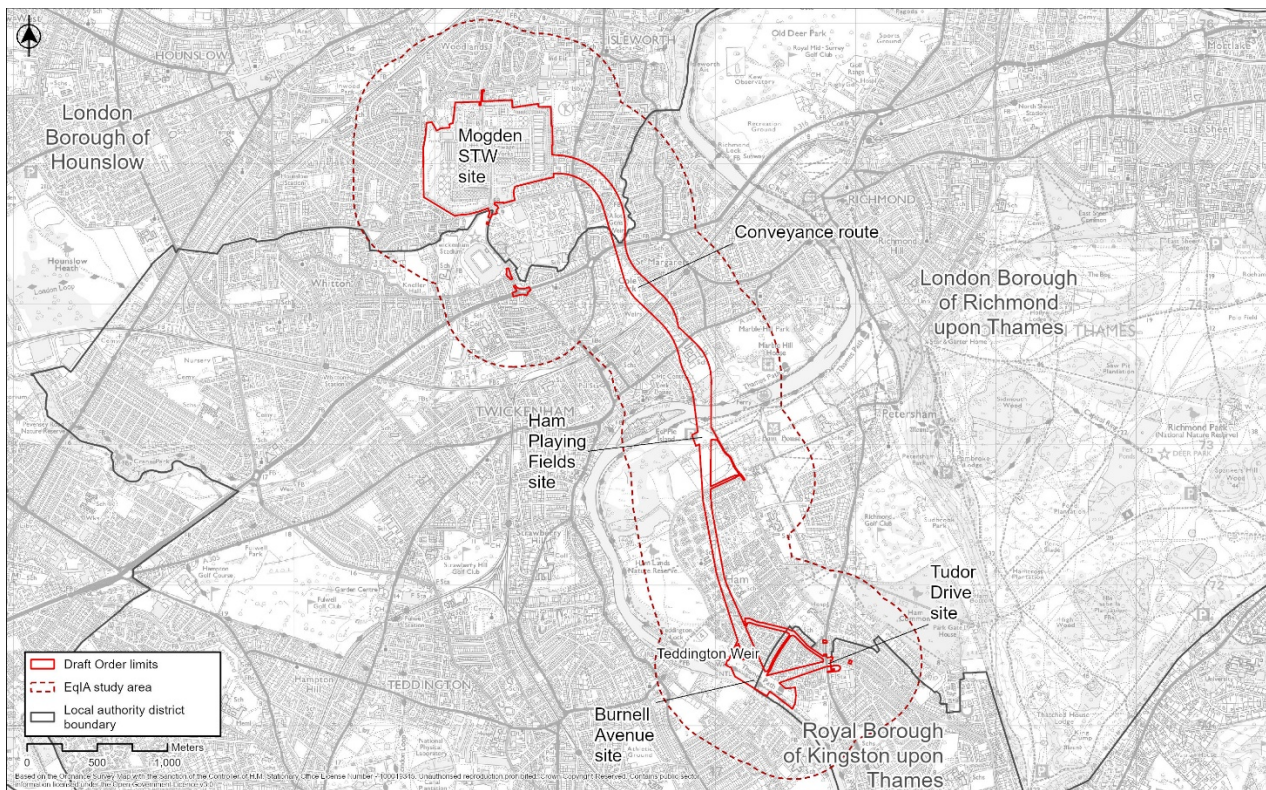
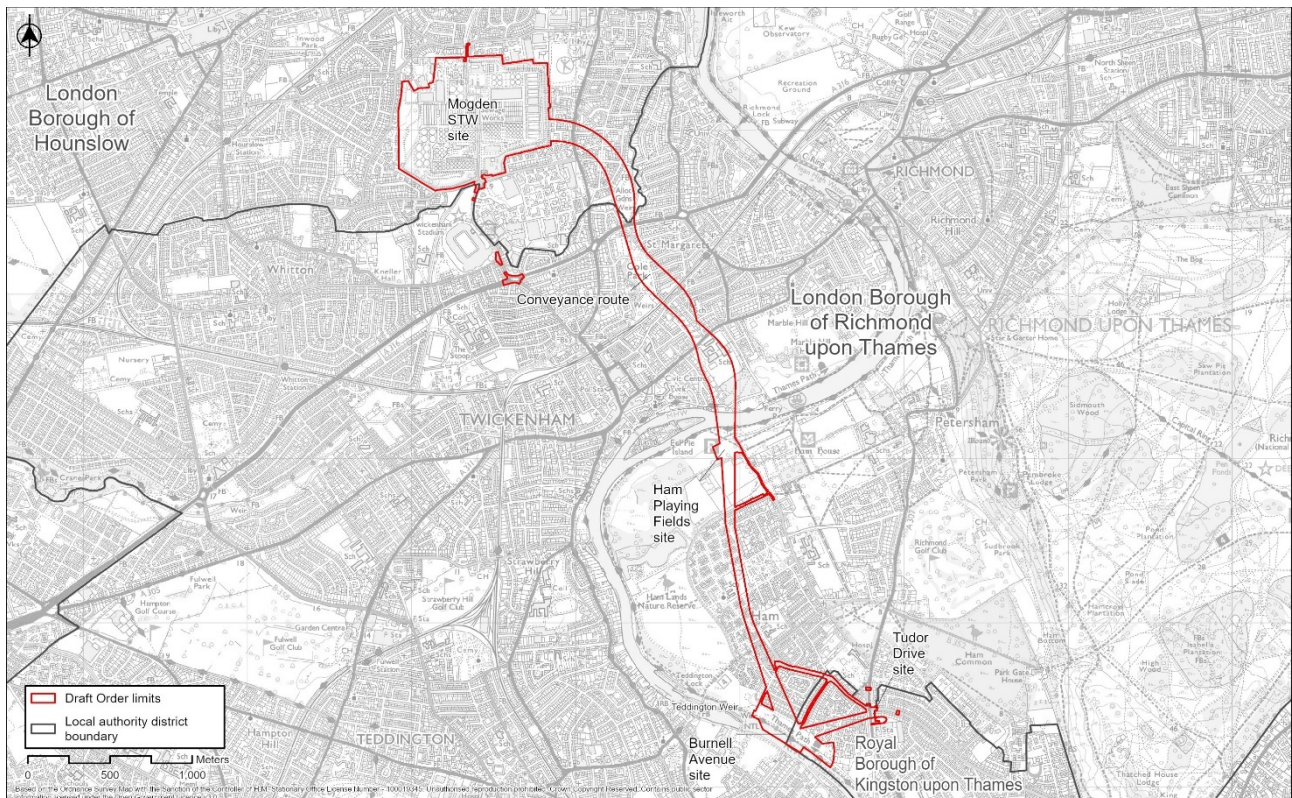


Plate A.2 Draft Order limits and local authority district boundaries



- A.3.6 The Project will include construction sites at the five above ground locations listed below for the construction of the TTP and abstraction infrastructure, and for the location of the tunnel shafts, intake and outfall (Plate A.2):
- Modgen STW site (Western Work Area) – Drive shaft
 - Modgen STW site (Eastern Work Area) – Interception shaft
 - Ham Playing Fields site (Main Work Area) – Intermediate shaft
 - Burnell Avenue site (Main Work Area) – Reception shaft
 - Tudor Drive site – Thames Lea Tunnel (TLT) connection shaft
- A.3.7 The draft Order limits (Plate A.2) also include roads to ensure that any temporary or remedial works in the highway associated with vehicle movements, are captured in the EqIA.
- A.3.8 A preliminary baseline has been developed, which considers the socio-demographics of the study area in comparison with the wider area and national figures. In addition, the baseline considers the location of nearby sensitive receptors. The baseline, alongside Project activities, duration, and potential effects identified in the PEIR and subsequently the ES, will inform the EqIA impact area. Aspects within the ES that will influence the EqIA impact area include: human health; socioeconomic, community, access and recreation; noise and vibration; air quality; townscape and visual amenity; and traffic and transport.

Temporal scope: construction and operational timescales

- A.3.9 The construction and operational phases for the Project guide the timing and therefore temporal scope of the assessment. Construction of the Project is expected to take approximately three years commencing in 2029 and completing in autumn 2032, meaning the effects of the Project across time periods will need to be considered. The Project would not be in operation immediately after construction. There would be a period of approximately 18 months of commissioning and performance testing with the Project coming into operation in 2033. The Project would operate intermittently, primarily between August and November approximately once every two years.
- A.3.10 The construction phase would include activities relating to the preparation for construction works. Effects associated with use of construction plant and construction traffic will be assessed at the point where the intensity of activity (and consequent effects) is likely to be greatest – this will be determined through the impact assessments for noise and vibration, changes to air quality (including odour) and changes to visual amenity. The assessment will consider the duration of these effects in addition to the effects associated with potential disturbance over the entire duration of construction activity.
- A.3.11 There are likely to be different effects at different stages of the Project. Key points for consideration in the assessment include the periods of construction with the most likely impacts experienced by equality groups, and during operational periods.

A.4 Establishing the baseline

Preliminary baseline

- A.4.1 An EqIA preliminary baseline has been developed to enable a holistic and integrated approach to assessing and managing the equality impacts of the Project.
- A.4.2 A review of the relevant EIA baselines has been undertaken as part of the EqIA to identify relevant equality receptors and resources, and to understand the composition and characteristics of communities within the study area.
- A.4.3 For each defined equality group, publicly available demographic data (and information on low-income groups/areas of deprivation) will be analysed and mapped. In cases where data sources present limitations, the assessment may utilise proxy data. For instance, when assessing pregnancy, indicators such as the number of women aged 16 to 45 (the typical childbearing age range) and fertility rates will be used. Similarly, the assessment may consider deprivation, income and employment data as proxies. The populations of equality groups for London and for England as a whole will be used as comparators. The output of this work will help to understand the diversity and needs of the affected communities and measure the potential impacts of the Project on different equality groups.
- A.4.4 The demographic data for the study area in which the Project is located, have been collated using publicly available data for the protected characteristics identified in Table A.1. The 'study area' encompasses the Hounslow, Richmond upon Thames and Kingston Upon Thames boroughs. The data for these three boroughs are compared with the regional (London) and national (England) demographic profile, to build a comparative picture of their demographic composition. In comparing these regions, where the percentages deviate by 3% or more, the difference is noted to be lower or higher, and when the deviation is 5% or more, the difference is considerable and is reported as such.

Age

- A.4.5 The table below shows the population by age group including children, the working age population, and older people within the Boroughs of Hounslow, Richmond upon Thames and Kingston upon Thames, and the London and England comparator areas.

Table A.2 Population by age group

Age group	Hounslow	Kingston Upon Thames	Richmond upon Thames	London	England
Children (0-15)	21%	20%	20%	19%	19%
Young people (16-24)	10%	11%	8%	11%	11%
Working aged people (16-64)	68%	66%	64%	69%	63%
Older people (65+)	12%	14%	16%	12%	18%

Source: ONS population estimates, 2021. Figures in columns do not add to 100% as some categories overlap (i.e. people aged 16-24 and 16-64).

A.4.6 Table A.2 shows:

- The proportion of children in Hounslow (21%), Kingston upon Thames (20%) and Richmond upon Thames (20%) is broadly in line with the proportion in London (19%) and England as a whole (19%).
- The proportion of young people in both Hounslow (10%) and Kingston upon Thames (11%) is broadly in line with the proportion in London (11%) and England as a whole (11%).
- The proportion of young people in Richmond upon Thames (8%) is lower than the proportion in London (11%) and England as a whole (11%).
- The proportion of working aged people in Hounslow (68%) is broadly in line with London (69%) but considerably higher than the national proportion (63%).
- The proportion of working aged people in Kingston upon Thames (66%) is lower than in London (69%) but higher than the national proportion (63%).
- The proportion of working aged people in Richmond upon Thames (64%) is considerably lower than the proportion in London (69%) but broadly in line with the national proportion (63%).
- The proportion of older people in Hounslow (12%) is broadly in line with London (12%) but considerably lower than the national proportion (18%).
- The proportion of older people in Kingston upon Thames (14%) is broadly in line with the proportion in London (12%) but lower than the national proportion (18%).
- The proportion of older people in Richmond upon Thames (16%) is considerably higher than the proportion in London (12%) but broadly in line with the national proportion (18%).

Disability

A.4.7 Table A.3 shows the numbers and percentages of people whose day-to-day activities are limited in some way.

Table A.3 Population by disability

Disability	Hounslow	Kingston upon Thames	Richmond upon Thames	London	England
Disabled under the Equality Act	12%	13%	12%	13%	17%
Disabled under the Equality Act: Day-to-day activities limited a lot	5%	5%	5%	6%	7%
Disabled under the Equality Act: Day-to-day activities limited a little	7%	8%	8%	8%	10%

Source: ONS population estimates, 2021.

A.4.8 Table A.3 shows:

- The proportion of disabled people in Hounslow (12%) and Richmond upon Thames (12%) is broadly in line with the regional proportion in London (13%) but is considerably lower than in England as a whole (17%).
- The proportion of disabled people in Kingston upon Thames (13%) is broadly in line with the proportion in London but lower than the national proportion (17%).
- The proportion of disabled people with day-to-day activities limited a lot in each local authority (5%) is broadly in line with London (6%) and national proportions (7%).

Gender reassignment

A.4.9 Table A.4 shows the percentages of people who identify as a trans woman, trans man, or who hold another gender identity.

Table A.4 Population by gender identity

Gender reassignment	Hounslow	Kingston upon Thames	Richmond upon Thames	London	England
Gender identity the same as sex registered at birth	91%	93%	94%	94%	91%
Gender identity different from sex registered at birth but no specific identity given	1%	0%	0%	0%	1%
Trans woman	0%	0%	0%	0%	0%
Trans man	0%	0%	0%	0%	0%

Gender reassignment	Hounslow	Kingston upon Thames	Richmond upon Thames	London	England
All other gender identities	0%	0%	0%	0%	0%
Not answered	8%	7%	6%	6%	8%

Source: ONS population estimates, 2021.

A.4.10 The table above shows:

- The proportion of the population with a different gender identify than sex registered at birth with no specific identify given in Hounslow (1%), Kingston upon Thames (0%) and Richmond upon Thames (0%) is broadly in line with London (0%) and England as a whole (0%).
- The proportion of the population who identify as trans woman, trans male or all other gender identities in Hounslow (0%), Kingston upon Thames (0%) and Richmond upon Thames (0%) is broadly in line with London (0%) and England as a whole (0%).

Marriage and civil partnership

A.4.11 Table A.5 sets out the legal partnership status of people aged 16 years and above.

Table A.5 Population by marital status

Marital status	Hounslow	Kingston upon Thames	Richmond upon Thames	London	England
Never married and never registered a civil partnership	38%	39%	36%	46%	38%
Married or in a registered civil partnership	48%	47%	50%	40%	45%
Separated, but still legally married or still legally in a civil partnership	2%	2%	2%	2%	2%
Divorced or civil partnership dissolved	7%	7%	8%	7%	9%
Widowed or surviving civil partnership partner	5%	5%	5%	4%	6%

Source: ONS population estimates, 2021.

A.4.12 Table A.5 shows:

- a. The proportion of the population married or in a registered civil partnership in Hounslow (48%) is considerably higher than the proportion in London (40%) and is higher than England as a whole (45%).
- b. The proportion of the population married or in a registered civil partnership in Kingston upon Thames (47%) is considerably higher than in London (40%) but is broadly in line with England as a whole (45%).
- c. The proportion of the population married or in a registered civil partnership in Richmond upon Thames (50%) is considerably higher than in London (40%) and England (45%).
- d. The proportion of the population that is separated, divorced or has had a civil partnership dissolved, and is widowed or a surviving civil partnership partner, is broadly in with regional and national proportions.

Pregnancy and maternity

A.4.13 Table A.6 sets out recent maternity statistics for the study area.

Table A.6 Maternity statistics

Maternity	Hounslow	Kingston upon Thames	Richmond upon Thames	London	England
Live births	3,577	1,607	1,674	104,252	563,561
General fertility rate (GFR)	55.1	42.5	45.8	48.8	49.9
Total fertility rate (TFR)	1.58	1.24	1.3	1.35	1.44

Source: ONS population estimates, 2021.

A.4.14 Table A.6 shows:

- a. The general fertility rate in Hounslow (55.1) is considerably higher than in London (48.8) and England (49.9) as a whole, suggesting higher rates of pregnancy and maternity.
- b. The general fertility rate in Kingston upon Thames (42.5) and Richmond upon Thames (45.8) is considerably lower than in London (48.8) and England (49.9) as a whole.

Race

A.4.15 Table A.7 provides a breakdown of the proportion of the population who belong to different ethnic minority background groups. This includes all ethnicities within the table that are not White British. Due to rounding percentages to whole numbers, the figures below may not add up to 100%.

Table A.7 Population by race and ethnicity

Ethnic group	Hounslow	Kingston Upon Thames	Richmond upon Thames	London	England
Asian, Asian British or Asian Welsh	37%	18%	9%	21%	10%
Asian, Asian British or Asian Welsh: Bangladeshi	1%	1%	1%	4%	1%
Asian, Asian British or Asian Welsh: Chinese	1%	3%	1%	2%	1%
Asian, Asian British or Asian Welsh: Indian	21%	5%	4%	8%	3%
Asian, Asian British or Asian Welsh: Pakistani	6%	3%	1%	3%	3%
Asian, Asian British or Asian Welsh: Other Asian	8%	8%	3%	5%	2%
Black, Black British, Black Welsh, Caribbean or African	7%	3%	2%	14%	4%
Black, Black British, Black Welsh, Caribbean or African: African	5%	2%	1%	8%	3%
Black, Black British, Black Welsh, Caribbean or African: Caribbean	1%	1%	1%	4%	1%
Black, Black British, Black Welsh, Caribbean or African: Other Black	1%	0%	0%	2%	1%
Mixed or multiple ethnic groups	5%	5%	6%	6%	3%
Mixed or Multiple ethnic groups: White and Asian	1%	2%	2%	1%	1%
Mixed or Multiple ethnic groups: White and Black African	1%	1%	1%	1%	0%
Mixed or Multiple ethnic groups: White and Black Caribbean	1%	1%	1%	2%	1%
Mixed or Multiple ethnic groups: Other Mixed or Multiple ethnic groups	2%	2%	2%	2%	1%

Ethnic group	Hounslow	Kingston Upon Thames	Richmond upon Thames	London	England
White	44%	68%	81%	54%	81%
White: English, Welsh, Scottish, Northern Irish or British	28%	54%	63%	37%	74%
White: Irish	1%	2%	3%	2%	1%
White: Gypsy or Irish Traveller	0%	0%	0%	0%	0%
White: Roma	0%	0%	0%	0%	0%
White: Other White	14%	13%	15%	15%	6%
Other ethnic group	7%	6%	3%	6%	2%
Other ethnic group: Arab	2%	2%	1%	2%	1%
Other ethnic group: Any other ethnic group	5%	4%	2%	5%	2%
Total ethnic minority groups	56%	32%	19%	46%	19%

Source: ONS population estimates, 2021.

A.4.16 Table A.7 shows:

- The proportion of people from ethnic minority backgrounds in Hounslow (56%) is considerably higher than the proportion in London (46%) and England as a whole (19%).
- 37% of the population in Hounslow are from an Asian ethnic background. This is considerably higher than the proportion in both London (21%) and England as a whole (10%).
- 21% of the population in Hounslow are Indian, which is considerably higher than the proportion of people from Indian ethnic backgrounds in London (8%) and England (3%).
- The proportion of people from ethnic minority backgrounds in Kingston upon Thames (32%) is considerably lower than the proportion in London (46%) but considerably higher than the proportion in England as a whole (19%).
- The proportion of people from ethnic minority backgrounds in Richmond upon Thames (19%) is considerably lower than the proportion in London (46%) but broadly in line with the proportion in England as a whole (19%).

Religion or belief

A.4.17 Table A.8 shows the proportion of the population by religious affiliation.

Table A.8 Population by religion or belief

Religion	Hounslow	Kingston Upon Thames	Richmond upon Thames	London	England
Christian	38%	43%	45%	41%	46%
Buddhist	1%	1%	1%	1%	1%
Hindu	10%	5%	2%	5%	2%
Jewish	0%	0%	1%	2%	1%
Muslim	17%	8%	4%	15%	7%
Sikh	9%	1%	1%	2%	1%
Other religion	1%	1%	1%	1%	1%
Total minority religion	38%	16%	10%	26%	13%
No religion	19%	35%	38%	27%	37%
Not answered	6%	7%	7%	7%	6%

Source: ONS population estimates, 2021.

A.4.18 Table A.8 shows:

- The proportion of the population in Hounslow that are part of a minority religion (38%) is considerably higher than the regional (26%) and national (13%) proportions.
- The proportion of the population that are Hindu in Hounslow (10%) is considerably higher than in London (5%) and national (2%) proportions.
- The proportion of the population who are Muslim in Hounslow (17%) is broadly in line with London (15%) but considerably higher than the national proportion (7%).
- The proportion of the population who are Sikh in Hounslow (9%) is considerably higher than the London (2%) and national (1%) proportions.
- The proportion of the population in Kingston upon Thames that are part of a minority religion (16%) is considerably lower than in London (26%) but higher than the national (13%) proportion.
- The proportion of the population in Richmond upon Thames that are part of a minority religion (10%) is considerably lower than the regional (26%) but broadly in line with national (13%) proportions.
- The proportion of the population who have no religion in Richmond upon Thames (38%) is considerably higher than in London (27%) but broadly in line with the national proportion (37%).

Sex

A.4.19 Table A.9 shows the female and male demographic profile of the study area alongside wider regional and national areas.

Table A.9 Population by sex

Sex	Hounslow	Kingston Upon Thames	Richmond upon Thames	London	England
Female	50%	52%	52%	52%	51%
Male	50%	48%	48%	49%	49%

Source: ONS population estimates, 2021.

A.4.20 Table A.9 shows:

- The female proportion of the population of Hounslow (50%), Kingston upon Thames (52%) and Richmond upon Thames (52%) is broadly in line with the proportion in London (52%) and England as a whole (51%).
- The male proportion of the population in Hounslow (50%), Kingston upon Thames (48%) and Richmond upon Thames (48%) is broadly in line with the proportion in London (49%) and England as a whole (49%).

Sexual orientation

A.4.21 Table A.10 shows the proportion of the population by sexual orientation.

Table A.10 Population by sexual orientation

Sexual orientation	Hounslow	Kingston upon Thames	Richmond upon Thames	London	England
Straight or heterosexual	87%	88%	89%	86%	89%
Gay or lesbian	1%	2%	2%	2%	2%
Bisexual	1%	2%	1%	2%	1%
All other sexual orientations	0%	0%	0%	1%	0%
Not answered	10%	9%	8%	10%	8%

Source: ONS population estimates, 2021.

A.4.22 Table A.10 shows:

- Hounslow's proportions of the population in each sexual orientation are broadly in line with the proportions in London and England across all sexual orientations.
- Kingston upon Thames's proportions of the population in each sexual orientation are broadly in line with the proportions in London and England across all sexual orientations.
- Richmond upon Thames's proportions of the population in each sexual orientation are broadly in line with the proportions in London and England across all sexual orientations.

Nearby community resources

A.4.23 There are multiple receptors within the 500m study area of the Project. These include residential properties, businesses and community facilities such as education, health and religious facilities, as well as green and open space, as outlined in Table A.11. The resources were identified through desk research and the distance in brackets is the shortest distance between the resource and the closest above ground site.

Table A.11 Community resources

Community resource type	Construction site	Resource
Educational facilities	Mogden STW site (Western Work Area) – Drive shaft	<ul style="list-style-type: none"> Twickenham Catholic School / Playing Fields Cardinal Vaughan Memorial School (296m)
Educational facilities	Mogden STW site (Eastern Work Area) – Interception shaft	<ul style="list-style-type: none"> Buttercups Day Nursery – Isleworth (282m) Mini Miracles Day Care (305m) Buttercups Children’s Nursery Group (340m) Sweet Cuddles Nursery (413m) Brook House Nursery (500m)
Educational facilities	Ham Street Playing Fields (Main Work Area) – Intermediate shaft	<ul style="list-style-type: none"> Grey Court School (380m) Strathmore School (425m) Orleans Park School (470m)
Educational facilities	Burnell Avenue site (Main Work Area) – Reception shaft and Tudor Drive site – TLT connection shaft	<ul style="list-style-type: none"> Malden Oaks School (66m) Meadlands Primary School (196m) St Mary’s University (500m)
Educational facilities	Remainder of draft Order limits	<ul style="list-style-type: none"> Chestnut Pre-School (within) St Mary’s Church Of England School (within) Riverside Nursery (within) Bright Horizons Oak Lane Day Nursery and Preschool (within) Orleans Primary School (203m) Rambert School of Ballet and Contemporary Dance (317m) Little Wren’s Nursery (370m) Maths Mentor (450m) Tree House Learning Forest School (500m)

Community resource type	Construction site	Resource
Health facilities	Mogden STW site (Western Work Area) – Drive shaft	<ul style="list-style-type: none"> N/A
Health facilities	Mogden STW site (Eastern Work Area) – Interception shaft	<ul style="list-style-type: none"> Medex Health (98m) Isleworth Ambulance Station (205m) Tesco Pharmacy (269m) London Air Ambulance Service TRU Base (443m) Isleworth Practice (497m)
Health facilities	Ham Street Playing Fields (Main Work Area) – Intermediate shaft	<ul style="list-style-type: none"> N/A
Health facilities	Burnell Avenue site (Main Work Area) – Reception shaft and Tudor Drive site – TLT connection shaft	<ul style="list-style-type: none"> Lock Road Surgery (250m)
Health facilities	Remainder of draft Order limits	<ul style="list-style-type: none"> The Maris Practice (within) The York Medical Practice (within) St Margarets Dental (340m)
Religious facilities	Mogden STW site (Western Work Area) – Drive shaft	<ul style="list-style-type: none"> St Mary the Virgin Isleworth (271m) Outoff Campus Church (280m)
Religious facilities	Mogden STW site (Eastern Work Area) – Interception shaft	<ul style="list-style-type: none"> Isleworth Congregational Church (422m) Kingdom Hall of Jehovah’s Witnesses (498m)
Religious facilities	Ham Street Playing Fields (Main Work Area) – Intermediate shaft	<ul style="list-style-type: none"> St Mary’s Church Twickenham (435m)
Religious facilities	Burnell Avenue site (Main Work Area) – Reception shaft and Tudor Drive site – TLT connection shaft	<ul style="list-style-type: none"> Ham Christian Centre (195m) St Thomas Aquinas Church (469m)
Religious facilities	Remainder of draft Order limits	<ul style="list-style-type: none"> Oak Lane Cemetery (within) St Richard’s Church (within) All Hallows Twickenham (386m)

Community resource type	Construction site	Resource
		<ul style="list-style-type: none"> St Margaret's Catholic Church (425m)
Green and open space	Mogden STW site (Western Work Area) – Drive shaft	<ul style="list-style-type: none"> N/A
Green and open space	Mogden STW site (Eastern Work Area) – Interception shaft	<ul style="list-style-type: none"> Redlees Park (74m) Little Kickers Football Club Isleworth (145m) Redlees Play Centre (341m) Gainsborough Gardens (360m) Gainsborough Gardens Allotments (428m) Epic Park (453m) Hounslow Open Space (470m)
Green and open space	Ham Street Playing Fields (Main Work Area) – Intermediate shaft	<ul style="list-style-type: none"> Ham Lands (within) Riverside Meadow (90m) King George's Fields (150m) Kitchen Garden (284m) Richmond Playground (294m) Sandy Lane Playground (308m) The Avenues (370m) Fountain Gardens (371m) Champions Wharf Play Beach (388m) Riverside Drive Playground (410m) York Gardens (432m) The Embankment Twickenham (450m) Diamond Jubilee Gardens (497m)
Green and open space	Burnell Avenue site (Main Work Area) – Reception shaft and Tudor Drive site – TLT connection shaft	<ul style="list-style-type: none"> Burnell Avenue Play Space (within) Ham Lands Local Nature Reserve (within) Beaufort Court (75m) Royal Park Gate Playground (205m)
Green and open space	Remainder of draft Order limits	<ul style="list-style-type: none"> Grimwood Road Recreational Ground (within) Hand Made Places (within) Ham Common Woods Local Nature Reserve (within) Moormead and Bandy Recreation Ground (within) One Element Richmond (within) York House Gardens (within)

Community resource type	Construction site	Resource
Community facilities	Mogden STW site (Western Work Area) – Drive shaft	<ul style="list-style-type: none"> • Isleworth Leisure Centre and Library (332m) • Isleworth Library (364m) • Childmind House (448m)
Community facilities	Mogden STW site (Eastern Work Area) – Interception shaft	<ul style="list-style-type: none"> • Glittering Stars Childminder (285m) • Isleworth Explorers Club (287m, temporarily closed) • London Borough of Hounslow Swimming Club (329m) • The Bridge Link Centre (390m) • Beck House – Retirement Living – McCarthy Stone (431m) • Langdale Centre (445m) • Little Crumpets - Before & After School Care (473m)
Community facilities	Ham Street Playing Fields (Main Work Area) – Intermediate shaft	<ul style="list-style-type: none"> • Ham Youth Centre (398m)
Community facilities	Burnell Avenue site (Main Work Area) – Reception shaft and Tudor Drive site – TLT connection shaft	<ul style="list-style-type: none"> • YMCA Hawker Kingston (380m)
Community facilities	Remainder of draft Order limits	<ul style="list-style-type: none"> • Heatham House Youth Centre (364m)
Sports facilities	Mogden STW site (Western Work Area) – Drive shaft	<ul style="list-style-type: none"> • Whitton Tennis Club (381m) • Allianz Stadium Twickenham (477m)
Sports facilities	Mogden STW site (Eastern Work Area) – Interception shaft	<ul style="list-style-type: none"> • Double Cage (181m) • Richmond Sports Field (263m) • Isleworth Bowling Club (274m) • Bounce Tennis – Isleworth Leisure Centre (305m) • Can You Challenge (389m)
Sports facilities	Ham Street Playing Fields (Main Work Area) – Intermediate shaft	<ul style="list-style-type: none"> • Richmond Baseball Club (281m) • Richmond and Kew Football Club (317m) • Ham Football Academy (337m) • Puddle Ducks at Strathmore, Richmond upon Thames (412m)

Community resource type	Construction site	Resource
		<ul style="list-style-type: none"> Oakland Park Playing Fields (470m)
Sports facilities	Burnell Avenue site (Main Work Area) – Reception shaft and Tudor Drive site – TLT connection shaft	<ul style="list-style-type: none"> Shell Sports Ground (287m)
Sports facilities	Remainder of draft Order limits	<ul style="list-style-type: none"> Twickenham Training Centre (350m)

Future baseline

- A.4.24 Some new developments may be built before or during the Project, therefore people working, living or visiting these new developments, with different protected characteristics, may be affected positively or negatively.
- A.4.25 The physical impacts of climate change may impact the assets and operations associated with the Project, and the setting of environmental and social receptors affected by the Project. Climate change is resulting in a variety of climate hazards, which may change weather-related risks to the project and associated environmental and social receptors. In general, climate change in the UK is leading to:
- Hotter, drier summers with increased frequency and duration of heatwaves and droughts
 - Warmer, wetter winters with reduced frequency of snow and ice. However, snow and ice events, and extreme cold snaps, remain a risk
 - Increased frequency of extreme events such as heavy rainfall (and resultant flooding), high winds, and storms, both in summer and winter
- A.4.26 By integrating climate change impacts into the EqIA, planning and decision making can ensure equitable outcomes and responsiveness to the diverse needs and experiences of all individuals and communities, particularly those who are most vulnerable. Refer to Section A.8.20 for further discussion on climate change and equalities.

Consultation

- A.4.27 From October to December 2023, a non-statutory public consultation was conducted to gather feedback on the site options for the Project from various stakeholders, including landowners, residents, businesses, local authorities, and other statutory bodies potentially affected by or interested in the Project. Concerns were raised about potential adverse impacts on local communities, open and green spaces (such as the Thames Path), and disruptions to recreational and leisure activities.

A.4.28 Further engagement occurred with representatives from the London Borough of Hounslow (LBH), the London Borough of Richmond upon Thames (LBR), and the Royal Borough of Kingston upon Thames (RBK) councils. A meeting was held with the three councils on 29 July 2024 to discuss the approach to the socioeconomics, community, access and recreation assessment. However, only representatives from LBR were able to attend. The Project team outlined the matters proposed to be included and excluded from the assessment. During the meeting, questions were asked to LBR about any gaps in the information presented and any social, economic, community, access, or recreational developments, priorities, or initiatives the Project team should be aware of. The attendees agreed with the information presented.

A.5 Identifying and assessing equality effects

Types of equality effects

Differential effects

- A.5.1 Differential effects arise where protected characteristic groups and/or equality groups are likely to be affected in a different way when compared to the general population. This may be because groups have specific needs or are more susceptible to the effects due to their protected characteristic. These effects are not dependent on the number of people affected. For example, removal of a level crossing may require a temporary diversion that increases walking distances that are challenging for some people with mobility impairments.
- A.5.2 Differential effects will be identified by exploring Project activities, potential impacts and their locations, reviewing relevant national and local policy documents, as well as published secondary and academic literature. Stakeholder engagement will also be reviewed to identify the views of community groups, national and local charities and relevant organisations that represent or serve people with protected characteristics and other equality groups.

Disproportionate effects

- A.5.3 Disproportionate effects occur where there is likely to be a comparatively greater effect on protected characteristic groups and/or equality groups than on other members of the general population. Disproportionate effects may occur if the affected community comprises a higher-than-average proportion of people with a particular protected characteristic, or because people from a particular equality group are the primary users of an affected resource. For example, where the makeup of an area or the users of a resource, such as a school or church, include greater numbers of a particular group.
- A.5.4 Disproportionate effects will be identified by exploring Project activities, potential impacts and their locations and reviewing the baseline to identify areas where representation of an equality group is high.

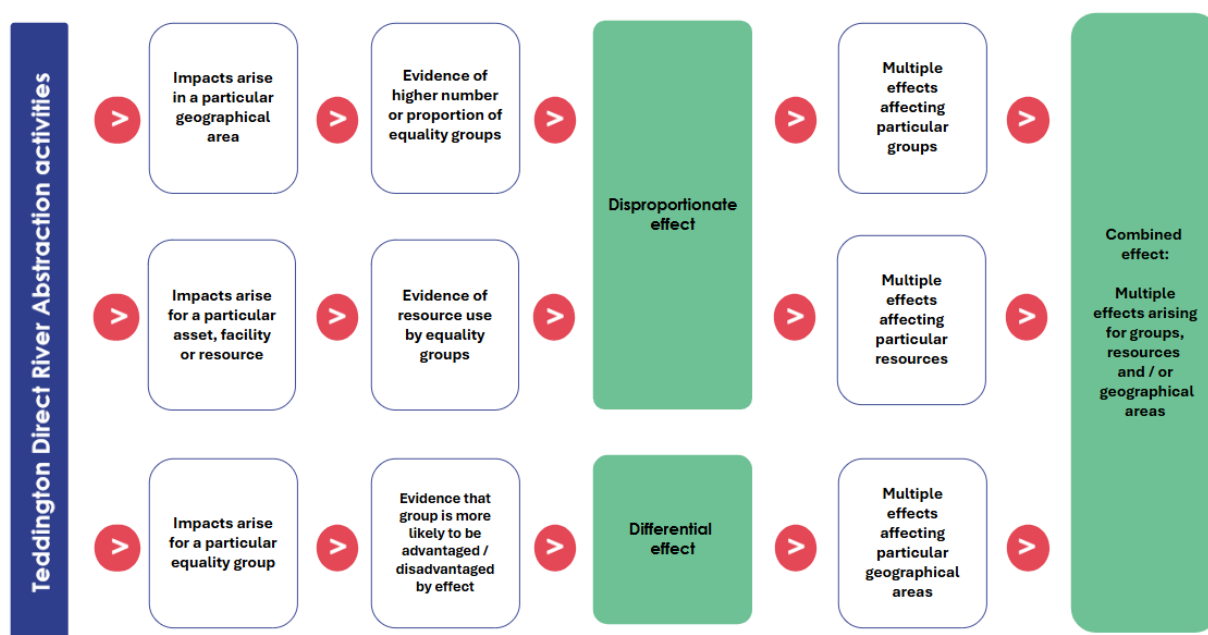
Combined effects

- A.5.5 Combined effects arise where a specific area is expected to experience effects on numerous equality groups or where an equality group would experience multiple effects irrespective of geography.
- A.5.6 Combined effects will be identified by exploring Project activities, potential impacts and their locations and reviewing the baseline to identify areas where representation of an equality group is high and is likely to experience multiple effects.

Identifying equality effects

- A.5.7 Where the Project's activities are identified as likely to result in impacts on sensitive receptors or resources, specific geographic areas, or sections of the population, equality effects may be identified. Equality effects arise where these impacts are likely to have disproportionate, differential, or in-combination effects on individuals or groups of people on the grounds of their protected characteristics.
- A.5.8 Plate A.3 shows the steps to identify each type of effect, which are described in the sections that follow.

Plate A.3 Identifying equality effects



- A.5.9 The assessment of equality effects will be predominantly qualitative, drawing on quantitative outputs from other studies being completed for the Project, including parts of the EIA where relevant and applicable. It will consider the residual effects after mitigation, such as measures that are embedded in design and implementation strategies that aim to reduce effects.

Assessing effects

- A.5.10 Once potential effects have been identified, they will be characterised and assessed. The following information for each effect will be gathered:
- Whether the effect is beneficial, adverse, or neutral
 - Whether the effect is a direct relationship (for example, land requirement) or an indirect relationship (for example, access to services) affecting lives of equality groups
 - The duration, frequency and permanence of the effect
 - The severity of the effect and the amount of change relative to the baseline
 - Any existing regulatory standards already in place to manage the effect
 - The size of the population experiencing the effect or the extent of usage of a particular facility or service
 - Local equality priorities, supported by evidence and the views of professional stakeholders
 - The capacity of the affected population to absorb the effects (their resilience), including access to alternatives
 - Views of local people, captured through consultation and engagement with community stakeholders
- A.5.11 The assessment will be reported for each equality group within the scope of the EqIA to identify potential positive and negative effects, reaching a conclusion on whether any disadvantage is expected and whether any disadvantage is 'because of' a protected characteristic. Where equality effects are identified within the EqIA study area, these will be reported and each equality group affected will be identified.
- A.5.12 Measures will be applied to minimise any negative effects, maximise any positive effects and identify the need for monitoring.

A.6 Stages of assessment

Full assessment

- A.6.1 Following this Approach to EqIA report, a full EqIA is proposed, which will build on its findings. This phase will examine the potential impacts of the Project on different equality groups, assessing whether it promotes equality or may unintentionally lead to discrimination. After the assessment, findings will be analysed, and recommendations will be formulated to mitigate any negative impacts and enhance positive outcomes.

A.7 Relationship to other deliverables

Relationship to the EIA/ES

- A.7.1 The EqIA will sit alongside the ES as part of the DCO application and will draw on relevant chapters of the ES to identify impacts and equality effects. The EqIA

will seek to assess whether significant effects identified in the relevant ES assessments would have disproportionate or differential impacts on equality groups. The relevant ES assessments would include but not be limited to:

- a. Community
- b. Human health
- c. Socio-economics
- d. Noise and vibration
- e. Air quality
- f. Landscape and visual
- g. Traffic and transport

A.7.2 The EqIA will draw on a common ‘social baseline’, which will be developed between the socio-economic, health and equality aspects. This will provide a comprehensive and consistent picture of the current social conditions and trends in the Project area. The social baseline will help to identify the main social issues and opportunities that the Project may affect, as well as the potential impacts on different groups of people, especially those with protected characteristics. The social baseline will also inform the development of mitigation measures and enhancement strategies to address the social impacts and promote positive outcomes for the affected communities.

A.7.3 The assessment will draw from the following chapters of the Environmental Statement:

- a. **The Project description** and associated mitigation strategies that are likely to reduce effects on equality groups.
- b. **Human health assessment**, which provides information on a wide range of determinants of health (including noise, air quality, employment, access to services, active lifestyles and social cohesion). The EqIA will be undertaken in parallel to analyse health effects on protected characteristic groups and/or equality groups and identify health inequalities affecting them.
- c. **Socioeconomics, community, access and recreation assessment**, which details the community facilities (including public open and green space and recreational walking and cycling routes) that would be affected by land requirements and by changes in local transport; and in addition, information on the anticipated effect on communities following the loss of some facilities and/or residential properties. It outlines the number of jobs that are likely to be generated, as well as apprenticeship opportunities during construction and operation, including where these would be based and the existing employment conditions in those areas.
- d. **Noise and vibration assessment**, which sets out the populations that are predicted to experience significant noise effects and the measures that are being proposed to manage noise effects.
- e. **Air quality assessment**, which identifies the locations that are likely to experience air quality effects during construction and operation, as well as the mitigation proposed to be put in place to manage these effects.

- f. **Townscape and visual amenity assessment**, which assesses the likely landscape, townscape and visual impacts and evaluates the resulting effects of the Project, as well as the measures that are being proposed to manage these effects.
- g. **Traffic and transport assessment**, which sets out the proposed changes to local road traffic routes, local public transport, walking and cycling routes (including public rights of way (PRoW), and any diversions, as well as the measures that are being proposed to manage these effects.

Relationship to design

- A.7.4 The Applicant will continue to work iteratively with EqIA specialists throughout the DCO application and development process to avoid, manage, mitigate or appropriately compensate for potential adverse equality effects, while introducing measures to enhance potential beneficial equality effects. Throughout the EqIA process, effects on equality groups will be identified, such as from land take and changes in access to services, built environment and community facilities. Wherever possible, the Applicant will incorporate design principles into the Project that promote access and inclusion. This iterative process will enable the Project to incorporate and embed recommendations into the design.

Relationship to stakeholder engagement and public consultation

- A.7.5 Engagement will take place with statutory authorities and other relevant stakeholders such as local residents, businesses and community groups in relation to the statutory consultation and the Project design.
- A.7.6 Engagement will take place with community groups, national and local charities and relevant organisations that represent or serve people with protected characteristics and equality groups, and it will incorporate and capture views on equality aspects. This will provide opportunities for stakeholders, including equality groups, seldom heard groups, and the wider community, to inform and influence the design and development of both the EqIA and the Project. It is confirmed that local authorities, other stakeholders and the wider public will be consulted on the Project and alternatives considered, during the statutory consultation for the Project.
- A.7.7 Stakeholder engagement to inform the EqIA will be used to:
- a. Identify the equality groups and the local organisations that represent protected characteristics groups
 - b. Record views of how the Project would potentially lead to positive or negative effects on equality groups and help form part of the evidence base for the assessment
 - c. Inform the type, location and nature of potential effects on equality groups
 - d. Capture suggestions to inform measures to minimise negative effects and maximise positive effects

A.8 Potential impacts and equality effects

Sources of impact

- A.8.1 The Project involves complex construction, including tunnel boring, shafts and conveyance routes, with completion of construction expected in 2031 and operation starting in 2033.
- A.8.2 Based on the description of the Project set out in the PEI Report (Chapter 2: Project Description), different equality groups might be affected by various activities related to its construction and operation. This includes people that could be living or working in the area, working on the Project, or passing through the area around the Project.
- A.8.3 These activities may give rise to a number of impacts during construction and operation, and subsequently result in potential effects on equality groups. A high-level overview of potential impacts, their potential equality effect, and a preliminary view on which equality groups may be affected, are set out in Table A.12 and the narrative that follows.

Table A.12 Sources of impact and potential equality effects

Source of equality impact	Potential equality effects
Land required temporarily or permanently for construction and operation of the Project	<ul style="list-style-type: none"> Changes in access to recreational areas, services and community facilities used by equality groups
Changes in access to residential areas, community infrastructure, and businesses	<ul style="list-style-type: none"> Changes in access arrangements, including potential severance of residents and users from recreational areas, community facilities and resources used by equality groups
Changes to the scale and distribution of traffic movements including construction vehicles, traffic diversion routes, use of roads, and parking	<ul style="list-style-type: none"> Changes in the navigability of pedestrian spaces for some users Changes in transport flows, parking provision, public transport services, Walking, Cycling and Horse Riding (WCH) provision, as well as River Thames navigation, may impact the ability of users to access commercial and community assets
Changes to the built and pedestrian environment, for example from diversions or road closures	<ul style="list-style-type: none"> Changes in people's perception of safety and personal security and behaviours
Changes in environmental conditions, including exposure to sound, noise and vibration, changes in air quality, and changes in the visual landscape arising from construction activities and operation of the Project	<ul style="list-style-type: none"> Changes in air quality including changes in exposure to pollutants (including oxides of nitrogen and particulate matter), potentially affecting the health and wellbeing of equality groups Changes in noise exposure affecting residential areas and users of sensitive community resources

Source of equality impact	Potential equality effects
	<ul style="list-style-type: none"> Changes in the visual environment potentially affecting some equality groups sensitive to these changes
Generation of employment opportunities as part of the construction workforce	<ul style="list-style-type: none"> Changes associated with direct, indirect and induced employment opportunities, and training and educational opportunities. These effects would arise during the construction phase and be either temporary or permanent

Potential construction and operation effects

A.8.4 The sources of impact and the potential equality effects they give rise to, may occur during construction or operation and may be temporary or permanent. Potential equality effects that may arise due to the Project are outlined below. It is proposed that the potential equality effects identified in this section are assessed as part of the EqlA. However, other potential equality effects may be identified at a later stage and included in the assessment.

Changes in land amenity

A.8.5 During construction, there may be potential temporary and permanent land-take from some areas of green space, including recreation grounds (e.g. land at Ham Playing Fields and green space near Burnell Avenue). There may also be potential temporary loss of access to recreational areas (e.g., parks and playgrounds) along the River Thames and blue space during construction and operation. During operation, water quality may be affected, which may influence swimming and other exercise associated with the River Thames. These potential changes may impact equality groups such as children and old people by influencing behaviours around physical activity. Potential impacts on river recreational users are considered further within Chapter 15: Socioeconomics, Community, Access and Recreation.

Changes in access to services and facilities

A.8.6 During construction, communities close to the Project are likely to be directly affected by changes in access arrangements to private property, community resources and businesses, arising from temporary construction works, including road closures and diversions. There may be impacts on the catchment areas of local community resources such as schools and healthcare facilities, and businesses, resulting in community severance. Many of these facilities and businesses are likely to have relatively localised catchments.

A.8.7 Temporary or permanent alterations to access routes, desire lines or the imposition of barriers to movement could result in adverse effects on people living in the affected areas, especially those with protected characteristics such as older people, disabled people, people from ethnic minority groups or minority religions.

- A.8.8 While the construction process may include the use of barges and river freight, it may also require a large number of construction vehicle movements. This has the potential to temporarily increase levels of traffic congestion during the construction phase, and any potential change in traffic flow can result in impacts on access, severance, journey time and length effects for pedestrians, cyclists, and other road users. This can affect users of community facilities, but can particularly affect children, older people and disabled people accessing community resources as pedestrians.

Changes in accessibility of the built environment

- A.8.9 The Project has the potential to affect the accessibility of the built environment, including provision for pedestrians and cyclists, during the construction and operation phases of the Project. There may be both temporary and permanent changes to the public realm and built environment, changes to PRow or cycle route diversions. The quality of pedestrian journeys may be affected as a result, potentially affecting user propensity to walk or cycle. Changes to the pedestrian environment may impact several equality groups including children, older people, disabled people, ethnic minority groups, women, and people living in deprived areas.
- A.8.10 During construction, the Project may affect local transport flows, public transport services and walkways. This is likely to hinder the experience of those people most likely to experience challenges in using the transport network due to mobility or sensory impairments, such as older people and disabled people. It is also likely to affect people who experience other difficulties using the built environment including people who are pregnant, people travelling with small children, or with children in pushchairs.

Changes in air quality

- A.8.11 During construction, the Project has the potential to result in temporary changes to odour, dust and local air quality around construction sites, due to activities including movements of construction vehicles and tunnel boring. Changes to air quality can affect children, older people, disabled people, women who are pregnant, and people who live in deprived areas, due to particular sensitivity for these groups to air pollution and particulate matter concentrations.

Changes in noise and vibration exposure

- A.8.12 The Project has the potential to temporarily change noise exposure during construction, arising from construction traffic and river freight movements, heavy machinery and associated construction activities. Prolonged noise due to construction activity outside of daytime hours is possible: tunnel construction usually requires the continuous operation of the tunnel boring machine and 24-hour working is assumed for this activity. During operation, the Project may result in permanent changes to the noise profile of areas, above existing levels at the abstraction and water treatment sites.

- A.8.13 Increases in noise levels can cause disturbance and disruption to users of community resources requiring quieter environments, such as schools and places of worship. Changes in exposure to noise have been linked to health outcomes for children, older people and disabled people as these groups are vulnerable to such changes.

Changes in the visual environment

- A.8.14 The Project would result in changes to the landscape and visual environment for people who live, work, or visit the areas along the route, as a result of construction activities and permanent new infrastructure being provided, including viaducts and new stations. Such changes may impact groups particularly sensitive to the changes in visual stimuli, including older people with conditions such as dementia, and disabled people including those who are neurodivergent.
- A.8.15 The reduction of visual amenity can also affect people's sense of identity, belonging and wellbeing. For people with visual impairments or cognitive disabilities who rely on visual cues or landmarks to navigate or orient themselves, such a reduction can affect their independence and safety.

Impacts on safety, security and the perception of safety and security

- A.8.16 During construction, the Project may temporarily alter feelings of safety and security. The fear of crime is the anxiety people feel about potentially being a victim of crime. It does not necessarily relate to the probability of being a victim of crime, but instead can be influenced by external factors such as the presence of construction sites and lack of lighting. This can affect children, working aged people, older people, disabled people, ethnic minority groups, women, young men and LGBTQ+ groups, as it can affect their access and participation to social life, due to potential risk of discrimination, harassment or hate crime.
- A.8.17 During construction, the Project may impact recreational areas (e.g., parks and playgrounds) along the River Thames and at the intermediate shaft and Burnell Avenue and parents may restrict their children's outdoor play activities due to safety concern over construction. This may impact children by changing physical activity levels.

Opportunities for employment and skills development

- A.8.18 The Project has the potential to bring temporary new employment, skills development and training opportunities during the construction phase, as a construction workforce will be required to deliver the infrastructure necessary for the Project. This may benefit those more likely to face barriers to employment, including young people, people from some ethnic minority groups, and disabled people, as well as men who are more likely to work in the construction sector.
- A.8.19 During operation, the Project may create a small number of additional operational jobs although this is expected to be minor, with the limited operational workforce expected to be made up of existing TW employees.

Climate change

- A.8.20 Changing climate conditions in the future may exacerbate (or occasionally ameliorate) the impacts of the Project on equality groups. For example, equality groups often reside in areas susceptible to climate-related risks (e.g., flooding, heatwaves, or storms). The Project's effects may intersect with existing vulnerabilities, exacerbating inequalities. During operation, the intended benefits will reduce the effect of drought conditions in the region.
- A.8.21 The influence of climate change in exacerbating or ameliorating the significance of effects will be included in the assessment.

A.9 Assumed mitigation

Mitigation commitments

- A.9.1 As the EqIA progresses and potential equality effects are identified, measures to mitigate adverse effects and opportunities to enhance benefits will be identified. These mitigation measures will be identified in discussion on relevant EIA aspects from which evidence of impacts has been drawn. These effects include those identified in Section A.5.
- A.9.2 The EqIA will provide inputs into the development of the Project design and into the evaluation process by which design options will be selected. This will help to ensure that equality issues have been appropriately considered. The EqIA will also be used to inform the design as it progresses through the planning process.
- A.9.3 Engagement with local communities will contribute to a better understanding of people's concerns and expectations. Through stakeholder engagement, feedback from communities and representatives of protected characteristic groups will be gathered and monitored with the aim of addressing community needs. Ongoing communication with stakeholders needs to be maintained, including regular updates on construction progress and potential impacts.
- A.9.4 The following commitments have been included in Appendix 4.2 Commitments Register. The relevant commitment number as used in Appendix 4.2 Commitments Register for ease of cross reference.
- A.9.5 Commitment 1: Construction works will be programmed, where practicable, to adhere to standard working hours of the host local authorities:
- a. Monday to Friday, all three LPAs: 08:00 to 18:00
 - b. Saturday and Sunday, London Borough of Hounslow: 09:00 to 13:00;
London Borough of Richmond upon Thames and Royal Borough of Kingston upon Thames: 08:00 to 13:00
- A.9.6 Commitment 3: HGV routes will be determined in consultation with key stakeholders including relevant local authorities. The contractor will implement these routes and monitor the compliance of HGVs.

- A.9.7 Commitment 16: The Project will develop a noise and vibration management plan to reduce construction noise and vibration effects at nearby receptors.
- A.9.8 Commitment 67: The Project will seek to avoid direct impacts on communities by selecting shaft, intake and outfall locations that are not in close proximity to human receptors to the degree practicable.
- A.9.9 Commitment 69: Consideration will be given to opportunities to create lasting legacy benefits in education, recreation, community and amenity during Project operation. The potential to enhance the health and wellbeing of the local community, aligned with local policies and strategies, and to promote equality of opportunity for equality groups will also be explored as the development of the Project continues.
- A.9.10 Throughout the Project's phases, the progress and effectiveness of the measures will be monitored and new measures will be implemented, as required.

Assumed mitigation measures

- A.9.11 Table A.13 sets out potential mitigations and how these might be implemented to address the equality impacts and effects set out in Section A.8. The implementation and monitoring mechanisms are suggestions, but will be explored further to confirm how this will be secured via the DCO where required.

Table A.13 Assumed mitigations

Potential impact	Potential effects	Potential mitigation /enhancement	Implementing / monitoring mechanism	Phase
Change in access to services and facilities	Severance Social inclusion Accessibility Inclusion	<ul style="list-style-type: none"> Design the Project to minimise disruption Designed to inclusive design standards and guidance Coordinate and schedule construction activities to minimise traffic disruption and avoid peak hours Provide clear and timely information Provide clear signage 	Surveys Stakeholder engagement strategy TMP Construction communication strategy CoCP	Pre-construction, construction and operation

Potential impact	Potential effects	Potential mitigation /enhancement	Implementing / monitoring mechanism	Phase
		<ul style="list-style-type: none"> • Diversions and wayfinding 		
Changes in accessibility of the built environment	<p>Access - PRoW or cycle route diversions, new underpasses, changes to level crossings and journey experience</p> <p>Accessibility and inclusion</p>	<ul style="list-style-type: none"> • Provide clear and timely information • Provide clear signage • Provide safe, convenient, accessible, and well-maintained diversions • Minimise the duration and extent of closures and diversions • Provide safe and convenient access for pedestrians, cyclists, and public transport users • Enhance the journey experience of pedestrians and cyclists 	<p>Surveys</p> <p>CoCP</p> <p>TMP</p> <p>Stakeholder engagement strategy</p> <p>Construction communication strategy</p>	Design, construction and operation
Changes in air quality	Health and quality of life	<ul style="list-style-type: none"> • Select appropriate equipment, methods, and locations that generate fewer emissions • Minimise the duration and frequency of emission-generating activities • Limit vehicle movement 	<p>Surveys</p> <p>Air quality monitoring</p> <p>CoCP</p> <p>Stakeholder engagement strategy</p> <p>Construction communication strategh</p>	Construction

Potential impact	Potential effects	Potential mitigation /enhancement	Implementing / monitoring mechanism	Phase
Changes in noise and vibration exposure	Health and quality of life Disruption to resources (such as schools, churches, hospitals) near noise sources	<ul style="list-style-type: none"> Select appropriate equipment, methods, and locations that minimise noise and vibration Minimise the duration and frequency of noisy or vibratory activities Provide acoustic barriers, enclosures, or damping devices to reduce noise and vibration transmission Implement noise and vibration management plans that include measures such as working hours, notification, complaints handling Implement noise proofing and insulation schemes 	<p>Surveys</p> <p>Noise monitoring at key locations</p> <p>CoCP</p> <p>Stakeholder engagement strategy</p> <p>Construction communication strategy</p>	Construction and operation
Changes to visual environment	Landscape character Viewer sensitivity	<ul style="list-style-type: none"> Minimise visual impacts Minimise the footprint of the Project Screen or camouflage the Project from sensitive receptors Early planting of trees and other barriers 	<p>Surveys</p> <p>CoCP</p> <p>Stakeholder engagement strategy</p> <p>Construction communication strategy</p>	Design, construction and operation

Potential impact	Potential effects	Potential mitigation /enhancement	Implementing / monitoring mechanism	Phase
Impacts on safety, security and the perception of safety and security	Discrimination Harassment Hate crime	<ul style="list-style-type: none"> • Design with safety and security in mind • Secure design, with clear sightlines and open spaces where possible • Integrate technology systems for a comprehensive approach to security • Use landscaping to enhance natural surveillance • Provide training and guidance to staff in both construction and operation • Provide support and assistance to individuals who are affected by safety issues • Establish and communicate procedures for reporting, investigating and resolving safety concerns or incidents 	Surveys CoCP Stakeholder engagement strategy Construction communication strategy	Construction and operation
Opportunities for employment	Economic activity and income Skills development and training	<ul style="list-style-type: none"> • Job opportunities during construction and operation for local workforce • Maximise economic benefits 	Surveys CoCP Stakeholder engagement strategy	Construction and operation

Potential impact	Potential effects	Potential mitigation /enhancement	Implementing / monitoring mechanism	Phase
		<ul style="list-style-type: none"> Support local businesses and suppliers to participate and benefit from the Project's opportunities Provide training and education programmes to enhance skills and qualifications of workers 	Construction Communication Strategy	
Accessibility and inclusion	Connectivity Access to opportunities Improved awareness, confidence, and satisfaction of those living and working in the area	<ul style="list-style-type: none"> Comply with the relevant design standards and regulations Design around construction sites with accessibility features such as ramps and signage 	Surveys Conduct regular assessments to identify and address any barriers to accessibility	Construction and operation

A.9.12 The influence of climate change is not expected to impede the effectiveness of mitigations. While climate change introduces complexities, it does not inherently hinder the effectiveness of the potential mitigations listed in Table A.13.

A.9.13 The approach to the design of the Project will include the application of best practice to help inclusivity and fairness. The design will consider how people's physical and mental abilities may limit their ability to cope with the impacts caused by the Project.

Code of construction practice

A.9.14 Construction work can be one of the main causes of impacts on equality groups. Appendix 4.3 Draft CoCP has been developed for the Project that sets out a range of measures and principles, which future contractors will be required to comply with in undertaking their work.

A.9.15 A final CoCP will be developed and submitted with the DCO application. This will be a fundamental part of the Project proposals and assumptions that will outline the measures needed during construction to avoid or reduce likely adverse effects on people and community assets. The measures will represent a best practice approach and are generic to most construction activity for a project of this nature.

A.9.16 The measures to be addressed within the CoCP that pertain to mitigation of construction impacts on equality groups may include the following generic categories:

- a. Community relations
- b. Timing of construction works and working hours
- c. Construction traffic routes
- d. On-site working practice and amelioration
- e. Hoarding, fencing, screening and lighting
- f. Pollution prevention measures
- g. Demolition
- h. Workplace travel plans
- i. Monitoring requirements

A.9.17 Best practicable means will be employed throughout construction, taking into account the risks, costs and best practice.

A.9.18 A commitments register has been developed alongside the PEIR and draft CoCP.

A.10 Assumptions and risks

Assumptions

A.10.1 The assessment will be based on a desk-based study, using publicly available information and stakeholder engagement where relevant.

A.10.2 The assessment of equality effects relies on the use of reasonable assumptions, professional judgement, and guidance to determine the nature of effects.

A.10.3 A list of key assumptions and source of information for the assessment will be outlined in further detail within the EqIA.

Risks

A.10.4 The assessment will rely, in part, on data provided by third parties (e.g., local authorities and the Office for National Statistics), which are the most up-to-date data available at the time of writing. These may be subject to change over time, which may influence the findings of the assessment.

Opportunities

A.10.5 The EqIA serves as a tool to influence the design by identifying opportunities to promote inclusivity and accessibility. Designers and decision-makers can pinpoint areas where adjustments and enhancements can be made to ensure that the Project meets the diverse needs of all users.

- A.10.6 Additionally, the EqlA can influence decision making by emphasising the importance of community engagement. Through community engagement, public consultations, and feedback mechanisms, the EqlA encourages designers to go beyond compliance standards and becomes a catalyst for inclusive design decisions.

A.11 References

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