Thames to Affinity Transfer Strategic Regional Option

Options Refinement Report

Notice

Position Statement

- This document has been produced as the part of the process set out by RAPID for the development of the Strategic Resource Options (SROs). This is a regulatory gated process allowing there to be control and appropriate scrutiny on the activities that are undertaken by the water companies to investigate and develop efficient solutions on behalf of customers to meet future drought resilience challenges.
- This report forms part of suite of documents that make up the 'Gate 2 submission.' That submission details all the work undertaken by Thames Water and Affinity Water in the ongoing development of the proposed SROs. The intention of this stage is to provide RAPID with an update on the concept design, feasibility, cost estimates and programme for the schemes, allowing decisions to be made on their progress and future funding requirements.
- Should a scheme be selected and confirmed in the companies' final Water Resources Management Plan, in most cases it would need to enter a separate process to gain permission to build and run the final solution. That could be through either the Town and Country Planning Act 1990 or the Planning Act 2008 development consent order process. Both options require the designs to be fully appraised and in most cases an environmental statement to be produced. Where required that statement sets out the likely environmental impacts and what mitigation is required.
- Community and stakeholder engagement is crucial to the development of the SROs. Some high-level activity has been undertaken to date. Much more detailed community engagement and formal consultation is required on all the schemes at the appropriate point. Before applying for permission Thames Water and Affinity Water will need to demonstrate that they have presented information about the proposals to the community, gathered feedback and considered the views of stakeholders. We will have regard to that feedback and, where possible, make changes to the designs as a result.
- The SROs are at a very early stage of development, despite some options having been considered for several years. The details set out in the Gate 2 documents are still at a formative stage and consideration should be given to that when reviewing the proposals. They are for the purposes of allocating further funding not seeking permission.

Disclaimer

This document has been written in line with the requirements of the RAPID Gate 2 Guidance and to comply with the regulatory process pursuant to Thames Water's and Affinity Water's statutory duties. The information presented relates to material or data which is still in the course of completion. Should the solution presented in this document be taken forward, Thames Water and Affinity Water will be subject to the statutory duties pursuant to the necessary consenting process, including environmental assessment and consultation as required. This document should be read with those duties in mind.

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Figures and Tables

1. Introduction

1.1 T2AT scheme overview

1.1. The Thames to Affinity Transfer (T2AT) scheme is a prospective project with the objective of abstracting available raw water from the Thames Water catchment in west, south, and east London; treating it to drinking water standards; and delivering to Affinity Water customers in the area to the north west, north and north east of London.

1.2. T2AT is one of the Strategic Resource Options (SROs) identified by Ofwat in its Price Review 2019 (PR19) final determination which are being investigated as potential solutions to meet the forecast water supply requirements across England over the next forty to eighty years.

1.3. Affinity Water and Thames Water are developing the T2AT scheme under the guidance of the Regulators' Alliance for Progressing Infrastructure Development (RAPID). RAPID was formed to help accelerate the development of new water infrastructure and design future regulatory frameworks, with collaboration between Ofwat, the Environment Agency (EA) and the Drinking Water Inspectorate (DWI).

1.4. RAPID has defined a gated process for developing the SROs to identify the optimum set of solutions through which each region will meet their future water supply challenge:

- Gate 1 – Initial feasibility, design and multi-solution decision making (completed in July 2021).
    - Gate 2 – Detailed feasibility, design and multi-solution decision making.
    - Gate 3 – Finalised feasibility, pre-planning investigations and planning applications.
    - Gate 4 – Planning applications, procurement strategy and land purchase.

1.5. In order to foster consistency in approach across all of the SROs, and drive efficiency through collaboration, the water companies involved have formed an All Company Working Group (ACWG). The ACWG has prepared guidance, in consultation with RAPID, for the teams working on individual SROs on each of the significant topics which need to be covered in the gated submissions.

1.6. Eight options for achieving the objectives of the T2AT scheme were presented at Gate 1. These options were also included within the water resources planning process carried out by Water Resources South East (WRSE); the regional water resource planning alliance that covers the South East of England and comprises the six water companies that operate in this region.

1.7. Further to an option appraisal process, two of the options have been identified as

preferential for development for the Gate 2 submission, namely the Lower Thames Reservoir (LTR) option and the Beckton Reuse Indirect (BRI) option. The preference for these two options reinforces the selection made in the initial water resources plan prepared by WRSE.

1.8. This options refinement report sets out the methodology used to identify, appraise and make recommendations for the enhancement of the working solution of the two preferential options in regard to pipeline corridors and indicative sites for water treatment works (WTW), intakes, and raw water pumping stations (RWSP). In support of the Gate 2 submission this report also provides a summary of the outputs from this staged refinement approach. Refer to Technical Supporting Document A1a Concept Design Report - LTR Option and A1b Concept Design Report - BRI Option for the details of the concept design for both options.

1.9. Readers are asked to bear the following points in mind:

- The working solutions are neither fixed, nor final solutions; there are alternatives to the selected corridors and sites which are available to be consulted upon at a later stage in the project life.
- Consultation with stakeholders will be key to finalising the sites and pipeline routes.
- The working solutions are not the detailed design; there are still numerous studies that will have to be undertaken prior to finalising design decisions if the T2AT scheme is to be implemented.
- The Option Refinement Report applies to the T2AT LTR and T2AT BRI options on their own; the transfer schemes will require upstream source schemes and downstream distribution network upgrades to be built to create a complete system.

1.2 Gate 1 LTR option

1.10. The LTR option proposes utilising water from Thames Water's Wraysbury reservoir. This is part of the Lower Thames Reservoir system, hence the name of this T2AT option. Raw water would be abstracted via a proposed connection into Affinity Water's existing Wraysbury tunnel at the existing Iver WTW site. The raw water would be pumped to a proposed WTW, which was referred to as the 'Iver 2 WTW' at Gate 1, now 'LTR WTW'. The drinking water would subsequently be pumped to a service reservoir (SR) in the vicinity of Harefield.

1.11. At Gate 1, an indicative pipeline corridor and site for the WTW were identified to allow for comparison of the eight options within the T2AT project and also for comparison between SROs. The process and results are detailed within Technical Supporting Document A4, Options Appraisal Methodology Report.

1.12. At Gate 1, a potential alternative identified for further investigation was to locate the new WTW in the vicinity of Harefield. This would potentially reduce capex and opex by removing the need for an intermediate drinking water storage tank and pumping

station.

1.3 Gate 1 BRI option (including post Gate 1 enhancement)

1.13. At Gate 1, the BRI option proposed abstracting raw water from the River Lee flood relief channel near Enfield and pumping it to a new WTW and SR in the vicinity of North Mymms. As the natural flow in the river is insufficient, the operation of the scheme will be dependent on recycled water being fed into the river from the Beckton Water Recycling option of the London Effluent Reuse SRO. Implementation of this option is therefore a pre-requisite for the BRI, hence the name of this T2AT option.

1.14. As per the LTR option, the indicative sites for the WTW and intake were selected following a scoping and screening exercise. The process and results are detailed within Technical Supporting Document A4, Options Appraisal Methodology Report.

1.15. The indicative intake location was sited downstream of the outfall from the proposed Beckton Water Recycling option of the London Effluent Reuse SRO, and a new WTW was sited adjacent to the existing WTW in the vicinity of North Mymms.

1.16. Since the Gate 1 submission, an enhancement to this BRI option has been identified which includes a new pipeline from the new WTW in the vicinity of North Mymms to an existing SR in the vicinity of Brookmans Park. Thus, improving the network connectivity and resilience of the transfer of water between the Lee water resource zone (WRZ) (WRZ3) and Pinn WRZ (WRZ4). The addition of this component facilitates onward transfer of treated water from the new SR at North Mymms to the existing Brookmans Park SR, thereby increasing the capability for moving water northwards.

1.4 Purpose of option refinement

1.17. This Options Refinement Report sets out the methodology used to identify, appraise and make recommendations for the enhancement of the Gate 1 working solution of the two preferential options. The refinement process only assesses the locations of pipeline corridors and sites and does not review other elements of the scheme such as transfer volume, refinements in the technical design etc. The Gate 2 concept design is detailed within Technical Support Documents A1a and A1b for LTR and BRI respectively.

1.18. The option refinement process builds upon and backchecks the work undertaken for Gate 1, in order to enhance the working solution for the two preferential options and ensure they are technically practical, achieve the objective of the scheme, are compatible with local planning policy, and minimise adverse environmental and community impacts. The results of which will underpin development of the concept design, environmental appraisals, drinking water quality assessments, and the

planning and consent strategy, all of which will be presented to RAPID at Gate 2.

1.19. This has been done systematically through a series of workshops and a 'RAG' (red, amber, green) grading process considering design, construction, and operation criteria; planning and land acquisition risks; and environmental and community impact. The Gate 2 assessment considers additional datasets, challenges Gate 1 assumptions, and considers whether any other potential pipeline corridors or sites (for intakes, RWPS, and WTW) are preferable.

1.20. The option refinement method is detailed in Chapter 2. The approach to selection of pipeline corridors and sites can be found in Chapter 3 and the criteria used for the RAG assessments in Chapter 4. Results of the process are provided in Chapters 5 - 8 for the LTR option and Chapters 9 – 12 for the BRI option. Risk management is discussed in Chapter 13 and the summary and conclusions for each option are provided in Chapter 14.

2. Option Refinement Method

2.1 Overview

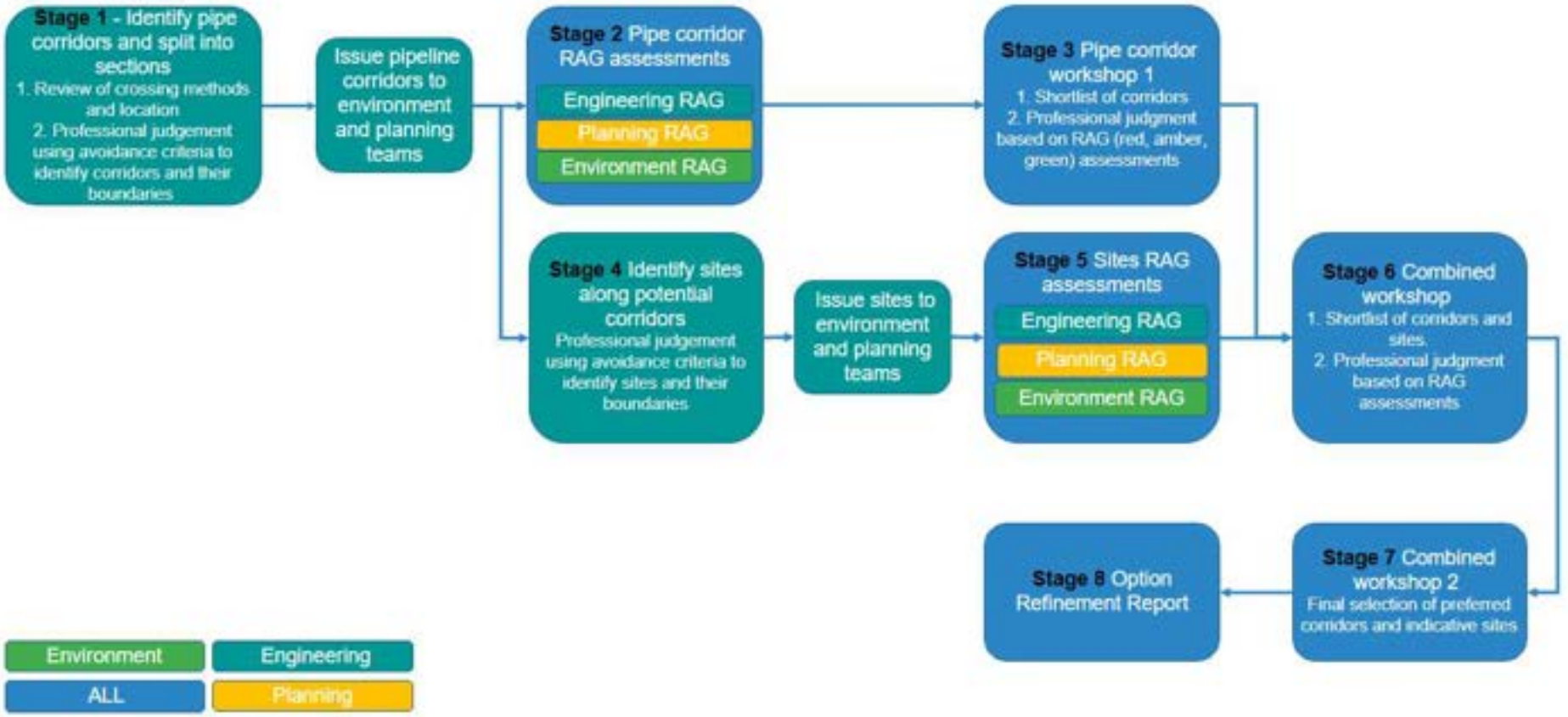
2.1. To ensure consistency with other Thames Water SRO development to Gate 2, the option refinement methodology draws on work carried out for the Thames to Southern Transfer SRO1, combined with original content by Mott MacDonald. This process was approved by Affinity Water.

2.2. A summary of the process is shown in Figure 2.1. Each stage of the process is explained in Section 2.2.

2.3. Assessments were undertaken by a multidisciplinary team from Mott MacDonald, Savills, and JN Bentley; the key areas of expertise were technical (engineering design), environmental and community, planning and land, and construction. Feedback and workshop input from these experts have been considered in the identification of the most favourable pipeline corridor and indicative site locations.

[1] Thames to Southern Transfer SRO Gate 2 Sites and Routes Appraisal Methodology – Adams Hendry – January 2022

Figure 2.1: Pipeline corridor and site assessment process



2.2 Staged method

2.4. Stages 1 and 2 followed a sequential method through which initial pipeline corridors were identified and screened.

2.5. Stage 1 of the option refinement methodology was to identify potential pipeline corridors, based on the indicative routes from Gate 1 and considering alternative corridors. Core criteria (Table 3.1) derived from technical engineering requirements and known environmental and planning constraints were used in Stage 1 to define initial corridors available to the project. The process looked to ensure that selected corridors avoided constraints and designations which would likely present significant challenges, as far as practicable.

2.6. The preliminary appraisal of corridors (Stage 2) focussed on scoring the corridors against technical, planning and land, and environmental and community criteria (see Sections 4.1, 4.2, and 4.3 respectively). Through this approach, this stage highlighted corridors that would be unlikely to be able to proceed. A RAG grading process was applied to each criterion and a commentary was provided, documenting the opportunities and constraints that were identified. Red ratings highlighted areas of high risk, amber ratings identified challenges that could be mitigated, and green indicated where there were no restrictions. No option was ruled out during the individual RAG assessments as the technical, environmental, and planning considerations needed to be weighed alongside each other. Stages 1 and 2 were an iterative process whereby the multidisciplinary team had a number of feedback loops between disciplines which led to identification and assessment of additional corridors.

2.7. Stage 3 was a multidisciplinary workshop for each option to review and discuss the technical, environmental and community, and planning and land screening outputs/constraints for the pipeline corridors. The outcomes of this work included categorisation of corridors into ‘preferred’, ‘discounted’, and ‘alternative’ and highlighted areas for discussion / further review in the Stage 6 workshop.

2.8. Stages 4 and 5 followed the same sequential method as Stages 1 and 2, but for potential intake, RWPS, and WTW sites. These stages were undertaken subsequent to Stage 1 to ensure that the WTW sites were adjacent / close to potential pipeline corridors, but were undertaken in parallel with Stages 2 and 3. For the LTR option, a specific abstraction location was agreed with Thames Water at Gate 1, as detailed within Section 3.3, paragraph 3.17. For the BRI option, a reach of river was identified at Gate 1; therefore sites for the intake and RWPS were assessed in this location. Stages 4 and 5 were an iterative process whereby the multidisciplinary team had a number of feedback loops between disciplines which led to identification and assessment of additional sites.

2.9. Stage 6 was a multidisciplinary workshop-based assessment for each option, combining the outcomes of Stage 3 with the outputs from Stage 5, designed to ensure that the outcomes were carefully reviewed to ensure all options were considered comparatively. The outcome of this workshop was a shortlist of corridors

and sites, to take into Stage 7.

2.10. Stage 7 was a final multidisciplinary workshop to draw the final conclusions for the optimum pipeline corridors and sites for both the LTR and BRI options. The workshop also incorporated a "backcheck challenge" discussion to consider if any of the new evidence would impact Gate 1 decisions. The outcome of this workshop was the Gate 2 working solution sites and corridors which form the basis of the option concept designs which are documented in Technical Supporting Document A1a Concept Design Report - LTR Option and A1b Concept Design Report - BRI Option.

2.11. Stage 8 is the culmination and documentation of Stages 1-7 and is the purpose of this document.

2.3 Data sources

2.12. The work was completed as a desk-based assessment of technical, environmental and community, and planning and land designations and constraints. Designations and constraints were mapped within a GIS system, including but not limited to:

Table 2.1: Data sources

Type	Examples	Typical Sources
Existing Utility Information		• Extracts from corporate GIS, National Grid
Background mapping	Existing infrastructure, geology, boundaries e.g. district, woodland.	• OpenStreetMap, Bing, Google, Ordnance Survey (OS) OpenData • Sustrans • British Geological Society • Open Power System Data platform
Elevation data		• LiDAR - Defra Data Services Platform • OS Maps
Property constraints	Crown estate, National Trust land, Registered Common Land, important building, Section 15 Land, listed buildings, public right of way (PRoW)	• Defra Data Services Platform • ArcGIS REST Services Directory • County councils • Ordnance Survey • Historic England
Environmental and social constraints	Special Areas of Conservation (SAC), Sites of Special Scientific	• Defra Data Services Platform • ArcGIS REST Services Directory

	Interest (SSSI), Special Protection Areas (SPA), Ramsar, ancient woodland, air quality management areas (AQMAs), green belt, flood zone, important bird area (RSPB)	• Department for Communities and Local Government Geoserver • Local Planning Authorities • Biological Records Centres • RSPB Open Data

2.13. Other constraints such as policy, designations and allocations derived from national policy (draft National Policy Statement for Water Resources, National Planning Policy Framework) and local policy (development plans in force or emerging across the study areas) were not reproduced in the GIS.

2.14. Utility information received from LinesearchbeforeUdig and GTC plant enquiries was not reproduced in the GIS, however major services were (e.g. high pressure (HP) pipelines). Utility information was used to inform construction feasibility of crossings and indicative site layouts.

3. Approach to Selection of Pipeline Corridor Segments and Sites

3.1 Pipeline corridor (Stage 1)

3.1. Stage 1 of the option refinement methodology was to identify potential pipeline corridors. Core criteria, listed in Table 3.1, were used to define initial route corridors available to the project. The objective of the process was to find the shortest, but least constrained, route from point A to point B. The process looked to ensure that selected corridors avoid constraints which would likely present significant challenges, as far as practicable. Occasionally, if an existing AFW pipeline / wayleave traverses through an area associated with a core constraint e.g. ancient woodland and that route was believed to be advantageous a pipe corridor segment was included for analysis. This process was done on the basis that capex and opex do not influence pipeline corridor selection.

Table 3.1: Stage 1 pipeline corridor identification core criteria

Item	Explanation
Existing infrastructure and crossings	Locating a feasible crossing point for major infrastructure e.g. HS2 has a significant influence on corridor selection as relatively few and in some instances only one crossing location was viable, within a reasonable search radius, without causing major disruption to the public. The pipeline corridor seeks to minimise the number of individual crossings of existing infrastructure (railways, motorways, trunk roads, high pressure mains, and watercourses) in order to avoid disruption and to minimise costs.
Buildings	The pipeline will not be routed beneath any existing permanent buildings. Where pipeline corridors are routed through settlements, they will seek to minimise likely impacts through route selection.
Scheduled monuments	The pipeline will not be routed beneath any scheduled monuments.
Ancient woodland	The pipeline will seek to avoid, where practical, being routed within any areas of mapped ancient woodland.
Registered Parks and Gardens	The pipeline will seek to avoid routing within Registered Parks and Gardens.
Nature conservation designations	The pipeline will seek to avoid routing within any international or national nature conservation designations (SAC, Special Protection Area (SPA), Ramsar, National Nature Reserve (NNR), SSSI, Local Nature Reserve (LNR)).

Item	Explanation
Mineral allocation areas	The pipeline will seek to avoid routing within mineral safeguarding areas.
Elevation	The pipeline route will seek to avoid elevations greater than end point to avoid the requirement for mid-point balancing tanks.

Source: Mott MacDonald

3.2. Due to the long pipeline lengths and the environment they are laid in, there is a requirement to cross existing infrastructure and watercourses. These crossings can be minor, like streams or secondary roads, or they can be of a more challenging nature, such as motorways, railways, or major rivers. Multiple methods can be used depending on the type of crossing considered; however, the overall philosophy regarding crossings in the pipeline route definition was to try to minimise them in order to avoid disruption and to minimise costs.

3.3. In order to minimise reworking of environment and planning RAG assessments for small changes in pipeline alignment, as a rule an assessment corridor of 500m width was considered, rather than the far narrower construction working strip of 50m width. This assessment corridor was key to allow flexibility in the pipeline route alignment later down the line e.g. rerouting to avoid a railway line cutting. The corridor definition considered the previously mentioned overarching core criteria defined in Table 3.1, which meant that in some urban environments e.g. within residential areas the corridor width was restricted to the width of the road and footpath in order to limit the impact on the public.

3.4. Pipeline compound and welfare sites were included in the RAG assessments. Assumed site dimensions were 100m x 50m. Where possible, sites were sited at 2km intervals along the pipeline corridor.

3.5. For the LTR option, the above process was undertaken based on the start and end locations presented at Gate 1.

3.6. At Gate 1, the proposal for BRI involved a distribution hub near North Mymms. However, post Gate 1 WRSE modelling resulted in the identification of an enhancement which includes a transfer between North Mymms and Brookmans Park, detailed in Section 1.3. As a result of the WRSE modelling enhancement, and in conjunction with discussions with Affinity Water staff, it was agreed that Brookmans Park would now be a more appropriate distribution hub. This results in drinking water being pumped to the existing SR near Brookmans Park and then gravitating to North Mymms. The above approach for selecting pipeline corridors segments was therefore undertaken on the modified BRI option.

3.7. To ensure a Gate 1 backcheck was possible, the Gate 1 route in its entirety was included in the RAG assessment even if segments breached the stage 1 core criteria.

3.8. The pipeline corridors selected and assessed are shown in Appendix A Map of T2AT LTR Assessed Pipeline Corridor Segments and Appendix F Map of T2AT BRI Assessed Pipeline Corridor Segments.

3.2 Water treatment works sites (Stage 4)

3.9. Stage 4 of the option refinement methodology involved the identification of potential sites for the WTW. Mott MacDonald produced a WTW siting philosophy in collaboration with Affinity Water for use within the T2AT SRO concept design. This enabled Affinity Water's operational requirements and potential future plans to be captured. The WTW philosophy detailed that:

- Water Treatment Works (WTWs) should be located as close to the raw water source so as to minimise the risks associated with long raw water pipelines. Whilst it is noted that there are risks with long drinking water pipelines, these are considered to be outweighed by the following factors:
  - The longer the raw water pipeline;
    - The greater the risk of unforeseen changes in raw water quality impacting the downstream treatment process.
    - The greater risk of mistaking it for a drinking water pipeline and tapping into it.
  - Raw pipelines require greater maintenance than drinking water pipelines, due to settlement and biofilm, potentially requiring bi-directional flushing/ swabbing.
  - The volume of drinking water transfer will be less than raw, due to WTWs process losses.
  - A longer drinking water pipeline is more likely to offer greater future flexibility and resilience.
  - A raw water pipeline failure or maintenance tasks may create pathways for Invasive Non-Native Species (INNS).

    The key disadvantages of a long drinking water pipeline include:
  - Degradation of drinking water quality, resulting in the potential requirement for downstream condition plant.
  - The disposal of chlorinated water in the event of maintenance
- It is acceptable for a site to be outside the Affinity Water existing operational area provided it is within 60 minutes travel time and preferably 30 minutes of an existing site.

3.10. In addition to the criteria within the WTW siting philosophy, there are common-practice technical criteria and significant environment and community constraints and planning designations which needed to be accounted for when selecting indicative sites. The core criteria for identifying suitable WTW sites are provided in Table 3.2.

Table 3.2: Stage 4 WTW site identification core criteria

Item	Explanation
Proximity to intake	WTW should be located as close to the raw water source as is possible to minimise the risks associated with long raw water pipelines and to provide a suitable route for overflows and discharges to the same source.
Proximity to Affinity Water existing operational area	It is acceptable for a site to be outside the Affinity Water existing operational area provided it is within 60 minutes travel time and preferably 30 minutes of an existing site.
Proximity to proposed pipeline corridors	WTW sites were sought along the proposed pipeline corridors in order to minimise the need for additional pipework.
Available space	There needs to be sufficient space to build the permanent WTW (~5ha), without demolishing houses and keeping within existing linear assets such as roads, railways, and watercourses. Consideration was given to whether space was available adjacent to the site, or nearby, for the temporary construction compounds (~5ha), as well as potential space for permanent storage of spoil (~5ha).
Flood zones	The WTW needs to be sited outside of the flood zones to prevent damage and interruptions to service and to enable access for maintenance during a flood event.
Green belt	Due to the location of the raw water sources and the existing service reservoirs being near London, the majority of the land in between is designated as green belt. Despite this project potentially being of national significance, it would need to be demonstrated that there was no alternative to building within the greenbelt. Given the limited scope to avoid the green belt, brownfield sites within the green belt were sought where possible.
Ancient woodland	The WTW site should avoid, where practical, any areas of mapped ancient woodland.
Registered Parks and Gardens	The WTW site should avoid Registered Parks and Gardens.
Nature conservation designations	The WTW site should avoid any international or national nature conservation designations (SAC, SPA, Ramsar, NNR, SSSI, LNR).

Source: Mott MacDonald

3.11. As at Gate 1, when considering locations for a new WTW it is important to minimise the impact to local communities and to limit damage to heritage assets or the

environment. The technical team were mindful of the general environmental and community criteria within Table 3.3, and, where possible, designations were avoided. However, most sites which met the criteria within Table 3.2 were identified. This was done with the view that the below constraints would constitute criteria within the environmental and community RAG assessment and the combined assessments would balance the environmental and community constraints against the technical and planning constraints.

Table 3.3: General environmental and community constraints

Categories	Constraints
Communities	• Visual impact • Noise • Disruption to residents • Loss of amenity value
Protected sites	• Priority habitats
Designated sites	• Ramsar sites • Country Parks • Listed buildings • Scheduled monument • Conservation areas
Landfill	• Current/Authorised landfill • Historical landfill

3.12. The preferred WTW sites at Gate 1 were included in the identification of WTW sites (Stage 4) as a means of backchecking the work done at Gate 1 and to see how they compared to the new sites with the more detailed assessment criteria (Stage 5).

3.13. At Gate 1, an alternative option was identified for relocating the LTR WTW to Harefield (see section 1.2, paragraph 1.12) due to potential cost savings. Although this went against the new criterion of minimising the length of the raw water pipelines, a site near Harefield was selected at Stage 4 and include within the Stage 5 RAG assessment to compare the two approaches against the full set of technical, environmental, and planning criteria.

3.14. 10 WTW sites were selected and assessed for LTR and 11 were selected and assessed for BRI. These are shown in Appendix B Map of T2AT LTR Assessed Sites and Appendix G Map of T2AT BRI Assessed Sites respectively. The referencing (for example LTR_WTW_CON_06_(P)) of the WTW within the drawings and assessments comprise:

- The T2AT SRO option acronym: LTR or BRI

- The type of asset: WTW
- Construction outline: CON
- Number
- An indication of whether it is a permanent (P) or temporary (T) site in the cases that the potential permanent works site is constrained and therefore the temporary construction compounds are not adjacent to the permanent works site

3.15. In some locations, there were much larger areas of land available than required for permanent and temporary footprints. These were combined into a single location for the purposes of streamlining the assessment process, with the understanding that the WTW could be situated anywhere within the identified boundary (similarly for the intake and RWPS sites).

3.3 Intake and raw water pumping station sites (Stage 4)

3.16. The other aspect of Stage 4 of the option refinement methodology was identifying suitable sites for the intakes and RWPS.

3.3.1 LTR connection point and RWPS

3.17. The proposed intake for the LTR option involves a connection into Affinity Water's Wraysbury tunnel. At Gate 1, the proposed solution was to connect into the tunnel within the existing Iver WTW site. This avoids the need to construct a new intake on the existing, operational reservoir and significantly reduces the length of pipework required. This choice avoids the need to purchase additional land and has the benefit of being operated and maintained from an existing site.

3.18. The majority of the tunnel is of wedge-block construction, which relies on the surrounding ground being stable and providing a consistent compressive pressure around the tunnel. This means that any shaft sinking adjacent to the tunnel and connection into it is inherently risky even when special engineering techniques are applied. However, there is an existing shaft on the tunnel within the existing Iver WTW site which offers a much safer, and lower risk, option for making the connection. Therefore, no other connection points along the tunnel were considered in developing the working solution for Gate 2. The Gate 2 proposal involves sinking a new shaft and connecting into the existing shaft. For more information, refer to Technical Supporting Document A1a - Concept Design Report - LTR Option.

3.19. During the development for Gate 2, discussions with Affinity Water revealed concerns around the Confinement Pressure Ratio of the tunnel, should the water pressure in the tunnel fluctuate significantly above the pressures which are currently experienced; however, the connection is designed to not adversely impact on the existing hydraulic conditions of the tunnel. Residual risk and mitigation is captured

within the Quantitative Costed Risk Assessment (QCRA) and Optimism Bias which are discussed in Technical Supporting Document A2a – LTR Cost Report.

3.3.2 BRI river intake and RWPS

3.20. The intake and associated RWPS for the BRI option needed to be downstream of the discharge from the Beckton Water Recycling option (of the London Effluent Reuse SRO) as it is reliant on this raw water source. In order to minimise pipe length from the source to the final drinking water distribution points, in the vicinity of Brookmans park and North Mymms, the distance from the intake to this final destination should aim to be as short as possible, avoiding large changes in elevation. This resulted in the search area for the intake site being narrowed down to an area in close proximity to the discharge point of the Beckton Water Recycling option (of the London Effluent Reuse SRO).

3.21. Following discussions with process experts within Mott MacDonald and Affinity Water, it was agreed that a specific distance between the Beckton Water Recycling option (of the London Effluent Reuse SRO) discharge and the River Lee intake was not required as the recycled water will have been treated in a membrane plant with re-mineralisation and should cause no deterioration of the water quality in the river.

3.22. It is assumed that any emergency/storm flows into or out of the Beckton Sewage Treatment Works are unlikely to pass through the advanced water recycling plant into the River Lee upstream of the BRI intake. However, were this the case, communications between the sites and monitoring at the River Lee intake and BRI WTW would identify the pollution incident and stop abstraction.

3.23. The philosophy and criteria for selecting suitable intakes and RWPS sites within the aforementioned area follow that of the WTW siting criteria in Table 3.2. The space required for the permanent intake and RWPS is ~1ha, with an allowance for a temporary construction compound of ~4ha. A river frontage of approximately 30m is also required for the intake. Whilst the intake is within the river and within the flood zones, the RWPS and water monitoring equipment at the intake need to be outside of the flood zones and above the flood level respectively to prevent damage to the assets and to enable access and maintenance during a flood event.

3.24. On the basis of the above criteria and siting philosophy, two sites (BRI_INT_CON_01 and BRI_INT_CON_02) were identified for further investigation and RAG assessment at Gate 2. The intake and RWPS sites selected are shown in Appendix G Map of T2AT BRI Assessed Sites. The referencing of the intake and RWPS sites within the drawings and assessments comprise the

- The T2AT SRO option acronym: BRI only
- The type of asset: INT (intake and RWPS selected in tandem)
- Construction outline: CON

- Number
- and an indication of whether it is the intake (I), pumping station (PS), or temporary (T) site. In the case of BRI_INT_CON_02_(T), this is inclusive of the temporary works and permanent RWPS, which could be positioned anywhere in this area.

4. Criteria Used for RAG Assessments of Pipeline Corridor Segments and Sites (Stages 2 and 5)

4.1 Criteria used for Technical RAG assessment of pipeline corridor segments and sites

4.1. Stages 2 and 5 of the option refinement method involved technical, environmental and community, and planning and land RAG assessments in order to objectively screen the different indicative pipeline corridors and site locations. The criteria and thresholds used for the technical assessment are provided in sections 4.1.1 and 4.1.2 for pipeline corridors and sites respectively. A black X has been used in the technical RAG assessment to indicate a corridor segment that is discounted due to at least one significant constraint, as the envisaged impact on the public of construction works required to overcome the constraint are felt to be unacceptable. This includes the influence of the constraint on segments "upstream" and "downstream". Criteria and thresholds for planning and land, and environment and community are provided in Sections 4.2 and 4.3 respectively.

4.1.1 Pipeline corridor criteria

4.2. Technical aspects of the corridor sections were assessed according to the criteria shown in Table 4.1. The criteria and assessment thresholds were chosen to represent relative cost and risk between the alternative segments.

Table 4.1: Technical pipeline RAG assessment criteria

	Criterion	Red	Amber	Green
Design				
DES1	Pinch points and corridor features (including crossings and construction requirements).	Features pose a high risk to design or construction either technically or in terms of health and safety. Construction would likely result in significant impact to the public. Tunnelling or pipe bridge required.	Will require compromise / mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.
DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A[2]	Terrain is unfavourable to design of asset.	Terrain is favourable to design of asset.

[2] In cases where the red assessment threshold is 'N/A', it is considered that there isn't a significant risk.

	Criterion	Red	Amber	Green
DES3	Where possible, corridor selection should consider the 4 'R's described by the Cabinet Office: • Resistance • Reliability • Redundancy • Response and Recovery	Option reduces system resilience.	Potential to negatively impact on system resilience; can be mitigated.	Does not negatively impact on system resilience.
DES4	Cost favourability	N/A[2]	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farmland.
Construction				
CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors, or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely.	Works can be constructed safely but abnormal control measures required.	Works can be constructed safely without abnormal control measures.
CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space.	Restricted site.	Adequate space.

	Criterion	Red	Amber	Green
CON3	Suitable access to route section for construction workers, deliveries, and waste removal.	Suitable access cannot be provided.	Restricted access, e.g. requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access.
CON4	Corridor should avoid flood zones 2 and 3 to minimise the risk of flood events.	N/A[2]	Section is at least partially within flood zone 2 or 3.	Section is within flood zone 1, or an area at low risk of surface water flooding.

4.1.2 Intake, RWPS, WTW technical assessment criteria

4.3. The intake, RWPS, and WTW sites have common criteria and thresholds for construction and operation, which are provided in Table 4.2. The design criteria and thresholds consistent for all three types of asset are provided in Table 4.3, with additional asset specific technical criteria and thresholds for WTW and intakes provided in Table 4.4 and Table 4.5 respectively.

4.4. The construction, operation, core design, and additional WTW design criteria, and thresholds for these assessments were based on existing Anglian to Affinity Transfer (A2AT) RAG assessments for service reservoir and conditioning plant siting, which were agreed with Affinity Water. Additional RAG criteria were added during workshops with Affinity Water staff whilst

- The need for future extension should be considered when positioning the WTW within its site.
- Where possible raw water should gravitate from the source to the WTW's. The siting of a WTW close to its source will likely provide a suitable route for overflows and discharges to the same source.

4.5. The additional intake-specific siting criteria were largely based on criteria, provided by a hydraulic engineering expert, and used at Gate 1, in combination with guidance from SEPA (Scottish Environmental Protection Agency), due to an absence of guidance from the EA on intake siting. They were also expanded following discussions with Affinity Water process engineers in relation to an acceptable distance between the recycled water discharge from the Beckton Water Recycling option (of the London Effluent Reuse SRO) and the intake for the BRI option.

Table 4.2: Construction and operation RAG assessment criteria for sites

Criterion		Red	Amber	Green
Construction				
CON1	The site must allow works to be constructed without endangering construction workers, operational staff, visitors, or members of the public. e.g. consideration of overhead powerlines, gradient of land.	Works cannot be constructed safely.	Works can be constructed safely but abnormal control measures required.	Works can be constructed safely without abnormal control measures.
CON2	Sufficient space can be made available for construction, materials storage, and site accommodation.	Insufficient space.	Restricted site.	Adequate space.
CON3	Suitable access for construction workers, deliveries, and construction waste removal.	Suitable access cannot be provided.	Restricted access; may require upgrades e.g. passing places.	Adequate access.
Operation				
OPS1	The site allows works to be operated without endangering construction workers, operational staff, visitors or members of the public.	Works cannot be operated safely or abnormal control measures required.	N/A[3]	Works can be operated safely without unusual control measures.

[3] For CON1, the use of abnormal control measures is classified as amber due to the temporary nature of construction. For operation, it is considered that abnormal control measures would have a high risk due to the continual nature of operation. Therefore this item has been classified as low risk (green) or high risk (red) and amber is 'N/A'.

	Criterion	Red	Amber	Green
OPS2	Suitable access for operation including deliveries e.g. chemicals, water tankering, and waste removal.	Suitable access cannot be provided.	Major works required to provide suitable permanent access.	Adequate access already exists at site perimeter.
OPS3	Operational travel time from existing sites to be minimised.	> 60 mins.	>30mins <= 60mins.	<=30mins.

Table 4.3: Design RAG assessment criteria for sites

	Criterion	Red	Amber	Green
Design				
	There must be sufficient space for permanent works and environmental mitigation measures.	Insufficient space.	Restricted site.	Adequate space.
	The plant should be outside flood zones 2 and 3 to allow maintenance and continuous operation during flood events[i].	Site is within flood zone 2 or 3.	Site is within flood zone 2 or 3 but can be designed to avoid damage.	Site is outside of the flood zone.
	Plant must be outside areas of contaminated land.	Within area of contaminated land.	Within 500m contaminated land. Likely that impact can be managed or mitigated.	Not within 500m of contaminated land.

Criterion	Red	Amber	Green
The site must not result in an increased risk to the level of service (e.g. low pressure, asset failure, water quality - consider pipe pressure rating, asset condition, pumping stations and their efficiency and Net Positive Suction Head etc.).	High risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	Low to medium risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	No risk to level of service or potential opportunity to improve the level of service.
The site must minimise the risk to the existing and future network and the requirement for downstream network upgrades. Consider flow reversals, pressure management, non-return valves, zone configuration, boundary valves, flow meters.	Risk to downstream network cannot be managed within economic investment.	Risk can be managed but likely to require appropriate and economic investment / downstream upgrades.	No risk - no investment required.
The site should preferably be near existing or planned assets to allow for operational efficiencies / minimise requirement to create additional asset e.g. trunk mains.	N/A[2]	Site is not adjacent to existing asset.	Site is adjacent to existing asset.
Power supply can be brought to site within a reasonable distance and without major network enhancements.	N/A[2]	Power supply can be brought to site but requires extensive work to the network.	Power supply can be brought to the site without extensive work to the network.
Communications e.g. fibre optic can be brought to site within a reasonable distance and without major network enhancements.	N/A[2]	Communications can be brought to site but requires extensive work on network.	Communications can be brought to site without extensive work on network.

Criterion	Red	Amber	Green
Suitable ground conditions.	High risk ground conditions, which would be uneconomical to mitigate.	Ground condition risks can be managed, but may require significant investment.	Low risk ground conditions.
There must be sufficient space for future expansion and/or process enhancement.	No space for future expansion.	No space for future expansion, but unlikely to be required.	Adequate space for expansion.
Where possible, project should use or re-use existing assets.	N/A[2]	Project does not make use of existing assets.	Project makes use of existing assets.
Where possible, works should be built on land already owned by the water company.	Site cannot be acquired by Thames Water or Affinity Water without the use of compulsory purchase powers.	Site not already owned by Thames Water or Affinity Water.	Site already owned by Thames Water or Affinity Water.
Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: • Resistance • Reliability • Redundancy • Response and Recovery	Option reduces system resilience.	Potential to negatively impact on system resilience can be mitigated.	Does not negatively impact on system resilience.
Where possible, the site should be selected such that the topography minimises the requirement for earthworks and engineered slopes.	Terrain is impossible for the design of the asset.	Terrain is unfavourable to the design of the asset.	Terrain is favourable to the design of the asset.

	Criterion	Red	Amber	Green
	Site selection should minimise the risk to security e.g. vandalism, trespassing.	High risk which would be uneconomical to mitigate.	Risk can be managed but may require significant investment.	Standard security control measures would be appropriate.

[i] *For the intakes, the requirement is only for the M&E equipment to be outside of flood zone 2 and 3*

Table 4.4: Additional WTW design RAG assessment criteria

Criterion	Red	Amber	Green
Design			
Site should be near the raw water source(s) and positioned in the direction of pipeline corridor(s) to minimise length of raw water main and associated risks. Where feasible, pumping from the source to the WTW should be minimised and raw water should gravitate from the source to WTWs.	Pumping required from source to WTWs and WTW >2.5Km from the source.	Pumping required at source to the WTWs and WTW <=2.5km from the source.	Raw water can gravitate from source to WTW and the WTW is <=2.5Km from the source.
The site should be within a reasonable distance of a suitable watercourse to accept emergency overflow, drain down, and commissioning discharges.	No suitable watercourse available.	Suitable watercourse is available, but more than 500m from site.	Suitable watercourse is available within 500m.

Table 4.5: Additional intake design RAG assessment criteria

Criterion	Red	Amber	Green
Design			
A location where there is sufficient riverbank frontage (taken as at least 30m in the case of T2AT) and enough space to construct the intake.	Insufficient river frontage.	Available frontage restricts choice of intake location.	No restriction on choice of intake location.

Criterion	Red	Amber	Green
Preferably located on the outside of a bend, as this reduces siltation and the amount of bed sediment drawn in.	N/A[2]	On the inside of a sharp bend.	On straight section or outside of bend.
Preferably located on a section of river with a stable bank with no evident signs of erosion or undercutting.	Clear signs of active erosion.	Signs of historical instability.	No visible indication of instability.
Preferably on the main channel of the river, where the flow is greater and more reliable.	N/A[2]	On a side channel where flow is regulated.	On main channel.
Downstream of the confluence with major tributaries to maximise the flow available.	Upstream of confluence providing flow contribution which is necessary to meet abstraction required.	Upstream of confluence providing significant inflow relative to offtake and main channel flow.	Downstream of confluence.
For reuse options: Sufficient distance downstream from reuse discharge point to transfer option intake point	For tertiary treated final effluent, distance <800m. N/A for recycled water treated in a membrane plant with re-mineralisation.	For tertiary treated final effluent, distance >800m but <1600m. N/A for recycled water treated in a membrane plant with re-mineralisation.	For tertiary treated final effluent, distance >1600m. N/A for recycled water treated in a membrane plant with re-mineralisation.

4.2 Criteria used for planning and land RAG assessment of pipeline corridor segments and sites (Stages 2 and 5)

4.6. Savills employed a range of planning and land criteria to assess the pipe corridor segments, intake sites and WTW sites.

4.7. The seven criteria listed below are used to inform the selection of a preferred route/ site by avoiding key planning and land constraints and designations where possible. The process looks to ensure that selected pipeline corridors, intake sites and WTW's avoid as far as practicable, constraints and designations likely to present significant challenges to securing a consent.

4.8. The following review criteria have been employed:

- Existing or designated use
- Emerging designation, or evidence of land being promoted for development
- Mineral extraction
- Green belt
- Previously developed land
- Neighbouring land uses
- Likely land acquisition complexity

4.9. Table 2.10 sets out the 'RAG' grading process which is applied to each criterion. Further commentary is provided under each segment or site, documenting the relevant constraints and designations that have been identified; this can be seen in Appendix C T2AT LTR RAG Assessment Tables and Appendix H T2AT BRI RAG Assessment Tables of this report.

Table 4.6: Planning and land criteria used to assess the corridor segments, intake sites and WTW sites

Criterion	Red	Amber	Green
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with	Potential designated use or land promotion indicates low risk that development for alternative uses is	No known emerging designations or land promotion that are likely to conflict with

	the proposed development	likely to conflict with the proposed development	the proposed development
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions

4.10. The criteria identified in Table 2.10 has been applied to each corridor section, intake sites and WTW sites using the 'RAG' grading system.

4.11. Each criterion is put through an assessment indicating a range of planning risks associated with the future development of the site.

4.2.1 Assessment process

4.12. The following section summarises the process of assessment for each criterion, to explain how each criterion has been interpreted.

4.13. The first criterion, 'the existing or designated use' assesses the planning and land use constraints and associated policy. It also takes into consideration policies regarding

archaeology, ecology, heritage and landscape where relevant. If the existing or designated use would result in a policy conflict with the proposed development then the assessment graded red; if it was thought there was a degree of conflict with the 'existing or designated use' however that mitigation measures could be used to ensure acceptability then the assessment graded amber, and if there was no conflict the assessment graded green.

4.14. In many scenarios this criterion often took into consideration numerous planning policy designations. As an example, the combination of a parcel of land being designated as a Nature Reserve, Site of Special Scientific Interest, a Nature Conservation Site, designated open space and conservation policy, the assessment concluded that the designations would likely restrict future development of the site, and it was assessed as red.

4.15. The second criterion 'emerging designation, or evidence of land being promoted for development, is an analysis of the emerging planning policy designations covering a piece of land, or evidence that the land is being promoted for development for a use that could conflict with the proposed use. Not all of the local planning authorities (LPAs) have an emerging plan, which is why some of the cells record no known designations. The assessment process where an emerging local plan is being prepared is the same as criteria 1.

4.16. The third criterion concerns mineral extraction. Proposed future mineral sites are often allocated in plans. Mineral safeguarding areas have been defined to prevent mineral resources of local and national importance from being needlessly sterilised by other forms of development. In these areas non mineral development may require either a working of the minerals before the development occurs or a viability report to show the minerals cannot be recovered. Where an allocated minerals site (e.g. a quarry) is intersected it is assessed as red. Where a safeguarded site or zone (e.g. where future quarrying may occur) is intersected it is assessed as amber and if there is not a minerals site or safeguarding zone then it is assessed as green. As an example, New Denham Quarry in Denham, is an operational Sand and Gravel quarry allocated for expansion, the pipeline corridors which run through the quarry have been assessed as red.

4.17. The fourth criterion is green belt. The fundamental aim of green belt policy is to prevent urban sprawl by keeping land permanently open. The essential characteristics of green belts are their openness and their permanence (NPPF para. 137).

4.18. Once a green belt has been designated, an LPA can only change its boundaries *'where exceptional circumstances are fully evidenced and justified'* (NPPF para. 140). Before concluding that exceptional circumstances exist to justify changes to green belt boundaries, the strategic policy-making authority should be able to demonstrate that it has *'examined fully all other reasonable options for meeting its identified need for development'* (NPPF para. 141). These 'other reasonable options' always include the accommodation of development on non-green belt sites, prompting a comparison of site options of what alternatives are available.

4.19. There is a general presumption against 'inappropriate development' in the green belt, although there are certain forms of development which are not inappropriate in the green belt provided they preserve its openness and do not conflict with the purposes of including land within it, this includes 'engineering operations' (NPPF para. 150). Pipelines and water treatment infrastructure may be considered as such.

4.20. Where development is considered to be inappropriate in the green belt 'very special circumstances' must be demonstrated to show that the harm resulting from the proposal is clearly outweighed by other considerations (NPPF para. 148). Such very special circumstances may include the wider environmental, social and economic benefits associated with providing a reliable and resilient water supply. The RAG rating assesses each site to understand the level of harm to the green belt. A site is assessed as red if development is likely to cause harm to the green belt or if development would be considered as "inappropriate development" and as such very special circumstances would be required. A site is assessed as amber if development is likely to be considered "not inappropriate development" in the green belt and NPPF para. 150 applies. If the site is located outside of the green belt then it is assessed as green.

4.21. The fifth criterion concerns previously developed land, this is an assessment of what is on the site in terms of physical structures and built form. Greenfield land is assessed as red because it is undeveloped and therefore considered to be open. Partially developed land is assessed as amber and this is the sites which contain both undeveloped and previously developed land. Previously developed land is defined as land which is occupied by some form of permanent structure. The purpose of the fifth criterion is to minimise the impact of the proposed development on the openness of the green belt.

4.22. The sixth criterion is the impact on neighbouring land uses, the assessment highlights sensitive surrounding land uses. If the nature of the surrounding land use is likely to conflict with the proposed development it is assessed as red (no sites were assessed as red in any of the assessments). If the nature of the surrounding land use is not ideal, but mitigation measures would ensure acceptability it was assessed as amber, for example; residential areas, industrial estates and intersecting large roads. If the nature of the surrounding land use is assessed not to have an impact on the proposed development it was assessed as green.

4.23. The last criterion is likely land acquisition complexity, which highlights any possible acquisition issues. Adverse issues for acquisitions are highlighted red, for example if the route goes through a dwelling and it is included within the search area it has been assessed as red, also Crown land and any statutory undertakers should their operations likely be impacted. Where there are potential restrictions but acquisitions could be possible these are assessed as amber, for example highways land, significant employment and high value land. If the site is assessed as a potential acquisition without issues it is assessed as green, for example open fields and land already owned by Thames Water or Affinity Water.

4.3 Criteria used for environmental and community RAG assessment of pipeline corridor segments and sites (Stages 2 and 5)

4.24. Environmental and community impact aspects of the corridor sections were assessed according to the criteria set out below. The criteria and assessment thresholds were chosen to represent the relative environmental risk between the alternative pipeline corridor segments (Table 4.7) and above ground infrastructure including intakes and WTW sites (Table 4.8).

Table 4.7: Environmental and community impact RAG assessment criteria – pipeline corridor segments

Criterion		Red	Amber	Green
Environment				
ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.
ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m of an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.
ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.

Criterion		Red	Amber	Green
ENV4	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.
ENV5	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a)[4].	Route corridor includes Grade 1 or 2 agricultural land (or 3a where detailed ALC data is available).	Route corridor includes Grade 3 agricultural land (or Grade 3b where detailed ALC data is available).	Route corridor within Grade 4 agricultural land or lower or non-agricultural land.
ENV6	Minimise loss of priority habitat.	Route corridor includes priority habitat.	Route corridor within 100m of priority habitat.	No priority habitat within 100m of route corridor.
Community				
COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property or built community assets within route corridor.	Open space community assets within route corridor.	No property or community assets within route corridor.
COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.

[4] Provisional Agricultural Land Classification (ALC) data does not subdivide Grade 3 into 3a (representing best and most versatile land) and 3b (not presenting best and most versatile land). Where detailed ALC survey is available and grade 3a and 3b are subdivided, grade 3a was scored red whereas 3b was scored amber. Where only provisional ALC data was available, grade 3 was scored as amber.

Criterion		Red	Amber	Green
	Route or Public Right of Way (PRoW)).		within route corridor.	

Table 4.8: Environmental and community impact RAG assessment criteria – intakes and WTW sites

Criterion		Red	Amber	Green
Environment				
ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Site includes statutory designated site or is adjacent.	Site within 100m of statutory designated site. Site includes or within 100m of non-statutory designated site.	No designated sites within 100m of Site.
ENV2	Minimise impacts on ancient woodland.	Site within 15m of an area of mapped ancient woodland.	Site within 100m of an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of Site.
ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Site includes designated heritage asset.	Site within 500m of designated heritage asset.	No designated heritage assets within 500m of Site.
ENV4	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Site includes authorised landfill.	Site within 500m of an authorised landfill or within historic landfill.	Site over 500m from authorised or historic landfill.

Criterion		Red	Amber	Green
ENV5	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Site includes Grade 1 or 2 agricultural land (or 3a where detailed ALC data is available).	Site includes Grade 3 agricultural land (or Grade 3b where detailed ALC data is available).	Site within Grade 4 agricultural land or lower or non-agricultural land.
ENV6	Minimise loss of priority habitat.	Site includes priority habitat.	Site within 100m of priority habitat.	No priority habitat within 100m of Site.
Community				
COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property or community assets within Site.	Temporary loss of community assets during construction.	No permanent or temporary loss of property and community assets.
COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Site predominantly within built up areas. National Cycle Route or PRoW within Site.	Site partly within built up areas. Recreation assets within 500m of Site.	Site largely not through built up areas. No recreation assets, National Cycle Route or PRoW within Site.

5. LTR RAG Assessment Results - Technical

5.1. For the full RAG assessment of LTR sites, please refer to Appendix C T2AT LTR RAG Assessment Tables.

5.1 LTR pipeline corridor segments (Stage 2)

5.2. The 41 potential pipeline corridor segments, identified and illustrated in Appendix A Map of T2AT LTR Assessed Pipeline Corridor Segments, were assessed against each of the eight technical criteria listed in section 4.1.1.

5.3. From a technical perspective, the only criterion which resulted in a red rating was pinch points and corridor features (DES1), where a red rating indicated a high risk to design or construction, either technically or in terms of health and safety (H&S). Segments with a red rating were 11L, 12L, 13L, 14L, 15L, 16L, 28.3L, 28.4L, 32L, 33L, and 36L. All of these segments were in the vicinity of the A40, on both the western and eastern corridors, and highlighted the technical challenge of constructing in this area.

5.4. Subsequent to the initial combined workshop (Stage 3) for the LTR option, updated information was received from Affinity Water regarding the location of the agreed easement between Affinity Water and HS2. This required an additional pipeline corridor segment (38L) to be added. Due to the agreement with HS2, this determined the crossing location, and therefore the pipeline corridor, in the vicinity of the Colne Valley, which is routed to the east rather than west. The change in crossing location also has the benefit of opening up a lower risk pipeline corridor segment in this location, compared to 14L, 15L, and 16L which all have a red rating.

5.5. At the southern extent of the option (between the source and pipe segment 07L), the eastern and western corridors were largely comparable from a technical perspective. While the western corridor had preferable topography and lower risk from flooding (secondary criteria), the eastern corridor has easier access (primary criterion). The eastern corridor also avoids the need to cross the M25 twice.

5.6. This assessment identified that the eastern corridors, both at the northern and southern extents, were preferable from a technical perspective as they mitigated the requirement to cross the M25 twice and aligned with the agreed HS2 crossing.

5.2 LTR WTW sites (Stage 5)

5.7. The 10 potential WTW sites identified, and illustrated in Appendix B Map of T2AT LTR Assessed Sites, were assessed against each of the 23 technical criteria listed in section 4.1.2.

5.8. From a technical perspective, the only criteria which resulted in a red rating were proximity to contaminated land, with red being those sites which were within (or contained) an area of contaminated land, and length of raw water pipeline, with red being sites located more than 2km away from the source. LTR_WTW_CON_01, 02, 05, and 06 were within, or contained, areas of contamination and LTR_WTW_CON_02, 07, 08, 09, and 10 were more than 2km away from the source. LTR_WTW_CON_03 and LTR_WTW_CON_04 were the only sites without a red rating.

5.9. LTR_WTW_CON_06 and 07 were the only sites in the vicinity of existing assets, with the former being close to the existing Iver WTW and the latter being in the vicinity of the existing service reservoir near Harefield. For LTR_WTW_CON_06, this has the benefit of having the shortest raw water pipeline and for LTR_WTW_CON_07, this has the disadvantage of having the longest raw water pipeline. LTR_WTW_CON_07 is also the only site not within a suitable distance of a watercourse for overflows and emergency discharges.

5.10. LTR_WTW_CON_06 is the only site which is constrained and has limited scope for siting the temporary compounds adjacent to the proposed permanent works (LTR_WTW_CON_06_(P)). However, a potential site for a temporary compound has been identified in the vicinity (LTR_WTW_CON_06_(T)).

5.11. The sites with the lowest technical risk were LTR_WTW_CON_03 and LTR_WTW_CON_04. LTR_WTW_CON_03 had more suitable access than LTR_WTW_CON_04 and LTR_WTW_CON_04 had preferable topography compared with LTR_WTW_CON_03.

6. LTR RAG Assessment Results – Planning and Land

6.1. A spreadsheet of the results of the planning and land RAG assessment is included in Appendix C T2AT LTR RAG Assessment Tables of this report; the table includes commentary on each site.

6.1 LTR corridor segments (Stage 2)

6.2. The LTR corridor passes through 2 LPAs: Buckinghamshire Council, a Unitary Council, and Hillingdon Council, a London Borough.

6.1.1 Existing or designated use

6.3. For the parts of LTR within Buckinghamshire, the development plan comprises policy documents prepared by the former authorities subsumed within Buckinghamshire Council on its creation as a Unitary Authority in April 2020. The relevant former authorities were South Bucks District Council and Buckinghamshire County Council. The development plan for the South Bucks area is the adopted Local Plan (1999), the adopted Core Strategy (2011) and the Minerals and Waste Development Plan Documents (prepared by Buckinghamshire County Council).

6.4. The development plan for Hillingdon is the Local Plan Part 1 (2012) and Local Plan Part 2 (2020), and the West London Waste Plan (WLWP).

6.5. Policies from the development plan have been taken into account to assess the existing/ designated use of each pipeline corridor segment.

6.6. Pipe corridor segment 28.1 crosses a SSSI and passes through a grade II listed building, among other designations. SSSI are sites designated by Natural England under the Wildlife and Countryside Act 1981, national policy requires that development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest. The manor is grade II listed, the substantial harm to or total loss of significance of a statutory Listed Building will only be permitted in exceptional circumstances when the nature of the heritage asset prevents all reasonable use of the building. Due to the level of protection afforded to these designations it has been assessed that the existing land use is likely to restrict future development of the site, and should be avoided if possible.

6.7. Pipe corridor segment 28.4 is within a SSSI, a Nature Conservation Sites of

Metropolitan or Borough Grade I Importance, an Archaeological Priority Zone and a Conservation Area. Conservation Areas are designated under Section 69 of the Planning (Listed Buildings and Conservation Areas) Act 1990 additionally, local policy DMHB 4, requires new development within a Conservation Area to preserve or enhance the character or appearance of the area. Development should sustain and enhance its significance and make a positive contribution to local character and distinctiveness. Due to the combination of these designations it has been assessed that the land use is likely to restrict future development of the site, and should be avoided if possible.

6.8. Pipe corridor segments 7, 11-23, 26, 28.3, 29, 32, 33, 36 and 38 have an existing or designated use that is considered not to be ideal, but that mitigation measures would ensure acceptability. As an example, if a site was in close proximity to a SSSI or a heritage designation, it was assessed that there may be an impact associated with the future development on the site, but that this could be mitigated.

6.9. Pipe corridor segments 1-6, 8-10, 24, 25, 27, 28.2, 30, 31, 34, 35 and 37 have an existing / designated use that does not conflict with the proposed use of the site and are the best performing sites from a planning policy perspective. As an example, several sites are within a biodiversity opportunity area, seeking the conservation, enhancement and net gain of the area, which with an appropriate planning strategy could be achieved through the proposed development.

6.1.2 Emerging designation, or evidence of land being promoted for development

6.10. The Local Plan for Buckinghamshire is at the beginning of the plan-making process. Given the early stage of the emerging plan there are no known emerging designations on the sites within Buckinghamshire.

6.11. Hillingdon's Local Plan Part 2 was adopted in 2020; publication of the revised Local Plan (Reg 19) is timetabled for Q3 2022. At the time of writing (July 2022), a draft local plan has not been published and as such there are no emerging policies to consider in Hillingdon.

6.1.3 Mineral extraction

6.12. Pipe corridor segments 6, 7, 8, and 28.1 are located on an operational quarry for Sand and Gravel extraction site, which is planned for future expansion. Due to the designation they have been assessed as red, and these are areas that should be avoided to avoid future complications.

6.13. The remaining segments are not within a mineral site or safeguarding zone and are assessed as green as the best performing sites, and are considered suitable for future development from a minerals extraction perspective.

6.1.4 Green belt

6.14. For both Hillingdon and South Bucks, in strategic terms, one of the most significant influences in the district is their location in the green belt to the west of London; according to their respective plans, green belt covers 87% of the South Bucks district and Hillingdon borough has a total of 4,970 hectares of green belt. All of the pipe corridor segments are located within the green belt because an alternative route avoiding the green belt is not available.

6.15. A pipe corridor is considered likely to be an engineering operation which is categorised as 'not inappropriate' development in the green belt provided development preserves its openness and does not conflict with the purposes of including land within it' (NPPF. Para 150). The pipe corridors will be located underground and as such it is considered that once operational, it will maintain the openness of the green belt.

6.1.5 Previously developed land

6.16. Pipe corridor segments 4-8, 11, 16, 18, 20, 22-27, 28.2, 29-32, 34, 35, and 38 are within greenfield land and do not have any existing development on site; they have been assessed as red. However, within the context of impact on the openness of the green belt. The pipe corridors will be located underground and as such even though they have been assessed as red, it is considered once operational the green belts openness will be maintained, and as such there is a lower risk associated with this criterion.

6.17. Pipe corridor segments 9, 10, 13–15, 17, 19, 21, 28.1, and 28.3-4 cross partially developed land and have been assessed as amber.

6.18. Pipe corridor segments 1-3, 12, 33, 36, and 37 cross previously developed land and are assessed as green, as the best performing sites from an impact on openness perspective.

6.1.6 Neighbouring land uses

6.19. The are no corridor segments which have a surrounding land use that is likely to restrict the future development of the site.

6.20. Pipe corridor segments 2, 3, 9, 10, 12, 13, 15, 16, 20, 21, 23, 25, 27, 28.1, 33, and 36-38 are located next to surrounding land uses that are considered not to be ideal, but mitigation measures would ensure acceptability. As an example for the lengths of pipeline which run through employment areas and front residential properties there is expected to be a level of disturbance and as such are uses that are considered not

to be ideal but could be mitigated against with an appropriate strategy.

6.21. The remaining pipe corridor segments are green, and it is considered the nature of the surrounding land uses will not have an impact, these are considered to be the best performing sites from a neighbouring land use perspective.

6.1.7 Likely land acquisition complexity

6.22. Pipe corridor segments 1, 2, 3, 15, 21, 28.1, 28.3, 28.4, 34, 37, and 38 are amber and there are potential restrictions to consider, but acquisitions could be possible. The remaining segments are assessed as green, potential acquisitions.

6.2 LTR WTW sites (Stage 5)

6.23. LTR_WTW_CON_09 is the only location which is outside of the green belt. It is located in a more urban setting and is adjacent to the green belt, which runs along the western boundary. However, due to the site's allocation for residential-led mixed use redevelopment it has been assessed that the designated land use is likely to restrict future development of the site for a WTW.

6.24. All of the remaining WTW sites are located within the green belt and as such may have to demonstrate very special circumstances depending on the extent to which their development may compromise openness. Such very special circumstances will include the wider environmental, social and economic benefits associated with providing a reliable and resilient water supply.

6.25. LTR_WTW_CON_06_(P) is located in the vicinity of the existing Iver WTW, on brownfield, previously developed land and is designated an opportunity site under Core Policy 16 of the South Bucks Development Plan (2011). Planning policy states that the Council will generally support appropriate employment generating development or redevelopment of the site. From a planning perspective although the site is washed over by green belt, due to its industrial context and employment allocation, it is a suitable and logical location for a WTW and will likely have none – a negligible impact on the openness of the green belt. Preference should be given to development of previously developed land to avoid the loss of further green areas in the area.

6.26. LTR_WTW_CON_10_(P) is located on brownfield, previously developed land; however, it is designated a Nature Conservation Site of Metropolitan or Borough Grade I Importance and is within close proximity to a nature reserve. The proposed development may impact these designations which would need to be mitigated.

6.27. LTR_WTW_CON_05 and 06_(T&P) are designated biodiversity opportunity areas, in addition to this designation LTR_WTW_CON_01 – 04 and 08 are also within Colne Valley Park. The Colne Valley Park designation extends over a large area to the east

of the South Bucks District and aims to maintain and enhance the landscape, historic environment and waterscape of the park, whilst at the same time providing opportunities for countryside recreation; various actions to achieve this are identified in the Colne Valley Park Action Plan. The biodiversity opportunity area seeks the conservation, enhancement and net gain in local biodiversity resources. These are local designations and with an appropriate planning strategy, future development can seek to accord with these policies.

6.28. In addition to being designated a biodiversity opportunity area and the site's location within Colne Valley Park, LTR_WTW_CON_04 is located in close proximity to Iver conservation area and has been assessed as having a potential impact on its setting which would need to be mitigated.

6.29. LTR_WTW_CON_07 is located on a Nature Conservation Site of Metropolitan or Borough Grade I Importance. There may be harmful impacts on these designations which would need to be mitigated.

7. LTR RAG Assessment Results - Environmental and Community

6.30. For the full RAG assessment of LTR pipeline corridors and sites, please refer to Appendix C T2AT LTR RAG Assessment Tables.

7.1 LTR pipeline corridor segments (Stage 2)

6.31. The potential pipeline corridor segments identified and illustrated in Appendix A Map of T2AT LTR Assessed Pipeline Corridor Segments were assessed against each of the environmental and community criteria listed in Section 4.3. This assessment identified that the eastern corridors, both at the northern and southern extents, were preferable from an environmental and community perspective.

6.32. At the southern extent, the eastern route corridor is less populated than the western route corridor, which includes the eastern edge of Iver and associated conservation area / community facilities that could be impacted during construction. In addition, there is better agricultural land quality within the western route corridor (grade 3 agricultural land) compared to non-agricultural land within the eastern route corridor. The western route corridor also contains pockets of ancient woodland, although direct impacts could potentially be avoided by providing a minimum 15m offset.

6.33. At the northern extent, the western route corridor is adjacent to a SSSI and in close proximity to two other SSSIs. The distance from the SSSI could not be increased as the pipeline would need to follow an existing road due to the extent of the lakes in this area. In addition, the western route corridor is in proximity to two Registered Parks and Gardens, although direct impacts on these could be avoided. Furthermore, there is better agricultural land quality within the western route corridor (with areas of grade 1 agricultural land) compared to the eastern route corridor.

6.34. From an environmental and community perspective, there are two other areas which presented challenges. The first area is to the north of the A40. Section 13L is in close proximity to a SSSI and LNR and could potentially have impacts on deciduous woodland and several Tree Preservation Orders (TPOS). The alternative is Section 12L, which would have impacts on the local community during construction, including potential adverse effects on residential receptors in terms of construction noise and disruption during construction.

6.35. The second area is to the north of Harvil Road. Section 18L is in close proximity to a SSSI/NNR and a County Park, which is also an area of ancient woodland. The alternative is Section 19L / Section 29L, which is a longer stretch of pipeline and is in proximity to a Registered Park and Garden (which Greater London Archaeological Advisory Service has recently advised should be treated as a scheduled monument) and listed buildings.

6.36. For the full RAG assessment of LTR pipe segments, please refer to Appendix C T2AT LTR RAG Assessment Tables.

7.2 LTR WTW sites (Stage 5)

6.37. The potential WTW sites identified (and illustrated in Appendix B Map of T2AT LTR Assessed Sites) were assessed against each of the environmental and community criteria listed in section 4.3. Sites on an 'alternative' pipe route, rather than the preferred pipe route, have not been considered further. These include LTR_WTW_CON_04 and 05.

6.38. From an environmental and community perspective, LTR_WTW_CON_03 was the least preferred due to its location partly within a park; proximity to two Grade II listed buildings, whose rural settings could be adversely and permanently altered; and potential requirement for permanent diversion of PRoW. The park is a remnant of a historic parkland with veteran trees and woodland and is a key characteristic of the Colne Valley. Substantial adverse landscape and visual effects are anticipated if this WTW site is taken forward due to the loss of historic parkland. Direct impacts on the park could be avoided through site layout although impacts on landscape character and effects on amenity for community receptors within proximity to the WTW, including visual effects and impacts on recreation, would remain, and the setting of the two Grade II listed buildings, would still be impacted.

6.39. There is no clear preference from an environmental and community perspective for the other WTW sites with all having relative advantages and disadvantages, which are discussed below.

6.40. Although performing relatively well on the RAG analysis in terms of environmental and community constraints, consideration of landscape and visual effects has shown that the two sites within the fields to the north of the aforementioned park (LTR_WTW_CON_01 and LTR_WTW_CON_02), would result in adverse changes to the landscape character and have potential for adverse visual effects on recreational and residential receptors.

6.41. A site further to the north (LTR_WTW_CON_08) also performed relatively well in the RAG assessment although would also result in adverse changes to the landscape character and have potential for adverse visual effects for recreational and residential receptors and would permanently and adversely alter the rural settings of three Grade II listed buildings.

6.42. Three sites on existing industrial land (LTR_WTW_CON_06, LTR_WTW_CON_09 and LTR_WTW_CON_10) were considered which would result in the loss of commercial property.

6.43. LTR_WTW_CON_09 is within a populated area with potential for impacts on community receptors during construction, and within proximity to a listed building and conservation area, although it is considered that the presence of a WTW at this location would not considerably alter the settings of these heritage assets from the industrial park that is currently present on the site.

6.44. LTR_WTW_CON_10 is adjacent to an LNR, which could be impacted during construction, and there are non-statutory nature conservation designations within both the permanent and temporary construction sites. However, the sites are currently in industrial use and therefore the relative change in the magnitude of impacts on the ecological receptors within these designated sites may be less evident.

6.45. LTR_WTW_CON_06_(P) contains a Grade II listed building, which, depending on the site layout, could be directly impacted. Should the building be retained, it is not considered that the WTW would considerably alter the setting of the listed building from the surrounding industrial estate that the building is already located in as it is already removed from its original agricultural setting.

6.46. It is considered that the character of all three of these sites would be in-keeping with the current industrial uses on the sites and therefore the presence of the new WTW is unlikely to give rise to notable adverse changes to landscape character or local views.

6.47. The temporary construction compound for LTR_WTW_CON_06 could have impacts on biodiversity, and depending on the site layout, this could include loss of deciduous woodland priority habitat.

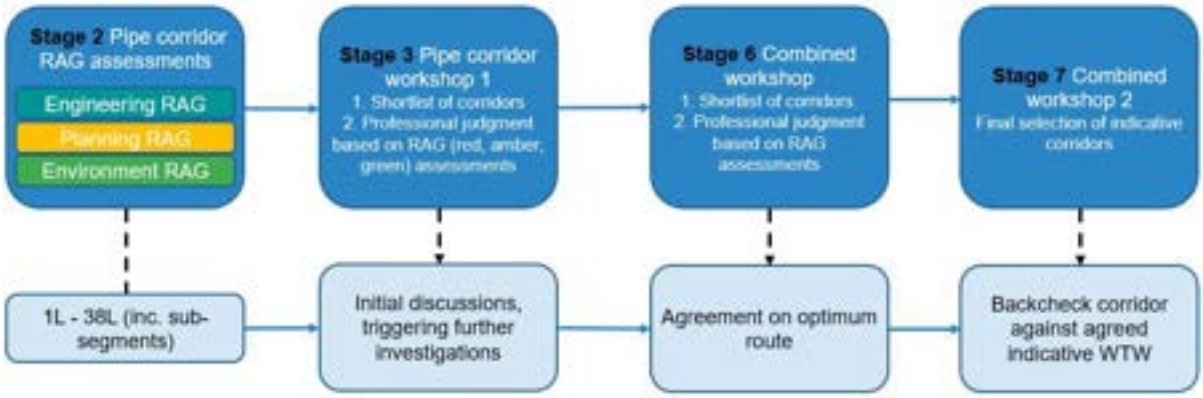
6.48. For the full RAG assessment of LTR WTW sites, please refer to Appendix C T2AT LTR RAG Assessment Tables.

8. LTR Working Pipeline Corridor and Sites (Stages 3, 6, and 7)

8.1 LTR pipeline corridor segments

7.1. With regards to the indicative pipeline corridor, the assessment and workshop outcomes are summarised in Figure 8.1.

Figure 8.1 LTR pipeline workshop summary



7.2. During the Stage 3 workshop, various segments were discussed in detail with additional segments being identified, which then passed back though Stage 2 ahead of the Stage 6 workshop.

7.3. During the Stage 6 workshop, it was agreed that the eastern pipeline corridors provided the optimal solution. At the southern extent, the eastern corridor was marginally preferable from a technical perspective due to avoiding two M25 crossings and having easier access for construction. From an environmental and planning perspective, the eastern corridor is less populated which reduces disruption to communities. It also avoids pockets of ancient woodland and runs through non-agricultural land instead of grade 3 agricultural land.

7.4. At the northern extent, the eastern corridor was preferable from a technical and environmental perspective, and both sides had various planning designation risks. Due to the agreed HS2 crossing (38L), this meant that the indicative pipeline had to cross HS2 on the eastern corridor. 36L provides a crossing from the western corridor to the eastern corridor before the HS2 crossing; however, it has a red rating for pinch points and corridor features due to the constraints of building between a lake and railway.

7.5. Within the eastern corridors, various segments for alternative routes were discussed in more detail and weighed for the technical, environmental and community, and planning and land considerations. For example, segments 12L and 13L both had constraints. 12L is along a busy road, resulting is disruption to the local community during construction and maintenance. 13L is through open land, which is preferable from a technical perspective but is in close proximity to a SSSI and LNR and would

potentially have impacts on deciduous woodland and several Tree Preservation Orders (TPOS). Both routes had a red rating for existing or designated use. On weighing up the impacts, it was agreed that 13L was the preferable route.

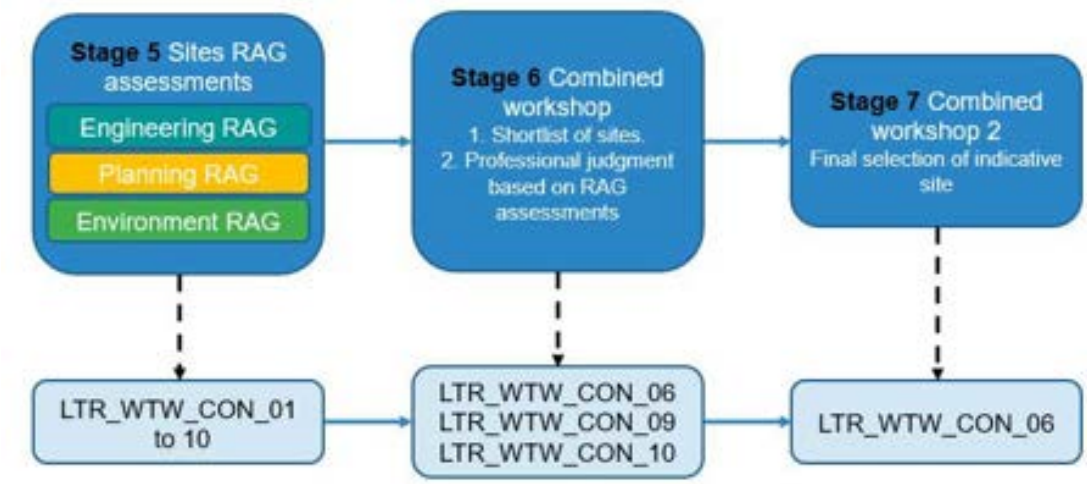
7.6. As the preferred pipeline corridor had been agreed during the Stage 6 workshop, the focus of the Stage 7 workshop was siting the WTW. As LTR_WTW_CON_06 was selected (see Section 8.2 for details), which is adjacent to the preferred pipe route, no amendments were required.

7.7. The preferred route, along with discounted routes and alternative routes (which were neither discounted, nor the preferred route) are shown in Appendix D Map of T2AT LTR Shortlisted Pipeline Corridor.

8.2 LTR WTW sites

7.8. With regards to the indicative WTW site, the assessment, shortlisting, and final selection are summarised in Figure 8.2.

Figure 8.2 LTR WTW assessment, shortlisting, and selection summary



7.9. The Stage 6 workshop flagged that the only realistic options were the one location outside of the green belt (LTR_WTW_CON_09) and two locations within brownfield sites within the green belt (LTR_WTW_CON_06 and 10), due to the challenges of obtaining planning permission within the green belt and limited scope to avoid it completely (see Section 3.2, paragraph 3.10). Whilst there was no defined weighting between disciplines, this criterion was deemed to be the greatest blocker to progressing with a particular WTW site. None of these sites were the preferred option based solely on the technical RAG assessment. T highlights the importance of the multidisciplinary workshops and of considering the technical, environmental and community, and planning and land requirements in unison.

7.10. In the Stage 7 workshop, the three short-listed WTW sites were reviewed further. LTR_WTW_CON_10 would require the longest raw water pipeline of the three

options. It would also require longer lengths of pipework to connect the WTW to the preferred pipeline route, compared to LTR_WTW_CON_06, due to the restrictions in this location with regards to crossing HS2. The site also abuts a local nature reserve and has other restrictions, including its being within an air quality management area and archaeology priority zone.

7.11. LTR_WTW_CON_09 is largely comparable to LTR_WTW_CON_10 from a technical perspective, but it would have a shorter length of raw water pipeline and it has a lower risk of contamination, which makes it preferable. However, from a planning perspective, this area is designated for residential-led mixed use redevelopment, which is likely to restrict future development of the site for a WTW.

7.12. On comparison of the three sites, LTR_WTW_CON_06 was determined to be the optimum solution. LTR_WTW_CON_06 is in the vicinity of the existing Iver WTW and therefore has the shortest raw water pipeline and potential operational benefits. It is also the site closest to the preferred pipeline route, which reduces the overall length of pipeline required. It is the most constrained site and has a greater risk of contamination than LTR_WTW_CON_09, but a nearby temporary compound is potentially available and the contamination risk could be mitigated. This site also appeared to have the lowest risk with regards to planning. The environmental and community risks included a listed building on the indicative permanent site, but this could be mitigated by incorporating the listed building into the development. There is also priority habitat (deciduous woodland) within the proposed temporary construction compound and potential permanent spoil storage area, but this could potentially be avoided by using it for the temporary construction compound only and not permanent storage of spoil. An ecological walkover would be required determine site layout and / or whether alternative sites would need to be considered.

7.13. The map of the working pipeline corridor and indicative WTW site are illustrated in Appendix E Map of T2AT LTR Working Pipeline Corridor and Sites.

9. BRI RAG Assessment Results – Technical

8.1. For the full RAG assessment of BRI sites, please refer to Appendix H T2AT BRI RAG Assessment Tables

9.1 BRI pipeline corridor segments (Stage 2)

8.2. The 85 potential pipeline corridor segments, identified and illustrated in Appendix F Map of T2AT BRI Assessed Pipeline Corridor Segments, were assessed against each of the eight technical criteria listed in section 4.1.1.

8.3. Contractors were consulted to provide a buildability review of the crossings associated with the initial corridor segment options. The objective of the review was to ascertain whether each crossing was feasible/realistic in terms of construction constraints and impact on the public. This process ruled out a number of segments (black crosses) including;

- 05B - the railway line north of the M25 was examined further for alternative crossing locations however none were identified with a reasonable search radius. Due to the engineering complexity or significant public impact, a pipeline route north of the M25 in the vicinity of Waltham Cross / Cheshunt was discounted.
- 45B, 41B, 40.2B - These were related to existing services under bridges, lack of available space for tunnelling or residential areas with narrow single access routes.

8.4. From a technical perspective, the two criterion which resulted in a red rating were:

- pinch points and corridor features (DES1), where a red rating indicated a high risk to design or construction, either technically or in terms of health and safety (H&S)
- available space for construction and materials storage (CON2), where a red rating indicated insufficient space.

8.5. Segments with a red rating for the pinch points and corridor features were 04B, 05B, 06B, 09B, 26B, 36B, 40.2B, 41B, 43B, 45B, 47.2B, 48.1B, 48.2B, 50B, and 61.1B. The majority of these were near the start of the route, in the Enfield and Waltham Cross areas due to the dense urban location, and nearby river, motorway, and railway lines

8.6. Segments with a red rating for available space for construction and materials storage were 36B, 41B, 45B, 46B, 47.1B, 47.2B, 47.3B, which pass through residential areas in Enfield.

8.7. The preferred technical route at Stage 2 was to go north from the intake and cross from east to west through Enfield, following the route with the fewest pinch points, south of the M25. This was due to higher risk pinch points and corridor features to the north of the M25 in this area. After Enfield, and the subsequent M25 crossing,

the routes to Brookmans Park were largely comparable from a technical perspective; except route 61.1B which passes through a village and has a red rating for pinch points and corridor features.

9.2 BRI WTW sites (Stage 5)

8.8. The 11 potential WTW sites identified, and illustrated in Appendix G Map of T2AT BRI Assessed Sites, were assessed against each of the 23 technical criteria listed in section 4.1.2.

8.9. As with LTR, the only criteria which resulted in a red rating (high-risk) were proximity to contaminated land and length of raw water pipeline. BRI_WTW_CON_07 was the only site within an area of contamination and BRI_WTW_CON_04, 05, 06, and 09 were more than 2km away from the source.

8.10. BRI_WTW_CON_06 was the indicative site at Gate 1. This was the only site in the vicinity of existing assets (Affinity Water distribution hub). It has a green rating for proximity to contaminated land (low risk), is within a reasonable distance to a suitable watercourse, has sufficient space for expansion and has suitable topography. However, it has the longest raw water pipeline, less suitable ground conditions (amber rating), and overhead electric cables which would present a H&S risk during construction. In addition, it has the worst access across all of the proposed sites. Furthermore, this option would require raw water to be pumped to North Mymms and then pumped to Brookman's Park, which opposes the new strategy described in Section 3.1, paragraph 3.6, making it a less preferable option.

8.11. BRI_WTW_CON_08 is the only site which is constrained and has limited scope for siting all of the temporary compound adjacent to the proposed permanent works (BRI_WTW_CON_08). However, a potential site for additional temporary compound space has been identified in the vicinity (BRI_WTW_CON_08_and_11_(T)).

8.12. From a technical perspective, the preferable sites were BRI_WTW_CON_01, BRI_WTW_CON_08, and BRI_WTW_CON_11 as these were the lowest risk (no reds and fewest ambers). They are the sites closest to the River Lee and therefore have the shortest raw water pipelines and are closer to a suitable watercourse for overflows and emergency discharges. Of the three sites, BRI_WTW_CON_08 is the closest to the intake, but is the most constrained and has higher risk (amber) ground conditions. The main difference between BRI_WTW_CON_01 and BRI_WTW_CON_11 is that BRI_WTW_CON_11 has a lower risk of contamination.

9.3 BRI Intake and RWPS sites (Stage 5)

8.13. Both of the potential intake and RWPS locations were assessed against each of the technical criteria listed in section 4.1.2.

8.14. From a technical perspective, both intake sites were largely comparable. However, BRI_INT_CON_02 has a lower risk of contamination and better access, making it the preferable option.

8.15. As with the intakes, the two pumping station locations were comparable from a technical perspective. BRI_INT_CON_01_(PS), is more constrained site and has a higher risk (amber) of contamination, but BRI_INT_CON_02_(PS) has overhead electricity cables, which presents a H&S risk during construction.

10. BRI RAG Assessment Results – Planning and Land

9.1. A spreadsheet of the results of the planning and land RAG assessment is included in Appendix H of this report.

10.1 BRI corridor segments (Stage 2)

9.2. The BRI corridor passes through 4 LPAs: Enfield Council, a London Borough Council; Epping Forest District Council in the county of Essex; Broxbourne Borough Council in the county of Hertfordshire; and Welwyn Hatfield Borough Council in the county of Hertfordshire. Planning policies have been considered from each LPA.

10.1.1 Existing or designated use

9.3. The development plan for Enfield Council is the Core Strategy 2010, the adopted Development Management Document (2014) alongside the North London Waste Plan (2021). The development plan for Epping Forest District Council in the county of Essex; the adopted Local Plan (1998) and adopted Alterations (2006), and the Essex Waste and Minerals Local Plan. The development plan for Broxbourne Borough Council is the Local Plan 2018-2033, alongside the Hertfordshire Waste Plan and the Hertfordshire Minerals Local Plan (adopted 2007). The development plan for Welwyn Hatfield Borough Council is the saved policies of the Welwyn Hatfield District Plan (adopted 2005), the Hertfordshire Waste Local Plan (adopted 2012-2014), and the Hertfordshire Minerals Local Plan (adopted 2007).

9.4. Policies from the development plan of all the above noted councils have been taken into account to assess the existing/designated use of each pipeline segment.

9.5. Pipe corridor segment 5 is located on a historic public park which contains a scheduled monument and has numerous designations protecting parts of the site as a leisure destination and/or a historic and archaeological asset. These policies include: Policy ED2 a designated employment area, Policy ORC1 New Open Space, Leisure, Sport and Recreational Facilities, and Policy CH8 a Landscape Protection Zone. Due to these restrictive and protective land designations it has been assessed that the land use is likely to restrict future development of the site, and should be avoided if possible.

9.6. Pipe corridor segment 22 is in close proximity to the aforementioned Park which is protected by the numerous designations listed in the paragraph above, in addition a new business campus is planned to be created in this area. The site is allocated for the development of a business campus and a hotel, the Local Plan stipulates that the campus will be developed in strict accordance with a Master Plan and design codes. Due to these designations, it has been assessed that the land use is likely to be

problematic for the future development of the site, and should be avoided if possible.

9.7. Pipe corridor segment 32 dissects woodland which is designated a wildlife site and ancient woodland. Policy R12 special area of conservation, requires that proposals for development or land use which may affect a designated or candidate special area of conservation will be subject to the most rigorous examination. It has been assessed that the land use is likely to restrict future development of the site, and should be avoided if possible.

9.8. Pipe corridor segment 61 is within a wildlife site and a SSSI. Due to these designations it has been assessed that the land use is likely to restrict future development of the site, and should be avoided if possible.

9.9. Pipe corridor segments 1, 4, 7-14, 18, 21, 26-31, 34-43, 47-53, 55, 57, and 63-66 have an existing or designated use that is considered not to be ideal, but that by using mitigation measures it would ensure acceptability. As an example, if a site was located within a local wildlife site it was assessed as amber. Local Wildlife Sites are non-statutory designated sites which have been designated due to the significance of the species and habitats present. Adopted policy requires demonstration that the local development needs significantly outweigh the nature conservation value of the site; and appropriate avoidance, mitigation, and as a last resort compensation measures to offset any detriment to the nature conservation interest on the site should be provided. Justification and mitigating the impact of development would ensure acceptability.

9.10. The remaining pipe corridor segments have an existing/designated use that does not conflict with the proposed use of the site, and as such are considered to be the best performing sites for the BRI pipeline, from an adopted policy perspective.

10.1.2 Emerging designation, or evidence of land being promoted for development-

9.11. The Epping Forest District Council Local Plan was submitted to the Secretary of State for examination in public on 21 September 2018. This process is still ongoing.

9.12. The Welwyn Hatfield Local Plan was submitted to the Secretary of State for examination in public on 15 May 2017. This process is still ongoing.

9.13. The Enfield Local Plan is currently being prepared; the Regulation 18 issues and options consultation closed in September 2021 and the Council currently timetable adoption of the Plan in 2024.

9.14. Broxbourne Borough Council has a recently adopted Local Plan, and as such there are no known emerging designations to consider.

9.15. Pipe corridor segment 42 is within an Area of Special Character and within two emerging allocations: policy SA60, to provide natural burial uses and policy SA62 a

football club training ground to provide professional sport, recreation and community sports/leisure uses, including ancillary related facilities. The pipe corridor should factor in the layout of the proposed uses and liaison with the LPA and stakeholders is advised. For this reason pipeline segment 42 has initially been assessed as red, however there could be a design solution to facilitate the future development, which would lessen the risk associated with this segment.

9.16. Pipe corridor segment 52 is within an Area of Special Character, Site of Borough Importance for Nature Conservation and is within emerging allocation SA60: to provide natural burial uses. The pipe corridor should factor in the layout of the proposed uses and liaison with the LPA is advised. For this reason pipeline segment 52 has initially been assessed as red, however there could be a design solution to facilitate the future development, which would lessen the risk associated with this segment.

9.17. Pipe corridor segments 1, 9-14, 18, 32, 34-41, 43, 45-51, 53, 55-57, and 60-67 have an emerging designated use which indicates a low risk that development for alternative uses is likely to conflict with the proposed development.

9.18. The remaining pipe corridor segments have no known emerging designations or land promotions that are likely to conflict with the proposed development, and as such are considered to be the best performing sites for the BRI pipeline from an emerging policy perspective.

10.1.3 Mineral extraction

9.19. There are no mineral sites or safeguarding zones to consider.

10.1.4 Green belt

9.20. For all four LPA's, in strategic terms, one of the most significant influences is their location within the metropolitan green belt to the west of London. According to each of their respective plans, approximately one third of Enfield is designated metropolitan green belt; Epping Forest district is largely rural and over 92% of the land is designated as being in the metropolitan green belt; although Broxbourne contains a densely developed urban area, to the east the majority lies within the metropolitan green belt; and around three quarters of the Welwyn Hatfield borough is designated as part of the metropolitan green belt.

9.21. Pipe corridor segments 6, 21, 22, 36, 38, 39, 45-47 and 65 are located outside of the green belt, and have been assessed as green, there will be no harm to the green belt purposes by developing within these segments.

9.22. The remaining pipe corridor segments are located within the green belt, and have been assessed as amber; within the green belt, but unlikely to cause harm. A pipe

corridor is considered likely to be an engineering operation which is categorised as *'not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it'* (NPPF. Para 150). The pipe corridors will be underground and as such it is considered once operational will maintain openness of the green belt and will not conflict with the purposes of including land within it.

10.1.5 Previously developed land

9.23. Pipe corridor segments 5, 7, 8, 10–13, 16-18, 22, 24, 26, 27, 31-35, 42, 53-60, 63, 64, and 66-74 are located on greenfield land and do not have any existing development on site; they have been assessed as red. The pipe corridors will be located underground and as such even though they have been assessed as red, it is considered once operational the green belts openness will be maintained, and as such there is a lower risk associated with this criterion.

9.24. Pipe corridor segments 1, 9, 14, 19, 20, 23, 30, 43, 49, 52, and 66 cross partially developed land and have been assessed as amber.

9.25. The remaining pipe corridor segments cross previously developed land and are assessed as green.

10.1.6 Neighbouring land uses

9.26. The are no segments which have a surrounding land use that is likely to restrict the future development of the site.

9.27. Pipe corridor segments 2-7, 15, 17, 19-23, 26-29, 32-34, 36-38, 41-52, 61, 62, 64, and 67 are located next to surrounding land uses that are considered not to be ideal, but mitigation measures would ensure acceptability. As an example, for the lengths of pipeline which run through employment areas and front residential properties there is expected to be a level of disturbance and as such are assessed as uses that are considered not to be ideal but could be mitigated against. The remaining corridor segments are green, and it is considered the nature of the surrounding land uses will not have an impact.

10.1.7 Likely land acquisition complexity

9.28. Pipe corridor segment 27 is located on residential land and it is considered that there are adverse issues for acquisition, associated with this segment. Should the residential land be removed from the pipe corridor segment the level of risk will be reduced.

9.29. Pipe corridor segments 1, 19, 21, 28-30, 32, 33, 36-41, 45-49, 51, 61, 65, and 66 have potential restrictions to consider but acquisitions could be possible.

9.30. The remaining segments are potential acquisitions. These are the best performing sites in land acquisition terms.

10.2 BRI WTW sites (Stage 5)

9.31. There are three WTW sites outside of the green belt, BRI_WTW_CON_ 04, BRI_WTW_CON_ 09 and BRI_WTW_CON_ 09 (T). BRI_WTW_CON_ 04 and BRI_WTW_CON_ 09 (T) are located on land allocated for the development of a business campus. Policy PP1: Park Plaza West is an allocation for the development of a business campus and a hotel, the Local Plan stipulates that the campus will be developed in strict accordance with a Master Plan and design codes. Land use policy ED2: Designated employment areas, restricts development to use classes B1a (offices) or B1b (research and development), or other uses that support the campus. The south part of the site is located within an area designated as open space. Due to these allocations it has been assessed that the designated land use is likely to restrict future development of the site for a WTW's.

9.32. BRI_WTW_CON_ 09 is located in close proximity to a historic public park to the north which is the site of a scheduled monument and has numerous designations protecting the park as a leisure destination and a historic and archaeological asset. Policy ED2: Designated employment areas restricts development to use classes B1a (offices) or B1b (research and development), or other uses that support the campus. Policy PP2: Park Plaza North is an allocation for a mix of employment uses: bulky goods retailers that need to be relocated as a result of regeneration developments proposed within Waltham Cross Town Centre and a mix of B1, B2 and B8 uses. There is a planned new railway station which will be located on the edge of the site. Due to these allocations it has been assessed that the designated land use is likely to restrict future development of the site for a WTW's.

9.33. All of the remaining WTW sites are located within the green belt and as such may have to demonstrate very special circumstances depending on the extent to which their development may compromise openness. Such very special circumstances will include the wider environmental, social and economic benefits associated with providing a reliable and resilient water supply.

9.34. BRI_WTW_CON_ 08 is located on a developed land which is occupied by a commercial property. There is a business operating from the site and the built form on the land includes various permanent structures and associated facilities. Preference should be given to development of previously developed land to avoid the loss of green open areas in the area. However, consideration should be had to the local nature reserve and local wildlife site which abuts the site. Development proposals which are likely to have a negative impact on a locally designated site will only be permitted where the benefits of the proposed development clearly outweigh

the value of the ecological feature adversely affected and there are no appropriate alternatives.

9.35. BRI_WTW_CON_ 10 and 11 are located on developed land which is occupied by a commercial property. There are businesses operating from the sites and the built form on the land includes various permanent structures and associated facilities. Preference should be given to development of previously developed land to avoid the loss of open green areas in the area. WTW_CON_ 10 has the benefit of not having any known emerging designations that are likely to conflict with the proposed development.

10.3 BRI Intake sites (Stage 5)

10.1. Intake sites were assessed against each of the planning criteria. From a planning perspective, both sites are within the Regional Park, however BRI_INT_CON_01_(I) and BRI_INT_CON_01_(PS) are within a designated Local Nature Reserve and Local Wildlife Site and as such are likely to have a greater habitat and biodiversity impact than BRI_INT_CON_02_(I) and BRI_INT_CON_02_(T).

10.2. In the adopted Epping Plan, glasshouses are protected by planning policy, BRI_INT_CON_02 (T) is within an area which has been de-designated, and BRI_INT_CON_01 (PS) is within an area designated for new and replacement glasshouses. BRI_INT_CON_01 (PS) is located on partially developed land which is occupied by a commercial property. There is a business operating from the site and the built form on the land includes various permanent structures and associated facilities. From a green belt perspective preference should be given to development of previously developed land to avoid the loss of green open areas in the area.

11. BRI RAG Assessment Results – Environmental and Community

10.3. For the full RAG assessment of BRI sites, please refer to Appendix H T2AT BRI RAG Assessment Tables.

11.1 BRI pipeline corridor segments (Stage 2)

10.4. The potential pipeline corridor segments identified and illustrated in Appendix F Map of T2AT BRI Assessed Pipeline Corridor Segments were assessed against each of the environmental and community criteria listed in section 4.3.

10.5. The RAG assessment identified a preference, from an environmental and community perspective, for a northbound route corridor from the River Lee intake rather than a westbound route corridor. This was in terms of avoiding any additional impact on the SSSI. However, since the SSSI is designated for wintering birds, impacts during construction could be managed by avoiding construction in the winter months.

10.6. Following the northbound route to the M25, the RAG assessment identified a preference to remain south of the M25 rather than going north towards a Country Park. This was primarily to avoid proximity to a SPA/Ramsar site (although impacts on the wintering birds it supports could be managed as per Paragraph 10.5 above) and the Country Park, including a dense wooded area and a water sports venue. However, the route would require crossing non-statutory nature conservation sites and a Country Park, and mitigation would be required to reinstate these areas following construction.

10.7. To the west of the River Lee Navigation, the RAG assessment did not identify a strong preference for the route corridors through Enfield.

10.8. To the west of the A10 and south of the M25, the route corridor closer to the M25 is preferred (Section 42B) as this avoids proximity to ancient woodland and non-statutory nature conservation sites.

10.9. Following the M25 crossing, the route corridor options were either to the north or to the west. From an environmental perspective, although impacts could potentially be managed during construction through good practice measures, the routes to the west are preferred as these avoid proximity to international and national statutory nature conservation sites, and areas of ancient woodland. An alternative route from the M25 crossing to the service reservoir in the vicinity of Brookmans Park, which runs west to the A1000 and then directly northwards, would be preferable.

10.10. To the west of the service reservoir in the vicinity of Brookmans Park, there are areas of ancient woodland within the route corridor to the east of the railway line. Of the two alternative route corridors, the northern corridor (Section 14B) is preferred as this avoids direct impacts on ancient woodland. In this area, construction working areas should be at least 15m from the areas of ancient woodland. The route corridor

from the railway line to the booster pumping station in the vicinity of North Mymms is between a SSSI and areas of ancient woodland, and there are areas deciduous woodland priority habitat within the route corridor.

10.11. For the full RAG assessment of BRI pipe segments, please refer to Appendix H T2AT BRI RAG Assessment Tables.

11.2 BRI Intake sites (Stage 5)

10.12. The potential intake sites identified (and illustrated in Appendix G Map of T2AT BRI Assessed Sites) were assessed against each of the environmental and community criteria listed in Section 4.3.

10.13. From an environmental and community perspective, the two sites performed similarly in the RAG appraisals. Both sites would be directly adjacent to a SSSI, with some works within the River Lee flood relief channel, which is inside the SSSI boundary, and would cross coastal and floodplain grazing marsh. BRI_INT_CON_02_(I) would potentially perform better in terms of biodiversity as it would avoid a Local Wildlife Site whereas the BRI_INT_CON_01_(I) would result in direct impacts.

10.14. The above ground infrastructure associated with BRI_INT_CON_02_(I) has the potential to permanently and adversely alter the setting of a Grade II* listed building, which is in close proximity, through visual intrusion although strategic planting and other landscaping between the site and this designated asset may soften the visual impact, especially in conjunction with design measures for the buildings.

10.15. Construction of the intake at either of the potential sites would require the temporary closure of a PRoW and has the potential to change the setting of an area of Special Landscape Character (designated by Enfield Borough Council) and reduce tranquillity within the green belt and river corridors due to the presence of construction activity. Removal of trees and woodland within the floodplain would open views from the river corridor to the light industrial buildings, road infrastructure and business units on the nearby road, notably the belt of woodland within the northern site.

10.16. For the full RAG assessment of BRI intake sites, please refer to Appendix H T2AT BRI RAG Assessment Tables.

11.3 BRI WTW sites (Stage 5)

10.17. The potential WTW sites identified (and illustrated in Appendix G Map of T2AT BRI Assessed Sites) were assessed against each of the environmental and community criteria listed in Section 4.3. Sites on an 'alternative' pipe route, rather than the preferred pipe route, have not been considered further. These include BRI

_WTW_CON_04 and BRI _WTW_CON_09.

10.18. Seven potential WTW sites were considered within the Lee Valley. From an environmental and community perspective, one site was the least preferred due to its location within a Country Park (BRI _WTW_CON_07), which would result in loss of open space within a community asset. This site has not been considered further. There is no strong preference from an environmental and community perspective for the other six WTW sites with all having relative advantages and disadvantages, which are discussed below.

10.19. Three sites were considered within the vicinity of the River Lee intake (BRI_WTW_CON_01, BRI_WTW_CON_08 and BRI_WTW_CON_11), all of which are within relatively close proximity to a SSSI, with potential impacts on ecological receptors during construction and operation through noise and lighting disturbance. All three sites are also adjacent to non-statutory nature conservation designations and priority habitat, with potential for indirect effects on ecological receptors.

10.20. From a heritage perspective, all three sites performed similarly. Two of the sites (BRI_WTW_CON_01 and BRI_WTW_CON_08) are in close proximity to a Grade II listed building. It is not considered that the presence of a WTW at these sites would considerably alter the setting of the listed building whilst in operation, assuming that the vegetation that currently divides the two sites is retained. There may be temporary impacts on setting during construction for BRI_WTW_CON_01 through noise, visual and light intrusion whereas it is considered that for BRI_WTW_CON_08, given the flat nature of the land, there would be no visual, light or noise intrusion that would exceed that of the A112 and residential estate that is located between the listed building and the site, and therefore its setting would remain unchanged.

10.21. For all three sites, there is high potential for views of construction activity and the permanent infrastructure from an important local viewpoint on elevated land to the east, as identified by Enfield Borough Council, and for walkers along the route of the London Loop. All three sites would result in a temporary loss of undeveloped land within the green belt during construction with a permanent loss as a result of BRI_WTW_CON_01, which is a greenfield site. BRI_WTW_CON_08 and BRI_WTW_CON_11 are partly on existing commercial / industrial land. Of these two sites, there would be a comparatively lower negative impact on land cover value for BRI_WTW_CON_08 as the permanent new infrastructure elements would be located predominantly on areas of previously developed land, and it is considered that the scale of the new development would be in keeping with the scale of the existing development. There are however several TPOs within this site that would need to be taken into consideration within the site layout for the WTW.

10.22. From a community perspective, depending on the construction methodology, there may be a change in environmental conditions for those houses and private property within the vicinity of the potential WTW sites as a result of a combination of noise, air quality, visual impacts or presence of HGV vehicles. It is considered that the impacts would be greatest for BRI_WTW_CON_08 due to the proximity of residential receptors. Construction for all three sites would affect existing PRoW with temporary

diversions likely to be required.

10.23. BRI_WTW_CON_08 and BRI_WTW_CON_11 are partly located on existing commercial / industrial land. Temporary and permanent land requirements are anticipated to directly affect business activities in this area.

10.24. Three sites were considered to the east of the Country Park and nearby road (BRI_WTW_CON_02, BRI_WTW_CON_03 and BRI_WTW_CON_10). From a biodiversity perspective, BRI_WTW_CON_10 and BRI_WTW_CON_03 performed slightly better in the RAG assessment than BRI_WTW_CON_02 as this site is adjacent to a non-statutory designated site and area of ancient woodland. However, it is considered that these areas could be avoided through site layout design. None of these sites contain priority habitat.

10.25. From a heritage perspective, BRI_WTW_CON_02 and BRI_WTW_CON_03 performed slightly better in the RAG assessment than BRI_WTW_CON_10 as there is a Grade II listed building in close proximity. However, it is considered that the presence of a WTW site at this location would result in minimal changes to the setting of this listed building whilst in operation, assuming that the WTW infrastructure does not exceed the height of the buildings that currently separate the WTW site and the listed building. There could be very minor changes to the setting of the listed building as a result of the construction phase through noise intrusion. BRI_WTW_CON_02 and BRI_WTW_CON_03 could impact on the rural setting of a locally listed building with potential minor permanent changes to the setting of listed buildings during construction and operation.

10.26. BRI_WTW_CON_02 and BRI_WTW_CON_03 are both greenfield sites. Development on these sites would result in a permanent change to land use which has the potential to adversely affect landscape character as open space would be replaced with new, large-scale infrastructure. There could also be potential adverse visual effects for residential receptors along nearby roads. Depending on the land take requirements and site layout, BRI_WTW_CON_03 could also potentially require the permanent diversion of PRoW with effects on recreational amenity.

10.27. BRI_WTW_CON_10 would be partly on existing commercial / industrial land. There is potential for views of construction activity and the permanent works from residential receptors nearby, although garden vegetation is likely to provide a good level of screening and much of the site is set back from the road. A nearby hill has the potential to provide screening of the proposed works from the raised land to the east. As above, there would be a comparatively lower negative impact on land cover value for this site as the permanent new infrastructure elements would be partly located on areas of previously developed land.

10.28. From a community perspective, depending on the construction methodology, there may be a change in environmental conditions for those houses and private property within the vicinity of the potential WTW sites as a result of a combination of noise, air quality, visual impacts or presence of HGV vehicles. Given the relative distances to nearby residential dwellings, it is considered that BRI_WTW_CON_02,

BRI_WTW_CON_03 and BRI_WTW_CON_10 would result in lower construction noise impacts than BRI_WTW_CON_01, BRI_WTW_CON_08 and BRI_WTW_CON_11.

10.29. BRI_WTW_CON_10 is partly located on existing commercial / industrial land. Temporary and permanent land requirements are anticipated to directly affect business activities in this area.

10.30. Given the proximity of the Country Park to the proposed construction activities at BRI_WTW_CON_02, BRI_WTW_CON_03 and BRI_WTW_CON_10, there may be temporary impacts on the Country Park from a change in amenity although permanent adverse impacts on amenity are considered unlikely. Construction of BRI_WTW_CON_03 would affect existing PRoW with temporary diversions likely to be required and depending on the site layout, potentially permanent diversions.

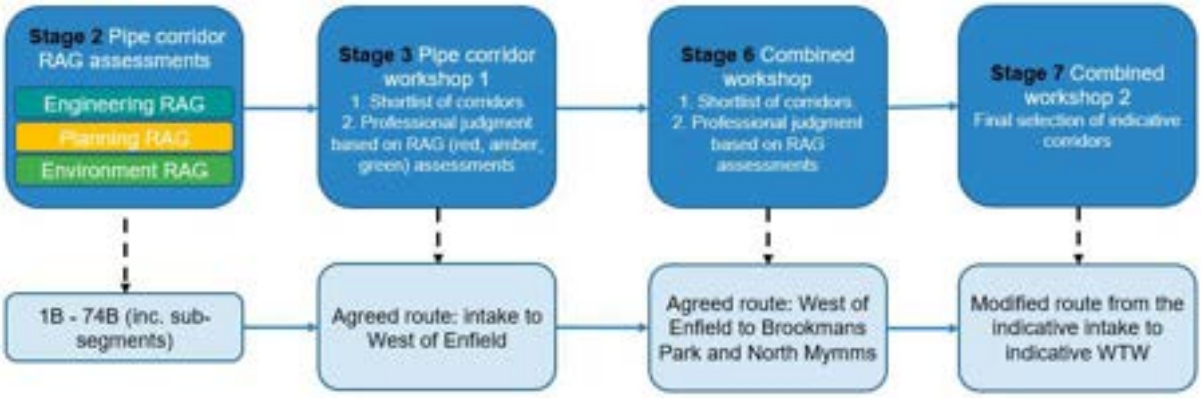
10.31. For the full RAG assessment of BRI WTW sites, please refer to Appendix H T2AT BRI RAG Assessment Tables.

12. BRI Working Pipeline Corridor and Sites (Stages 3, 6, and 7)

12.1 BRI pipeline corridor segments

11.1. With regards to the indicative pipeline corridor, the assessment and workshop outcomes are summarised in Figure 12.1.

Figure 12.1 BRI pipeline workshop summary



11.2. Following the Stage 3 workshop, the first half of the route was selected. The optimal pipeline corridor follows a route north from the intake, to avoid technical restrictions in the vicinity of Enfield Lock, several environmental designations, and numerous watercourse crossings to the west. The River Lee is crossed at an appropriate location, with good access, as far away as possible from urban areas and south of the M25, minimising disruption caused by the work.

11.3. The RAG assessments for all three disciplines showed a clear preference for remaining south of the M25 in this location. This is due to significant pinch points, proximity to a country park and SPA/RAMSAR site, and various planning restrictions (05B has a red rating for existing and designated use) to the north of the M25.

11.4. The route then proceeds to cross through Enfield, following existing roads. The specific route selected was largely driven by technical constraints as a result of the dense urban nature of this area. Several of the routes in this area had red ratings for pinch points and corridor features, whereas planning criteria were predominantly amber, and the environmental RAG assessment did not identify a strong preference for route corridors.

11.5. Particular attention was also given to railway crossings during the corridor selection as two separate lines are being crossed in Enfield. The crossing locations of these were decided upon construction feasibility criteria and presence of pre-existing services in the ground.

11.6. At the Stage 6 workshop, the indicative route to the Brookmans Parks area and North

Mymms area were selected. Between the west of Enfield and the M25 crossing, there were multiple options across an area of open field. The routes were comparable from a technical perspective, but 42B was preferable from an environmental perspective as it avoids proximity to ancient woodland and non-statutory nature conservation sites. 42B has a red rating due to emerging planning designations. The pipeline could not be re-routed due to the motorway constraining areas to the north and the ancient woodland to the south. It was considered that the party responsible for the emerging designation and Affinity Water could work together to agree a mutual solution.

11.7. With regards to the motorway crossing, although 54B passes through Grade 3 agricultural land (amber), it was agreed by all disciplines that 54B was preferable to 43B, due to the challenging crossing.

11.8. Once the M25 is crossed, there is a northern route, a western route, and a few alternative connections between the two. The routes were largely comparable from a technical perspective; except route 61.1B which passes through a village and has a red rating for pinch points and corridor features. From an environmental perspective, the routes to the west are preferred as these avoid proximity to international and national statutory nature conservation sites, and areas of ancient woodland. However, the northern route was preferred from a planning perspective. It was considered that the ecology risks with the northern route could be managed and therefore it was agreed that the northern route was the preferable option.

11.9. Between Brookman's Park and North Mymms, the northern route (14B) was selected over the southern route (32B) as this avoids direct impacts on ancient woodland and planning designations.

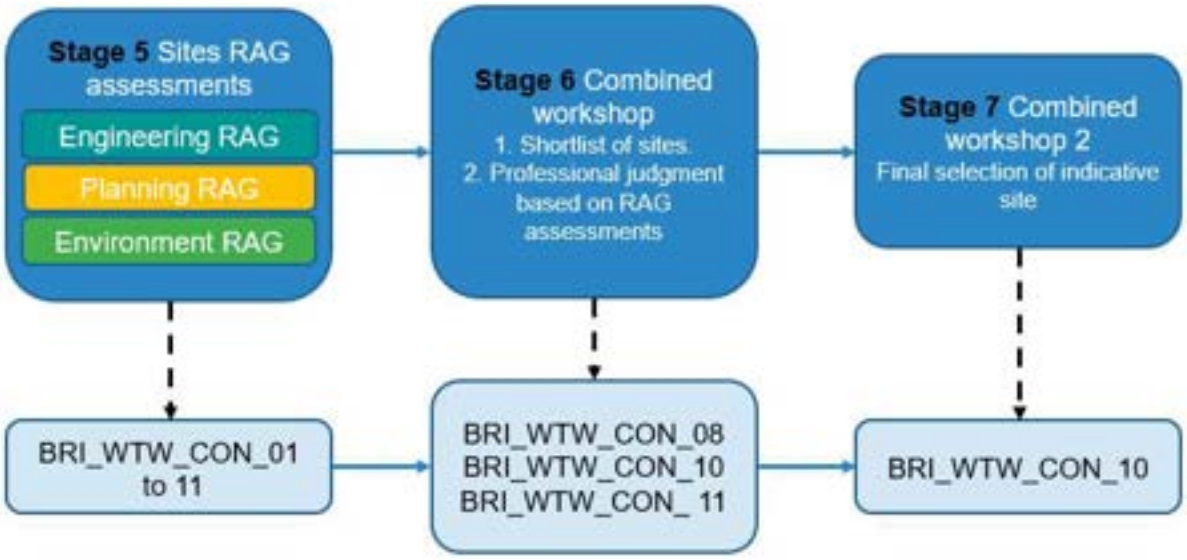
11.10. At the Stage 7 workshop, the start of the pipeline route was modified to pass through the agreed indicative intake and WTW, following the route 69B, 70.1B, 72B, and 73B before the WTW and 74B after the WTW to connect up with the route agreed in the Stage 3 workshop.

11.11. The preferred route, along with discounted routes and alternative routes (which were neither discounted nor the preferred route) are shown in Appendix I Map of T2AT BRI Shortlisted Pipeline Corridor.

12.2 BRI WTW sites

11.12. With regards to the indicative WTW site, the assessment, shortlisting, and final selection are summarised in Figure 12.2.

Figure 12.2 BRI WTW assessment, shortlisting, and selection summary



11.13. As with LTR, due to the expanse of the green belt designation in the project area, only the sites which are on developed land within the greenbelt (BRI_WTW_CON_08, BRI_WTW_CON_10, and BRI_WTW_CON_11), were shortlisted for taking into the final combined workshop (Stage 7) as this criterion was deemed to be the greatest blocker to progressing with a particular WTW site. Two sites were outside of the green belt (BRI_WTW_CON_04 and BRI_WTW_CON_09), but they were both on discounted pipeline corridors and on land allocated for development.

11.14. The RAG assessments for the three remaining options indicated BRI_WTW_CON_10 was the lowest risk option for both planning and environment, followed by BRI_WTW_CON_11 and BRI_WTW_CON_08. BRI_WTW_CON_08 had the disadvantage of being next to a local wildlife site and within a regional park, as well as being within an area designated for glasshouses. BRI_WTW_CON_11 abuts a local wildlife site and the permanent works area is only partially over a previously developed site. BRI_WTW_CON_10 has the benefit of having the permanent works entirely over a previously developed site, as well as not being within a nature conservation designation and being further away from the reservoir, which is a SSSI.

11.15. From a technical perspective BRI_WTW_CON_11 was the lowest risk site. BRI_WTW_CON_08 and 10 both have a higher risk of contamination (amber). BRI_WTW_CON_08 is a more constrained site and has worst ground conditions, but has the benefit of being closest to the source. BRI_WTW_CON_10 is furthest away from a suitable watercourse and also has overhead electric lines along the edge of the proposed temporary compound. As BRI_WTW_CON_10 is close to contaminated land, rather than within it; a pipe can be laid to a suitable watercourse; and measures could be put in place to reduce H&S risks during construction, greater weight was given to the environmental and planning criteria which would be harder to mitigate and would likely pose greater challenges in obtaining planning permission. Therefore BRI_WTW_CON_10 was selected as the indicative WTW site.

11.16. The map of the working pipeline corridor and indicative WTW and intake/RWPS sites

are illustrated in Appendix J Map of T2AT BRI Working Pipeline Corridor and Sites.

12.3 BRI intake and RWPS sites

11.17. As seen in previous sections, the intake and RWPS sites were largely comparable, with BRI_INT_CON_02 performing marginally better from a technical perspective.

11.18. Had BRI_WTW_CON_08 been selected as the preferable WTW site, the need for a RWPS could potentially have been removed. However, BRI_WTW_CON_08 was the highest risk site from the shortlist. Furthermore, having separate sites and the RWPS included at this stage provides a more conservative solution. Therefore it was agreed that the optimum arrangement was having the intake and RWPS at BRI_INT_CON_02 and the WTW at BRI_WTW_CON_10.

11.19. The map of the working pipeline corridor and indicative WTW and intake/RWPS sites are illustrated in Appendix J Map of T2AT BRI Working Pipeline Corridor and Sites.

13. Risk Management

12.1. As at Gate 1, we have continued to consider risk across the project. We have a qualitative risk register, which is used to record, track, and manage pre-construction phase risks, mostly associated with consenting and delivery programme. This risk register informs the quarterly reporting to RAPID. We have also developed a Quantitative Costed Risk Assessment (QCRA), which has been used to help derive estimates of construction phase financial risks for Gate 2. The QCRA was reviewed via workshops.

12.2. Details of the QCRA are provided in Supporting Technical Document A2a: Cost Report - LTR Option and Supporting Technical Document A2b: Cost Report - BRI Option. To ensure a degree of consistency across the different SROs, the ACWG has provided guidance and a spreadsheet template for capturing the QCRA and calculating Optimism Bias (OB)[5].

12.3. In order to further develop our risk understanding, a number of Gate 3 activities have been identified, the proposed work breakdown is detailed in Supporting Document F: Project Delivery Plan. The Supporting Document F: Project Delivery Plan focuses on the key aspects of the risk registers, discussing the highest priority risks and what activity is being undertaken to mitigate the major cost and programme risks during future phases of the project. Examples of the proposed Gate 3 activities, which would likely be used to inform future risk assessments are also provided in Supporting Technical Documents A1a - Concept Design Report - LTR Option and A1b - Concept Design Report - BRI Option.

[5] ACWG (2021), Appendix A-1 - Optimism Bias and QCRA Template - Rev C.xlsx

14. Summary and Conclusion

14.1 Option refinement process

13.1. In summary, an agreed staged option refinement methodology was followed to identify pipeline corridors and indicative intake, RWPS, and WTW sites for each option. These pipeline corridors and sites were evaluated using RAG assessments for technical, environmental and community, and planning and land criteria, which were then considered in unison at multidiscipline workshops. This process sought to build upon and back check the work undertaken at Gate 1 in finding the optimum working solutions for the LTR and BRI T2AT SRO options.

13.2. This process was aligned with that undertaken by the Thames to Southern Transfer SRO, to ensure a consistence approach, enabling a better comparison between the T2AT SRO options and other transfer SROs across the WRSE region.

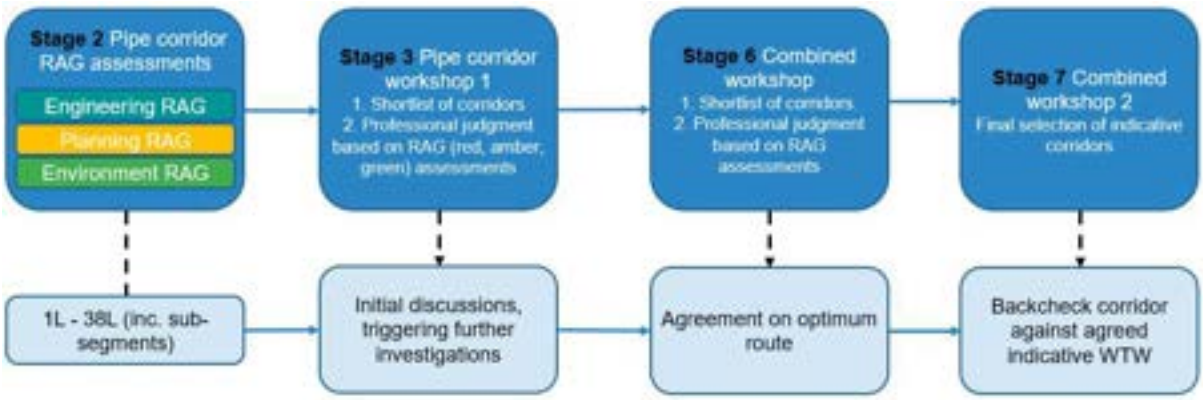
14.2 LTR option summary

13.3. The map of the indicative working pipeline corridor and indicative WTW and intake/RWPS sites are illustrated in Appendix E Map of T2AT LTR Working Pipeline Corridor and Sites.

14.2.1 LTR pipeline summary

13.4. Utilising the pipeline corridor identification core criteria within Table 3.1, 49 potential pipeline corridor segments were identified within Stage 1. These sites were then RAG assessed by each discipline in Stage 2. Throughout the Stage 3 and Stage 6 multidiscipline workshops, the optimal pipeline corridor for various sections of the route were agreed as illustrated in Figure 14.1.

Figure 14.1 LTR pipeline workshop summary



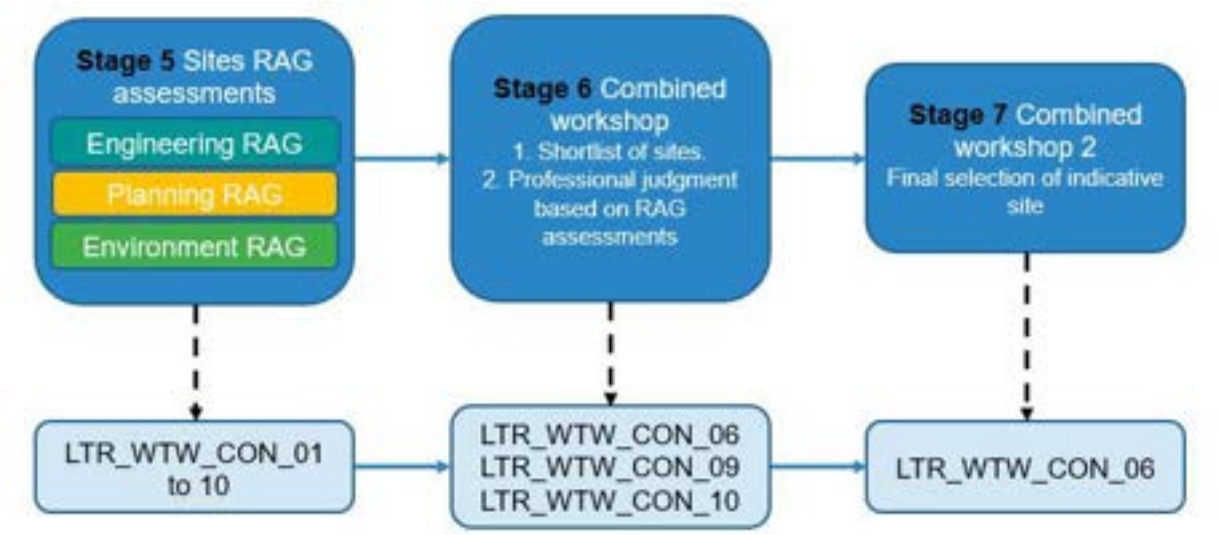
13.5. The indicative route takes the eastern corridor at the southern extent of the scheme as this avoids multiple M25 crossings, pockets of ancient woodland, and agricultural land, making it preferable for both technical and environmental perspectives. Similar planning policy applies to both corridors, but the eastern corridor is less residential and therefore will have a lower impact on communities.

13.6. The indicative route also takes the eastern corridor at the northern extent, largely due to the location of the agreed HS2 crossing. The eastern corridor was also the preferred corridor from an environmental perspective as the western corridor is adjacent to a SSSI, is in proximity to two SSSIs and two Registered Parks and Gardens, and passes through agricultural land.

14.2.2 LTR WTW summary

13.7. Utilising the WTW site identification core criteria presented in Table 3.2, 10 potential WTW sites were identified within Stage 4. These sites were then RAG assessed by each discipline in Stage 5. The Stage 6 multidisciplinary workshop resulted in a short list of three sites, with the determining factor being their location within brownfield sites due to green belt restrictions across the whole project area. A final site was then selected during the Stage 7 workshop as illustrated in Figure 14.2 and summarised below.

Figure 14.2 LTR WTW assessment, shortlisting, and selection summary



13.8. Site LTR_WTW_CON_06 was determined to be the optimum WTW site as it is in the vicinity of the existing Iver WTW and therefore has the shortest raw water pipeline and potential operational benefits. The disadvantages of this site are that it is more constrained, but a temporary compound has been identified in its vicinity, and having the potential for contamination, which could be mitigated. This site also appeared to have the lowest risk with regards to planning. Environmental and community risks were present on the proposed permanent and temporary sites, but these could be

mitigated to reduce the negative impacts.

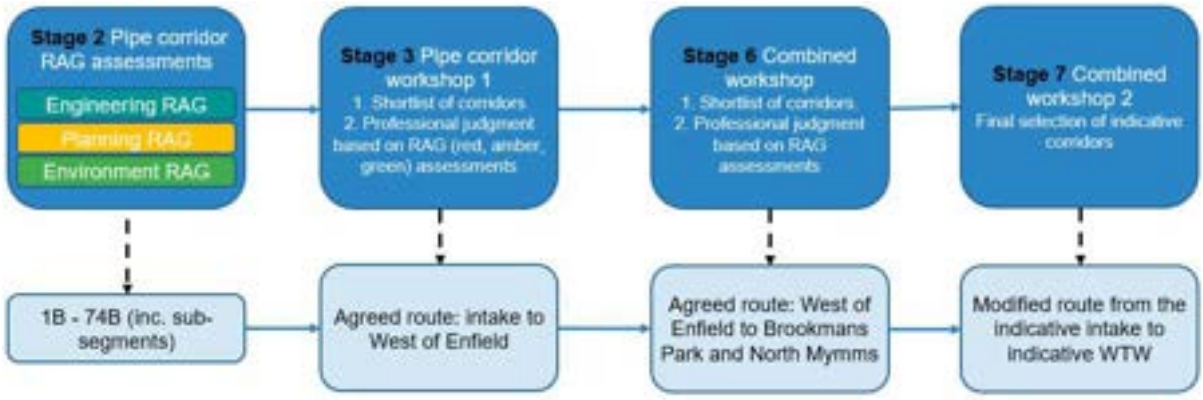
14.3 BRI option summary

13.9. The map of the indicative working pipeline corridor and indicative WTW and intake/RWPS sites are illustrated in Appendix J Map of T2AT BRI Working Pipeline Corridor and Sites.

14.3.1 BRI pipeline summary

13.10. Utilising the pipeline corridor identification core criteria within Table 3.1, 87 potential pipeline corridor segments were identified within Stage 1. These sites were then RAG assessed by each discipline in Stage 2. Throughout the Stage 3, Stage 6, and Stage 7 multidiscipline workshops, the optimal pipeline corridor for various sections of the route were agreed as illustrated in Figure 14.3 and summarised below.

Figure 14.3 BRI pipeline workshop summary



13.11. The indicative route goes north from the intake in order to avoid technical restrictions in the vicinity of Enfield Lock, several environmental designations, and numerous watercourse crossings to the west.

13.12. The pipeline crosses the River Lee south of the M25 to avoid significant pinch points, proximity to a country park and SPA/RAMSAR site, and various planning restrictions.

13.13. The pipeline is then routed through Enfield, with the main driver for specific corridors being technical constraints.

13.14. To the west of Enfield, the pipeline crosses the M25 and takes the northern route to Brookman's Park, with the main driver being planning designations and the consideration that environmental constraints can be managed.

13.15. The pipeline corridor then follows the northern route to the North Mymms area to avoid direct impacts on ancient woodland and planning designations.

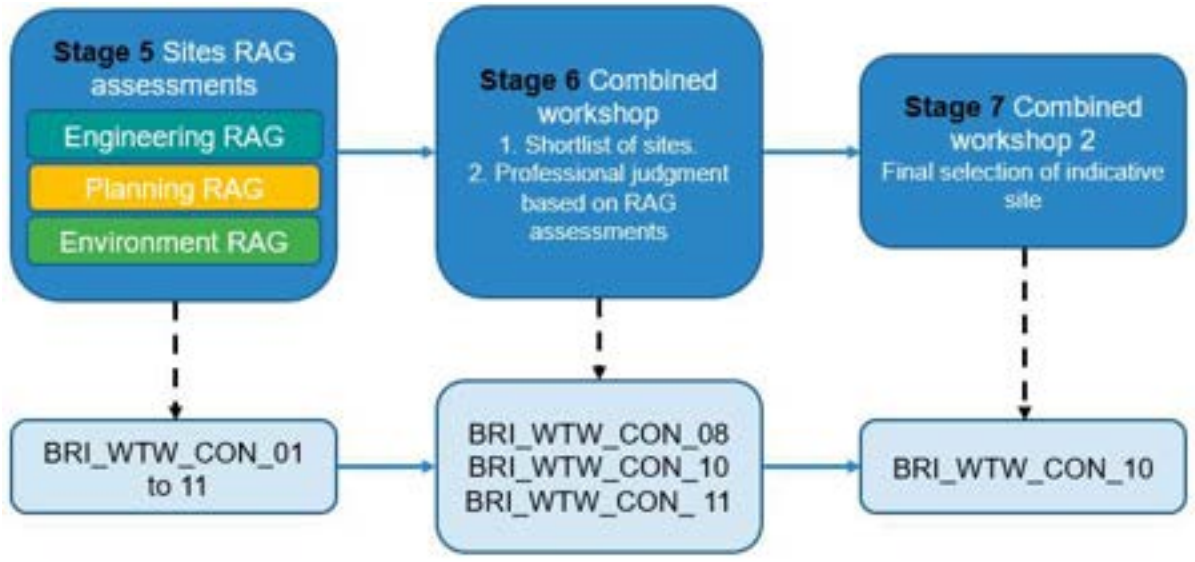
13.16. Final modifications were made to the start of the pipeline route during the Stage 7 workshop to connect to the agreed indicative intake, RWPS, and WTW.

14.3.2 BRI WTW summary

13.17. Utilising the WTW site identification core criteria presented in

13.18. Table 3.2, 11 potential WTW sites were identified within Stage 4. These sites were then RAG assessed by each discipline in Stage 5. The Stage 6 multidisciplinary workshop resulted in a short list of three sites, with the determining factor being their location on previously developed land within the greenbelt (BRI_WTW_CON_08, BRI_WTW_CON_10, and BRI_WTW_CON_11) due to green belt restrictions across the whole project area. BRI_WTW_CON_04 and BRI_WTW_CON_09 are outside of the greenbelt, but have an existing/designated use which makes it likely to preclude development and are located on discounted pipeline corridors. A final site was then selected during the Stage 7 workshop as illustrated in Figure 14.4 and summarised below.

Figure 14.4 BRI WTW assessment, shortlisting, and selection summary



13.19. BRI_WTW_CON_10 was selected as the indicative WTW site as this site was the optimum site from a planning perspective, as well being preferable from an environmental perspective. While this site was not the optimum site from a technical perspective, the technical risks could be more easily mitigated than the planning and environmental risks.

13.20. As seen in previous sections, the intake and RWPS sites were largely comparable, with BRI_INT_CON_02 performing marginally better from a technical perspective.

13.21. Had BRI_WTW_CON_08 been selected as the preferable WTW site, the need for a RWPS could potentially have been removed. However, BRI_WTW_CON_08 was the highest risk site. Additionally, having separate sites and the RWPS included at this stage provides a more conservative solution with regards to land, cost, and carbon.

13.22. It was therefore agreed that the optimum arrangement was having the intake and RWPS at BRI_INT_CON_02 and the WTW at BRI_WTW_CON_10.

14.4 Conclusion

13.23. In conclusion, a thorough review of potential sites and pipeline corridors has been undertaken for the LTR and BRI T2AT SRO options. This enabled an indicative working solution to be selected for each option.

13.24. Readers are asked to bear the following points in mind:

- The working solutions are neither fixed, nor final solutions; there are alternatives to the selected corridors and sites which are available to be consulted upon at a later stage in the project life.
- Consultation with stakeholders will be key to finalising the sites and pipeline routes.
- The working solutions are not the detailed design; there are still numerous studies that will have to be undertaken prior to finalising design decisions if the T2AT scheme is to be implemented.
- The Option Refinement Report applies to the T2AT LTR and T2AT BRI options on their own; the transfer schemes will require upstream source schemes and downstream distribution network upgrades to be built to create a complete system.

13.25. The option refinement process, consistent across other SROs, has built upon work undertaken at Gate 1 by challenging Gate 1 assumptions, incorporating additional information, and systematically considering design and construction criteria, planning and land acquisition risks, and environmental and community impact.

13.26. Following the siting philosophy and option refinement process, the indicative LTR pipeline corridor broadly followed the same corridor as at Gate 1, but was refined for Gate 2 following further analysis and receipt of additional information. An alternative indicative WTW site was proposed for Gate 2, which is closer to the existing Iver WTW, bringing with it operational and technical benefits.

13.27. Following the siting philosophy and option refinement process for the BRI option, it was refined to have a shorter raw water pipeline by situating the WTW in the vicinity of the intake. The pumped drinking water pipeline was then routed to the existing SR near Brookmans Park, with a gravity drinking water pipe to North Mymms, bringing greater resilience to the Affinity Water network. As well as a new indicative WTW site and new pipeline corridor, the intake location from Gate 1 was reviewed alongside a new option. A new intake location was selected following the RAG

assessments and multidisciplinary workshops.

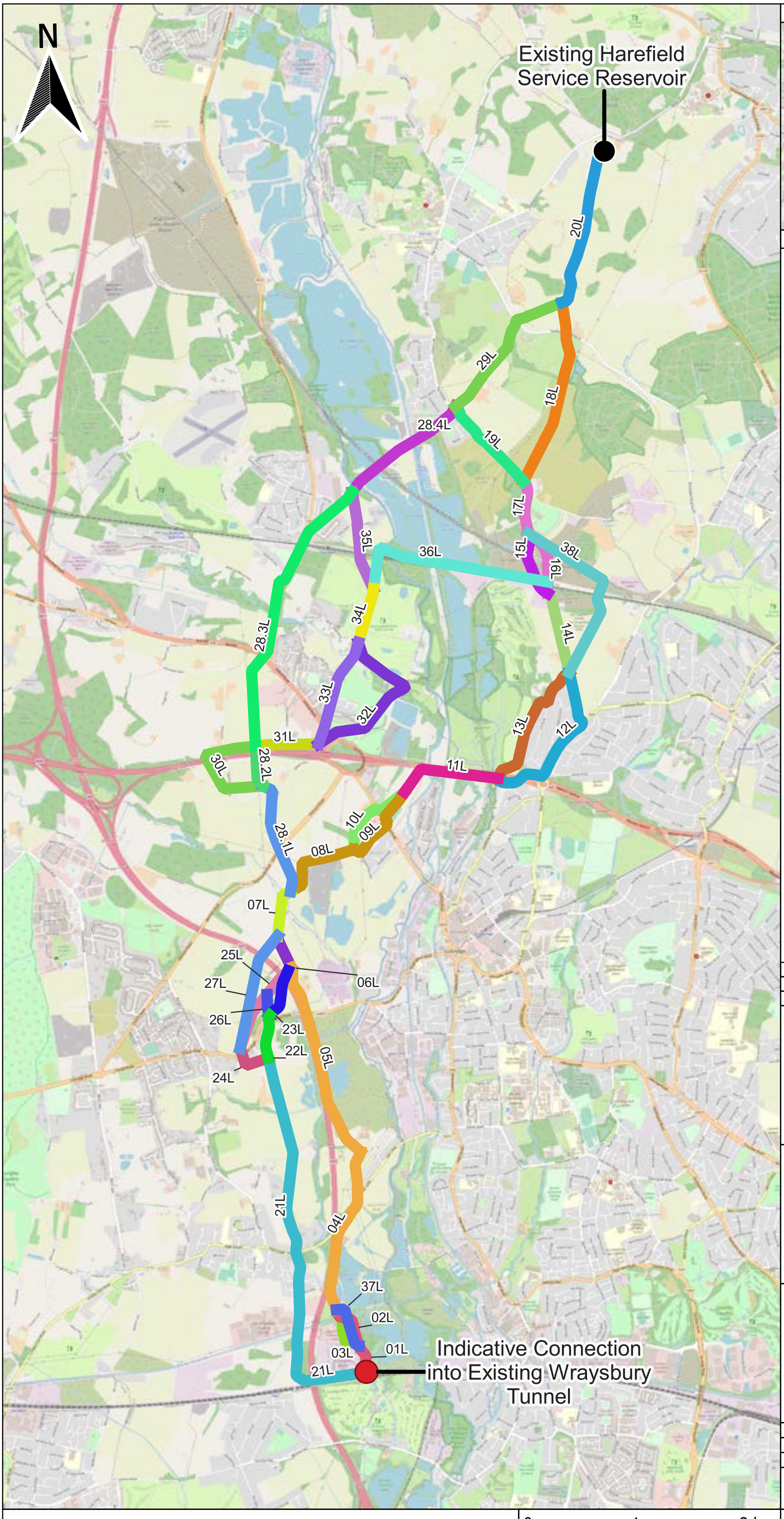
13.28. This process has formed the basis of the concept design and associated cost and carbon assessments, environmental appraisals, drinking water assessments, and the planning and consent strategy; all of which are summarised in the RAPID Gate 2 report and detailed within the technical supporting documents listed below.

Table 14.1: Thames to Affinity Transfer technical supporting documents for Gate 2

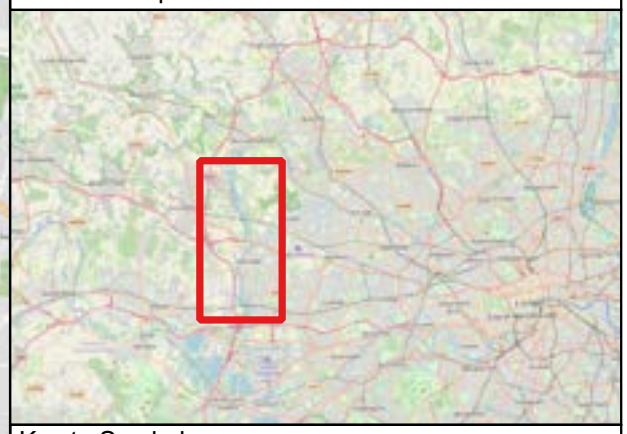
Reference	Report Title
Main Report	RAPID Gate 2 Report - whole report
Technical Supporting Documents	
A1a	Concept Design Report - LTR Option
A1b	Concept Design Report - BRI Option
A2a	Cost Report - LTR Option
A2b	Cost Report - BRI Option
A3a	Carbon Strategy - LTR Option
A3b	Carbon Strategy - BRI Option
A4	Options Appraisal Methodology Report
A5	Options Refinement Report
B1a	Environmental Appraisal Report (terrestrial + aquatic) - LTR Option
B1b	Environmental Appraisal Report (terrestrial + aquatic) - BRI Option
B2	Habitats Regulations Assessment (HRA)
B3	Water Framework Directive (WFD)
B4	Inputs into WRSE and WRMP24 Strategic Environmental Assessment (SEA)
Ca	Drinking Water Risk Assessment - LTR Option
Cb	Drinking Water Risk Assessment - BRI Option
D	Stakeholder Engagement Strategy
E	Commercial and Procurement Strategy
F	Project Delivery Plan
G	Planning and Consent Strategy

Reference	Report Title
H	Gate 2 Orientation Report

Appendix A Map of T2AT LTR Assessed Pipeline Corridor Segments



Location Map



Key to Symbols

- Existing Site
- Indicative Site

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	23/09/22	JA	Segment numbers added	ES	MF
P1	24/07/22	JA	For Information	ES	QR

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Lower Thames Reservoir (LTR)
Assessed Pipeline Corridor Segments

Designed	D Hoban		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	Q Rea	

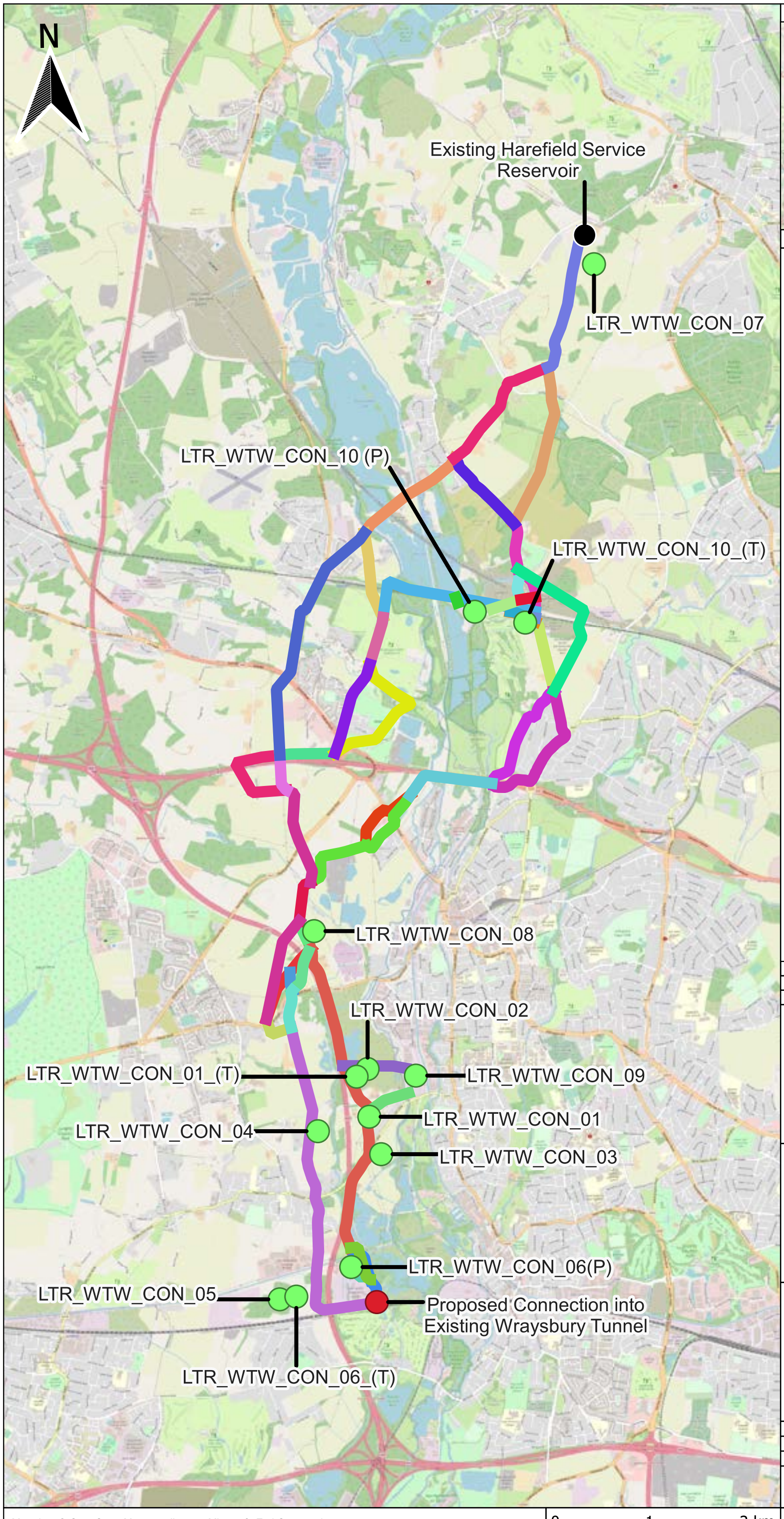
Scale at A3	Status	Rev	Security
1:35000	PRE	P2	STD

0 1 2 km

Drawing Number

420176-MMD-LTR-TM-DR-C-0032

Appendix B Map of T2AT LTR Assessed Sites



Location Map

Key to Symbols

01L	28.1L
02L	28.2L
03L	28.3L
04L	28.4L
05L	29L
06L	30L
07L	31L
08L	32L
09L	33L
10L	34L
11L	35L
12L	36L
13L	37L
14L	38L
15L	LTR_WTW_09_Spur_In
16L	LTR_WTW_09_Spur_Out
17L	LTR_WTW_10_Spur_In_A
18L	LTR_WTW_10_Spur_Out_A
19L	LTR_WTW_10_Spur_Out_B
20L	LTR_WTW_10_Spur_Out_C
21L	LTR_WTW_10_Spur_Out_D
22L	LTR_WTW_10_Spur_Out_E
23L	Assessed Water Treatment Works Sites
24L	
25L	Indicative Site
26L	
27L	Existing Site

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	23/09/22	JA	Pipe Corridors Added	ES	MF
P1	24/07/22	JA	For Information	ES	QR

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Lower Thames Reservoir (LTR)
Assessed Sites

Designed	D Hoban		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	Q Rea	

Scale at A3	Status	Rev	Security
1:40000	PRE	P2	STD

0 1 2 km

Drawing Number

420176-MMD-LTR-WTW-DR-C-0004

Appendix C T2AT LTR RAG Assessment Tables

Lower Thames Reservoir Pipeline Corridor - Technical

			RED	AMBER	GREEN	Corridor ID 01L	02L	03L	04L	05L	06L	07L	08L	09L	10L	11L	12L
			Corridor segment discounted due to at least one significant constraint														
Design																	
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Rural area and no crossings - no constraints. Overhead lines (OHL) in close proximity to the southern end. Priority habitat applies.	Pipe bridge may be required for the canal crossing in North. OHL cuts across at Southern end. Priority habitat applies.	Pipe bridge may be required for the canal crossing at North end. OHL in close proximity to the South. Priority habitat applies.	Pipe bridge may be required for the river crossing near central. Several OHLs cut across along pipeline. Open cut crossing in B road. Priority habitat applies.	Pipe bridge may be required for the river crossing near central. Open cut crossing under A road. Priority habitat applies.	Rural area and no crossings - no constraints	Pipe bridge may be required for the river crossing near central. OHL cuts across near central.	Runs east/west adjacent/along rural public footpath, with quarries located north and south of the alignment. Overhead powerlines at east end. An existing watermain (900mm diameter) along this alignment. A recycling centre at southern end	Rural area, ~550m in road, ~70m through a car park and ~290m in fields. A road crossing. Largely constrained after crossing A road into local lane due to large residential area on SE side for whole length in road, and the same on NW side for 60m.	Rural area, ~1km length, predominantly laid through farmland. Includes ~200m laid in/alongside road and an A road crossing. Alignment is constrained at A road crossing. Close to priority habitat and green space at discrete locations.	Runs east to west adjacent to southern edge of an A road, then south through farmland. The sections alongside A road are challenging, proximity to A road viaduct footings, crossing through/adjacent to priority habitat, multiple watercourse crossings, difficult access (possible need for temporary access bridges) and areas subject to flooding	Runs adjacent/along existing street. The northern ~400m has concentrated housing on west side of the street, followed by ~750m of concentrated housing on both sides. the existing street serves as a main thoroughfare through Ickenham and this section of pipeline would cause significant disruption to local residents. Three existing watermains along most of this alignment. Short (~15m) crossing through priority habitat at southern end. Crosses an A road at southern end. the A road is wide at this location with on and off ramps either side (crossing is ~60m). Main carriageway is in cutting with on/off ramps at-grade. There are two existing (450mm diameter) watermains crossing the A road at this location. There are open spaces either side available for pipe-jacking launch/reception.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Pipe crown will be lower than SR BWL, however this segment crosses a large watercourse which will result in pipe bridges or tunnels being installed with associated valves and drains.	Pipe crown will be lower than SR BWL, however this segment crosses a large watercourse which will result in pipe bridges or tunnels being installed with associated valves and drains.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Pipe crown will be lower than SR BWL, however this segment crosses two large watercourse which will result in pipe bridges or tunnels being installed with associated valves and drains.	Pipe crown will be lower than SR BWL, however this segment crosses an A road which will result in tunnels being installed with associated valves and drains. The A road is in cutting with on/off ramps at-grade.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	No obvious impact on 4 Rs	This segment requires passage under or over assets of significant public importance i.e. GUC which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. GUC which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	Limited space between the motorway and lakes may cause future reliability and response issues due to indirect traffic loading / ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs	No obvious impact on 4 Rs	No obvious impact on 4 Rs	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	This segment requires passage under or over assets of significant public importance i.e. third watercourses which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under an asset of significant public importance i.e. A road/motorway which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation, micro tunnelling.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to micro tunnelling / dualling under watercourse.	Likely to have higher construction costs due to micro tunnelling / dualling under watercourse.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under watercourses, and due to reinstatement of contaminated land.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to micro tunnelling / dualling under watercourses.	Likely to have higher construction costs due to main road reinstatement requirements.
Construction																	
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Control measures required for OHL in close proximity to the south.	Control measures required for OHL cutting across in South and river cutting across in north.	Control measures required for OHL in close proximity to the South and river cutting across in north.	Control measures required for several OHLs cutting across along pipeline. River cutting across in north, and a large portion of pipeline is adjacent to motorway and open water area.	Control measures required for working alongside motorway and open water area.	Works can be constructed safely without abnormal control measures	Control measures required for OHL and river cutting across near central. 50m to nearest open water area.	Ground conditions and gradients to be assessed. This is a rural area, but the public footpath poses an interface with walkers etc. which will require management and possible footpath diversion or closure (diversion may be difficult due to quarries on either side). Quarries constrain working corridor to ~30m. OH Powerline	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Substantial risk mitigation required (including site investigation & stakeholder coordination) due to challenging access conditions, proximity to A road and multiple watercourse crossings (possibly including temporary access bridges).	Ground conditions and gradients to be assessed. Multiple public interfaces due to urban location. Substantial risk mitigation required for crossing of A road; including site investigation, stakeholder coordination and planning.
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Rural area, adequate open space	Rural area, adequate open space	Rural area, adequate open space	Rural area, adequate open space	Rural area, adequate open space	Rural area, adequate open space	Rural area, adequate open space	There is limited space alongside this relatively short (~400m) pipe length but space is available at either end	Space is more limited down the local lane but two green field locations still present in this stretch as well as multiple fields at northern and southern end of section	Rural area, adequate open space	Very constrained for 750m alongside A road. Green field locations available at south western end and eastern end	Very constrained for 750m through Ickenham. Green field locations available at northern (along local main street) and southern ends (both sides of A road)
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	Adequate access - Adjacent to country road. 300m to nearest motorway	Adequate access - Adjacent to country road. 500m to nearest motorway	Adequate access - Adjacent to country road. 400m to nearest motorway	Adequate access - Adjacent to motorway, B road and minor road.	Adequate access - Adjacent to motorway, across A road	Adequate access - Adjacent to motorway and narrow country road.	Good access at northern end, 600m to nearest A road.	Good access assuming quarry access roads can be used	Good access from local lane, 150m of temporary access required at southern end and 300m at northern end	Good access from local road. 300m of temporary access required at north east end. At south west end, existing farm access tracks may need upgrading ~450m	Difficult access to sites alongside A road, may involve temporary access bridges	Good access adjacent to road
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Within flood zone 1. Corridor eats into flood zone 2 & 3.	Small portion goes through flood zone 2 but can be designed to avoid damage. Corridor eats into flood zone 2 & 3.	Within flood zone 1. Corridor eats into flood zone 2 & 3.	Pipeline and corridor goes through flood zone 2 and 3 but can be designed to avoid damage	Pipeline and corridor goes through flood zone 2 and 3 but can be designed to avoid damage	Within flood zone 1.	Middle section (pipeline & corridor) goes through flood zone 2 & 3 but can be designed to avoid damage.	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is partially within Flood Zone 2 & 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is partially within Flood Zone 2 & 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding

Lower Thames Reservoir Pipeline Corridor - Technical

			RED	AMBER	GREEN	13L	14L	15L	16L	17L	18L	19L	20L	21L	22L	23L	24L
			Corridor segment discounted due to at least one significant constraint					X	X								
Design																	
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Northern end runs for 450m adjacent/along a residential access road at northern extent of Ickenham, concentrated housing on east of pipe route. Subsequent 750m is between back gardens of houses along a local lane and a golf course to the west. All of the affected part of the golf course is designated "green space" and at either end, there are priority habitat designations (~500m of pipe length encroachment/abutment). This route causes traffic disruption to local residents of the local lane, but substantially less population affected compared with the main street alternative (12L). There is a small 100mm diam watermain along the local lane. Crosses an A road at southern end, where the A road is on viaduct. There is a single (600mm diam) watermain crossing A road at this location. Photo from site visit on tab "13L" indicates sufficient headroom and width (subject to alignment of existing watermain and proximity to viaduct footings)	No crossings. Runs adjacent/along the local main street. One existing watermain along this alignment. An Oil Terminal shows up on some mapping, west side of northern end (possibly no longer operational). Large HS2 site to east side of northern end.	Runs adjacent/along the local main street. One existing watermain along this alignment. Priority habitat at southern end although significant vegetation clearing has taken place for HS2. Crosses HS2 and existing railway (subject to capacity of existing bridge to carry pipe). Significant road realignments apparent (google street view). The Oil Terminal shows up on some mapping to southern end (possibly no longer operational). Meeting 01/04/2022 with Affinity Water confirmed the location of the HS2 crossing point, 38L has been added to align with this.	Priority habitat at southern end although significant vegetation clearing has taken place for HS2. Crosses HS2 and existing railway (new crossing below or over). Significant road realignments apparent (google street view). Large HS2 site to south east side of southern end. Meeting 01/04/2022 with Affinity Water confirmed the location of the HS2 crossing point, 38L has been added to align with this.	Runs adjacent/along the local main street. three existing watermains along north end of this alignment, two along south end. Non-ancient woodland west of most of this pipe length, and short section to east. A recycling centre at northern end. Priority habitat applies.	Rural area, farmland. One crossing over a local road. Broad corridor available but midpoint close to Ancient woodland (just within buffer). Overhead powerlines at southern end. A recycling centre at southern end. Priority habitat applies.	Runs adjacent/along the local main street. Overhead powerlines at SE end. Three existing watermains along this alignment. A recycling centre at southern end. Priority habitat applies.	Rural area, farmland. No crossings. Ancient woodland at southern end, but broad corridor available. Priority habitat applies.	Runs along a local lane and crosses a motorway, Grand Union Canal (GUC) and overhead power lines in southern section. OHL also present at beginning of section. Crosses a B road ~halfway through section. Priority habitat applies.	Rural area, encroaches on woodland and runs directly adjacent to ancient woodland. Crosses an A road. Priority habitat applies.	Rural area, encroaches on woodland and runs directly adjacent to ancient woodland. Crosses a motorway. Priority habitat applies.	Rural area but crosses an A road and minor road. Priority habitat applies.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Pipe crown will be lower than SR BWL, however this segment crosses under an A road which will result in additional valves and drains due to rapid changes in gradient.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Due to significant ongoing HS2 works in this location, terrain difficulty is hard to determine. Pipe crown will be lower than SR BWL, however this segment crosses two railway lines which will result in tunnels being installed with associated valves and drains. Existing railway is in a substantial cutting.	Due to significant ongoing HS2 works in this location, terrain difficulty is hard to determine. Pipe crown will be lower than SR BWL, however this segment crosses two railway lines which will result in tunnels being installed with associated valves and drains. Existing railway is in a substantial cutting.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	This segment requires passage under an asset of significant public importance i.e. A road/motorway which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs.	This segment requires passage under assets of significant public importance i.e. two railway lines which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	This segment requires passage under assets of significant public importance i.e. two railway lines which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious impact on 4 Rs	No obvious impact on 4 Rs	No obvious impact on 4 Rs	No obvious impact on 4 Rs	This segment requires passage under an asset of significant public importance i.e. the motorway which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs	This segment requires passage under an asset of significant public importance i.e. the motorway which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation, micro tunnelling.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	Likely to have higher construction costs due to main road reinstatement requirements.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction cost due to difficult railway crossings	Likely to have higher construction cost due to difficult railway crossings	Likely to have higher construction costs due to reinstatement of contaminated land.	Likely to have higher construction costs due to reinstatement of contaminated land.	Likely to have higher construction costs due to reinstatement of contaminated land.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under watercourses, and due to reinstatement of contaminated land.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to micro tunnelling / dualling at motorway crossing point.	No abnormal difficulty foreseen or specific impact on construction costs.
Construction																	
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Ground conditions and gradients to be assessed. Multiple public interfaces due to urban location. Substantial risk mitigation required for crossing of A road; including site investigation, stakeholder coordination and planning.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road and works to be coordinated with HS2 proposals	Ground conditions and gradients to be assessed. Public interface at road and works to be coordinated with HS2 proposals	Ground conditions and gradients to be assessed. Public interface at road and entrance to a recycling facility	Ground conditions and gradients to be assessed. Public interface at road crossing. OH Powerline	Ground conditions and gradients to be assessed. Public interface at road. OH Powerline	Ground conditions and gradients to be assessed.	Ground conditions and gradients to be assessed. Public interface at road. OH Powerline	Ground conditions and gradients to be assessed. Public interface with road and an equestrian coaching centre	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface with road and an equestrian coaching centre
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Quite constrained along a local lane and alongside golf course (subject to permission to have set down areas in golf course - note designations mentioned above). Green field locations available at northern (along local main street) and southern ends (both sides of A road)	Rural area. Adequate space	HS2 programme to be consulted to determine if HS2 locations can be used. If not, space may need to be identified alongside 14L or 17L	Subject to coordination with HS2 works, space should be available. (Potential to programme works to use some of the same locations?)	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space. But some constraints at southern end, due to urban land use	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	Good access at northern end. Temporary access road (~750m) through golf course & environmental designations will require agreement. Access below viaduct may have restricted headroom. South side of viaduct is accessible from a B road	Good access adjacent to road	Good access adjacent to road	Good access from local main street (either end) or from HS2 haul road (if access can be negotiated)	Good access adjacent to road	Requires temporary road ~1.5km.	Good access adjacent to road	Requires temporary road ~1.5km	Requires temporary road ~1.5km	Good access adjacent to road	Good access adjacent to road	Good access adjacent to road
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is partially within Flood Zone 2 & 3	Section is partially within Flood Zone 2 & 3	Section is partially within Flood Zone 2 & 3	Section is partially within Flood Zone 2 & 3	Section is partially within Flood Zone 2 & 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is partially within Flood Zone 2 & 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is within Flood Zone 1, or an area at low risk of surface water flooding

Lower Thames Reservoir Pipeline Corridor - Technical

			RED	AMBER	GREEN	25L	26L	27L	28.1L	28.2L	28.3L	28.4L	29L	30L	31L	32L	33L	34L
			Corridor segment discounted due to at least one significant constraint									X						
Design																		
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Rural area, runs adjacent to ancient woodland. Crosses a motorway. Priority habitat applies.	Rural area, runs adjacent to ancient woodland. Priority habitat applies.	Rural area, crosses a motorway, encroaches on woodland on both sides just before crossing the motorway but there is ~300m between these two sections of woodland. Priority habitat applies.	Crosses below OHL. One micro tunnelling crossing of an A road (or potentially open cut with traffic management.), relatively straightforward	Proximity to OHL and pylons. One micro tunnelling crossing of motorway (on substantial embankment , crossing is ~80m long).	Proximity to OHL at southern end. Likely requires new crossing at the watercourse (existing bridge unlikely to be feasible). 1km of open cut in A road with traffic management, half of which includes concentrated housing on each side of road near northern end. Crosses below railway, either through existing bridge (open-cut in road, subject to space constraints/utilities/traffic management) or through new micro tunnel.	Pipe route is very much constrained and there is little flexibility available to alter the route. ~700m is alongside Priority Habitat, ~400m SSSI. Route crosses a watercourse and canal. Existing bridges may not be suited to carrying the pipe and new crossings may be required. Intersects with alignment of HS2 (viaduct section).	Rural area, farmland. One crossing over a local road. Broad corridor available	Proximity to OHL at eastern end. Rural area, largely in farmland. One micro tunnelling crossing of the motorway (three-lane, each way).	Proximity to OHL at western end. Rural area, no particular difficulty identified.	One micro tunnelling crossing of the motorway. Laid in road along an existing drive. Likely requires new crossing of the watercourse (existing bridge unlikely to be feasible). New crossing will be through/below "priority habitat", which runs adjacent to both sides of road. Northern part within golf course - specialist reinstatement.	One micro tunnelling crossing of the motorway. 250m with concentrated housing on each side of road. There are private houses and gardens on both sides of road where the pipe route crosses the watercourse. The existing bridge is unlikely to be feasible. To facilitate a new crossing, the pipe may need to be routed around the private gardens. Northern part within golf course - specialist reinstatement.	Entirely within golf course - specialist reinstatement.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Pipe crown will be lower than SR BWL, however this segment crosses through the local regional park and under the HS2 viaduct, resulting in a narrow & heavily constrained working corridor with canal and river crossings. Tunnels and or pipe bridges may be required.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	This segment requires passage under an asset of significant public importance i.e. the motorway which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs	This segment requires passage under an asset of significant public importance i.e. the motorway which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs	This segment requires passage under or over assets of significant public importance i.e. the motorway which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under an assets of significant public importance i.e. railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. the HS2 viaduct through the local regional park and GUC which may cause future reliability and response issues due to loading / ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs	This segment requires passage under or over assets of significant public importance i.e. the motorway which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs	This segment requires passage under an asset of significant public importance i.e. A road which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under an asset of significant public importance i.e. A road which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	No obvious impact on 4 Rs
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation, micro tunnelling.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	Likely to have higher construction costs due to micro tunnelling / dualling at motorway crossing point.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to micro tunnelling / dualling at motorway crossing point.	Likely to have higher construction costs due to main road reinstatement requirements.	Likely to have higher construction costs due to micro tunnelling / dualling at motorway crossing point.	Likely to have higher construction costs due to difficult railway crossing, and due to main road reinstatement requirements.	Likely to have higher construction costs due to micro tunnelling / dualling under watercourses.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to micro tunnelling / dualling at motorway crossing point.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.
Construction																		
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Ground conditions and gradients to be assessed. Public interface at motorway	Ground conditions and gradients to be assessed.	Ground conditions and gradients to be assessed. Public interface at motorway	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road crossing.	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road crossing.	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road and watercourse crossing.	Control measures required for working close to open water area. Ground conditions and gradients to be assessed. Public interface at road, river and canal.	Ground conditions and gradients to be assessed. Public interface at road crossing.	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road crossing.	Ground conditions and gradients to be assessed.	Ground conditions and gradients to be assessed. Public interface at road and watercourse crossing.	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road and watercourse crossing.	Ground conditions and gradients to be assessed.
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Largely in rural area. Northern part within residential area, thus limited space.	Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Mostly in field or golf course.	Limited space around residential area.	Adequate space
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	Requires temporary road ~900m.	Requires temporary road ~250m	Requires temporary road ~1.2km.	Good access overall, adjacent to road, but might require temporary road ~150m	Might require temporary road ~290m	May require temporary road ~850m on southern side.	Good access - along road	Requires temporary road ~1.5km.	Good access adjacent to road	Good access adjacent to road	Might require temporary road.	Might require update to the bridge over watercourse.	Might require temporary road
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Southern end within Flood zone 2 & 3.	Within flood zone 1	Running across flood zone 2&3.	Largely within Flood zone 2&3.	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Within flood zone 1	Within flood zone 1	Section is partially within Flood Zone 2 & 3	Northern part within Flood Zone 2 & 3	Within flood zone 1

Lower Thames Reservoir Pipeline Corridor - Technical

			RED	AMBER	GREEN	35L	36L	37L	38L
			Corridor segment discounted due to at least one significant constraint						
Design									
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Partially within golf course - specialist reinstatement. micro tunnelling crossing under railway and open-cut crossing of minor road.	Micro tunnelling crossing under railway. Crosses below OHP at location near railway (on viaduct) and canal. Route includes two river crossings and one canal crossing. Pipe also crosses the local main street. Most of the route (1.3km) is through priority habitat	Pipe bridge may be required for the canal crossing at North end. OHL in close proximity to the South. Priority habitat applies.	Along southern 500m, proposed pipe route is adjacent to existing 600mm diameter DI water. Priority habitat is mapped near mid-section although significant vegetation clearing has taken place for the large HS2 site. Crosses existing railway (new crossing below or over) and proposed HS2. HS2 crossing design drawings to be provided by Affinity Water, reported to comprise box culvert tunnel 8 – 9 m below ground level.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Pipe crown will be lower than SR BWL, however this segment crosses a large watercourse which will result in pipe bridges or tunnels being installed with associated valves and drains.	Due to significant ongoing HS2 works in this location, terrain difficulty is hard to determine. Pipe crown will be lower than SR BWL, however this segment crosses two railway lines which will result in tunnels being installed with associated valves and drains. Existing railway is in a substantial cutting.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	This segment requires passage under an assets of significant public importance i.e. railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under an assets of significant public importance i.e. railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. GUC which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on third party assets will require 4R consideration and mitigation.	This segment requires passage under assets of significant public importance i.e. two railway lines which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation, micro tunnelling.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	Likely to have higher construction costs due to difficult railway crossing.	Likely to have higher construction costs due to difficult railway crossing, and due to micro tunnelling under watercourses.	Likely to have higher construction costs due to micro tunnelling / dualling under watercourse.	Likely to have higher construction costs due to difficult railway crossing.
Construction									
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Ground conditions and gradients to be assessed. Public interface at railway crossing.	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at railway and watercourse crossing.	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at watercourse crossing.	Ground conditions and gradients to be assessed. Public interface at road and railway crossing.
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Adequate space	Adequate space	Adequate space	Adequate space
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	Might require temporary road	Require temporary road along railway.	Largely in hardstanding, but may require temporary road ~150m for both ends.	Adequate access at both ends, will require temporary road ~1.4km for middle part.
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Very small section within flood zone 2, can be avoided.	Section is partially within Flood Zone 2 & 3	Northern end within flood zone 2.	Northern end within flood zone 2 and 3.

Lower Thames Reservoir Pipeline Corridor - Environment and Community

	Criteria		RED	AMBER	GREEN	01L	02L	03L	04L	05L	06L	07L	08L	09L
Environment														
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor adjacent to ancient woodland but this is on western side of M25 therefore scored as green.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Conservation area within route corridor but on western side of M25 therefore not scored as red (scored as amber due to proximity of conservation area to the east of the route corridor and listed buildings).	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Historic landfill within route corridor.	Historic landfill within route corridor.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic and authorised landfills.	Route corridor within 500m of historic and authorised landfills.	Authorised landfill within route corridor.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Route corridor in non-agricultural land	Route corridor in non-agricultural land	Route corridor in non-agricultural land	Route corridor in non-agricultural land	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 (including 3a) agricultural land within route corridor.	Grade 2 and 3a agricultural land within route corridor.	Grade 2 and 3a agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland and other priority habitat (no main habitat but additional habitats present) within route corridor.	Deciduous woodland and other priority habitat (no main habitat but additional habitats present) within route corridor.	Deciduous woodland and other priority habitat (no main habitat but additional habitats present) within route corridor.	Deciduous woodland priority habitat within route corridor.	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.
Community														
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Public park/garden within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Allotment, playing field and religious grounds within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoWs within the route corridor.	PRoWs within the route corridor.	PRoWs within the route corridor.	PRoW within the route corridor (including along pipeline route).	National Cycle Route within the route corridor. PRoW within the route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within the route corridor.

Lower Thames Reservoir Pipeline Corridor - Environment and Community

	Criteria		RED	AMBER	GREEN	10L	11L	12L	13L	14L	15L	16L	17L	18L
Environment														
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Route corridor is adjacent to SSSI / LNR. Nature Conservation Site of Metropolitan Importance within route corridor.	Route corridor is in close proximity to SSSI / LNR. Nature Conservation Site of Metropolitan or Borough Grade I Importance within route corridor.	Route corridor is adjacent to SSSI/LNR (N.B. closer than route corridor 12L). Nature Conservation Site of Metropolitan or Borough Grade I Importance within route corridor.	Two Nature Conservation Sites of Borough Grade II within route corridor.	Nature Conservation Site of Borough Grade II Importance and Borough Grade I within route corridor.	Nature Conservation Site of Borough Grade I Importance within route corridor.	Nature Conservation Site of Borough Grade I Importance within route corridor.	Route Corridor adjacent to SSSI/NNR. Nature Conservation Site of Metropolitan Importance adjacent to route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor is adjacent to ancient woodland.	Route corridor within 15m of ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor within 15m of ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor is adjacent to ancient woodland.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Conservation area within route corridor. Listed buildings within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Authorised landfill within route corridor.	Route corridor within 500m of historic and authorised landfills.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Historic landfill within route corridor.	Historic landfill within route corridor.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 2 and 3a agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.
Community														
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	Allotment, playing field and religious grounds within route corridor.	Allotments, playing field and public park and garden within route corridor.	Sports facility and golf course within route corridor.	Golf course within route corridor.	Golf course within route corridor.	Golf course within route corridor.	Golf course within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within the route corridor.	National Cycle Route within route corridor. PRoWs within the route corridor.	Route corridor predominantly within built up area.	Route corridor partly within built up areas.	PRoW within route corridor.	PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoWs within route corridor.	PRoW within route corridor.

Lower Thames Reservoir Pipeline Corridor - Environment and Community

	Criteria		RED	AMBER	GREEN	19L	20L	21L	22L	23L	24L	25L	26L	27L
Environment														
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	Nature Conservation Sites of Metropolitan or Borough Grade I Importance within route corridor.	Nature Conservation Sites of Borough Grade I Importance within route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor is adjacent to ancient woodland.	Route corridor is adjacent to ancient woodland.	Route corridor is adjacent to ancient woodland.	Route corridor is adjacent to ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor is adjacent to ancient woodland.	Route corridor is adjacent to ancient woodland.	Route corridor within 15m of ancient woodland.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Conservation area within route corridor. Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Historic landfill within route corridor.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 1 agricultural land within route corridor (given current land use, this is likely to be a smaller area than the mapping suggests).	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.
Community														
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	Playing field within route corridor.	Country Park within route corridor.	Religious grounds and cemetery within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	Several PRoWs and National Cycle Route within route corridor.	PRoW within route corridor.	PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.

Lower Thames Reservoir Pipeline Corridor - Environment and Community

	Criteria		RED	AMBER	GREEN	28.1L	28.2L	28.3L	28.4L	29L	30L	31L	32L	33L
Environment														
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	SSSI within route corridor. Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	Route corridor within 100m of two SSSIs. Nature Conservation Site of Metropolitan Importance adjacent to route corridor.	SSSI adjacent to route corridor. Nature Conservation Site of Metropolitan Importance adjacent to route corridor.	Nature Conservation Site of Metropolitan Importance within route corridor.	Route corridor near to SSSI but not within 100m. Local Wildlife Site within 100m of route corridor.	No designated sites within 100m of route corridor.	Route corridor within Local Nature Reserve.	Route corridor adjacent to Local Nature Reserve.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor within 15m of ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Route corridor adjacent to two Registered Parks and Gardens. Conservation area within route corridor. Listed building within route corridor.	Conservation area within route corridor. Listed building within route corridor.	Route corridor adjacent to Registered Park and Garden, which should be treated as a Scheduled Monument (following advice from Greater London Archaeological Advice Service). Conservation area within route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Conservation area within route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Historic landfill within route corridor.	Historic landfill within route corridor.	Historic landfill within route corridor.	Historic landfill within route corridor.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 1 and 3a agricultural land within route corridor.	Grade 1 and 3a agricultural land within route corridor.	Grade 1 and 3a agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 2 agricultural land within route corridor.	Grade 2 agricultural land within route corridor.	Grade 2 agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Route corridor within 100m of priority habitat	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor (although between two roads so unlikely to be directly impacted).	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.
Community														
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Playing field and sports facilities within route corridor.	Playing field and sports facilities within route corridor.	Playing field and sports facilities within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Golf course and Country Park within route corridor.	Golf course and Country Park within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW and National Cycle Route within route corridor.	PRoW and National Cycle Route within route corridor.	PRoW within route corridor.	PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.

Lower Thames Reservoir Pipeline Corridor - Environment and Community

	Criteria		RED	AMBER	GREEN	34L	35L	36L	37L	38L
Environment										
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Nature Conservation Site of Metropolitan Importance within 100m of route corridor.	Route corridor adjacent to Local Nature Reserve. Nature Conservation Site of Metropolitan Importance within route corridor.	No designated sites within 100m of route corridor.	Nature Conservation Site of Borough Grade I and Grade II Importance within route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor is adjacent to ancient woodland.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Scheduled Monument within route corridor (although unlikely to be impacted as fixed point for crossing HS2 line therefore scored as amber).
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 2 agricultural land within route corridor.	Grade 2 agricultural land within route corridor.	Grade 2 agricultural land within route corridor.	Route corridor in non-agricultural land	Grade 3 agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	No priority habitat within 100m of route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Route corridor within 100m of priority habitat	Deciduous woodland priority habitat within route corridor.
Community										
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	Golf course and Country Park within route corridor.	Golf course within route corridor.	Golf course within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW and National Cycle Route within route corridor.	PRoW and National Cycle Route within route corridor.	PRoWs within the route corridor.	PRoW within the route corridor.

Lower Thames Reservoir Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			Corridor ID						
	Red	Amber	Green	01L	02L	03L	04L	05L	06L	07L
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Core Policy 16: Opportunity Area which sets out that the Council will support appropriate employment generating development or redevelopment.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Core Policy 16: Opportunity Area which sets out that the Council will support appropriate employment generating development or redevelopment	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Setting of several grade II LB's, Core Policy 8: Built and Historic Environment	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Setting of several grade II LB's, Core Policy 8: Built and Historic Environment	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Setting to a Grade II Listed Manor. Policy 8: Built and Historic Environment Designated local Wildlife Site protected by CP9: Natural Environment. Proximity to SSSI protected by CP9: Natural Environment Further guidance on the protection and enhancement of landscape and biodiversity resources will be given in the Development Management DPD.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Preferred Areas for Sand and Gravel Extraction (Operational) (Policy 3)	Preferred Areas for Sand and Gravel Extraction (Operational) (Policy 3)
Impact on the green belt	Within the green belt – likely to cause harm, and	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Industrial infrastructure and a Brook is located to the north east of the proposed area.	Industrial employment area and associated parking and storage areas and a Industrial infrastructure. A Brook and Lake.	Industrial employment area and associated parking and storage areas and a Industrial infrastructure. A Brook and Lake.	Open fields, and a lake. Industrial infrastructure.	Open fields, a river and lake. Beyond the river is an industrial estate.	Open field, designated quarry	Open fields, designated quarry.
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Part on previously developed land - Potential restrictions but acquisitions could be possible	Part on previously developed land - Potential restrictions but acquisitions could be possible	Part on previously developed land - Potential restrictions but acquisitions could be possible	Greenfield land - Potential acquisition	Part highway, part greenfield. Potential acquisition	Greenfield land. Potential acquisition	Greenfield land. Potential acquisition

Lower Thames Reservoir Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			08L	09L	10L	11L	12L	13L	14L
	Red	Amber	Green							
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Setting to a Grade II Listed Manor. Policy 8: Built and Historic Environment Designated local Wildlife Site protected by CP9: Natural Environment.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the South Bucks Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Crosses a Nature Conservation Sites of Metropolitan or Borough Grade I and II Importance a London wide designation. Abuts a site of Nature Conservation Sites of Borough Grade II or Local Importance	Abuts parkland which is designated a Nature Reserve, Site of Special Scientific Interest, and a Nature Conservation Sites of Metropolitan or Borough Grade I Importance a London wide designation. Protected by Policy EM4: Open Space and Informal Recreation an Policy EM7: Biodiversity and Geological Conservation, Borough Grade 1 importance will be protected from any adverse impacts and loss. Archaeological Priority Zone under policy DMHB7 of the LLPP2.	Abuts parkland which is designated a Nature Reserve, Site of Special Scientific Interest. Crosses a Nature Conservation Sites of Metropolitan or Borough Grade I and II Importance a London wide designation. Abuts a site of Nature Conservation Sites of Borough Grade II or Local Importance Protected by Policy EM4: Open Space and Informal Recreation and Policy EM7: Biodiversity and Geological Conservation, Borough Grade 1 importance will be protected from any adverse impacts and loss. Archaeological Priority Zone under policy DMHB7 of the LLPP2.	Within a Regional Park Abuts a Nature Conservation Site of Borough Grade II or Local Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation. Archaeological Priority Zone under policy DMHB7 of the Local Plan Part 2.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	Preferred Areas for Sand and Gravel Extraction (Operational) (Policy 3)	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Partially on previously developed land	Partially on previously developed land	Greenfield land	Previously developed land	Partially on previously developed land	Partially on previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open fields, designated quarry.	A residential area, sports ground, allotments, and river.	Industrial development, residential area, sports ground, allotments, and a river.	Parallel to the A40 and open field, and two rivers.	Crosses the A40 to the B467. Key route with a junction to the A40. Within a residential area.	Crosses the A40, a Golf Course and abuts parkland. Located in proximity to a residential area.	A settlement, highways land, industrial estate, open fields, golf course
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield land. Potential acquisition	Highway - Potential acquisition	Highway - Potential acquisition	Greenfield land. Potential acquisition	Highway - Potential acquisition	Greenfield land. Potential acquisition	Highway and Golf Course

Lower Thames Reservoir Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			15L	16L	17L	18L	19L	20L	21L
	Red	Amber	Green							
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Archaeological Priority Zone under policy DMHB7 of the Local Plan Part 2. Abuts a Nature Conservation Site of Borough Grade II or Local Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.	Archaeological Priority Zone under policy DMHB7 of the Local Plan Part 2. Crosses a Nature Conservation Site of Borough Grade II or Local Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.	Abuts a Nature Reserve and a Nature Conservation Sites of Metropolitan or Borough Grade I Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 1 importance will be protected from any adverse impacts and loss. Archaeological Priority Zone under policy DMHB7 of the Local Plan Part 2.	Within a Regional Park Pinch point between designations: Proximity to a National Nature Reserve, part of , the largest block of ancient, semi-natural woodland in Greater London and a SSSI. Within a Conservation Area protected under Policy HE1: Heritage.	Archaeological Priority Zone under policy DMHB7 of the Local Plan Part 2. Abuts a Nature Reserve and a Nature Conservation Sites of Metropolitan or Borough Grade I Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 1 importance will be protected from any adverse impacts and loss.	Crosses Nature Conservation of Metropolitan or Borough Grade I Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 1 importance will be protected from any adverse impacts and loss.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. A Conservation Area and multiple listed buildings. Core Policy 8: Built and Historic Environment protects the District's historic environment.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	HS2	HS2	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020	No known emerging designations or land promotion
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Partially on previously developed land	Greenfield land	Partially on previously developed land	Greenfield land	Partially on previously developed land	Greenfield land	Partially on previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Highways land, HS2 / railway crossing	Parkland and HS2 / railway crossing	Highways land, a waste processing facility, and open fields.	Parkland and open space	Highways land and open fields Nature Reserve	Parkland, Open Fields with groups of dense trees in some locations	Runs through a settlement fronting residential properties Industrial infrastructure
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Part on previously developed land - Potential restrictions but acquisitions could be possible	Greenfield land. Potential acquisition	Highway - Potential acquisition	Greenfield land. Potential acquisition	Highway - Potential acquisition	Greenfield land. Potential acquisition	Part on previously developed land - Potential restrictions but acquisitions could be possible

Lower Thames Reservoir Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			22L	23L	24L	25L	26L	27L	28.1L
	Red	Amber	Green							
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Proximity to Ancient & Semi-Natural Woodland. Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Proximity to Ancient & Semi-Natural Woodland. Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Proximity to Ancient & Semi-Natural Woodland. Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Crosses a SSSI Close proximity to a Grade II listed Manor. A local Wildlife Site protected by CP9: Natural Environment. Edge of the Preferred Areas for Sand and Gravel Extraction (Operational) Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	No known emerging designations or land promotion	No known emerging designations or land promotion	No known emerging designations or land promotion	No known emerging designations or land promotion	No known emerging designations or land promotion	No known emerging designations or land promotion	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Preferred Areas for Sand and Gravel Extraction (Operational) (Policy 3)
Impact on the green belt	Within the green belt – likely to cause harm, and	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Partially on previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open fields, located in proximity to ancient woodland - should the pipeline need to remove trees, this would change the RAG rating to amber or red	Open fields, intersects the M25.	Open fields	Open fields, intersects the M25.	Open fields and hedgerow	Open fields, intersects the M25.	A Manor and highways land, open fields.
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield land. Potential acquisition	Greenfield land. Potential acquisition	Greenfield land. Potential acquisition	Greenfield land. Potential acquisition	Greenfield land. Potential acquisition	Greenfield land. Potential acquisition	Part on previously developed land - Potential restrictions but acquisitions could be possible

Lower Thames Reservoir Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			28.2L	28.3L	28.4L	29L	30L	31L	32L
	Red	Amber	Green							
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Setting of a Historic Park and Garden CP8 and a Conservation Area protected under Policy C1.	Nature Conservation Sites of Metropolitan or Borough Grade I Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 1 importance will be protected from any adverse impacts and loss. Within a Conservation Area. SSSI Archaeological Priority Zones	Within a Regional Park, and crosses a Nature Conservation Site of Borough Grade II or Local Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation. Nature Conservation Sites of Metropolitan or Borough Grade I Importance and Nature Conservation Sites of Borough Grade II or Local Importance. Policy EM7: Biodiversity and Geological Conservation, Borough Grade 1 importance will be protected from any adverse impacts and loss. Within a Conservation Area C1.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation Abuts a Local Nature Reserve CP9 Within a Conservation Area C1
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - Publication of the revised Local Plan (Reg 19) anticipated Q3 2022.	No known emerging designations or land promotion - Publication of the revised Local Plan (Reg 19) anticipated Q3 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Partially on previously developed land	Partially on previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open fields / agricultural land	Highways, open fields, some areas of dense trees and a river. The search area passes through residential fronted streets	Highways and residential properties, open fields, Conservation Area.	Parkland, and Registered Park and Garden.	Crosses the M40, open / agricultural fields	Parallel to the M40, open fields,	Parkland
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield land. Potential acquisition	Part on previously developed land - Potential restrictions but acquisitions could be possible	Part on previously developed land - Potential restrictions but acquisitions could be possible	Greenfield land. Potential acquisition	Greenfield, close to M40. Potential acquisition	Greenfield, close to M40. Potential acquisition	Greenfield, close to M40. Potential acquisition

Lower Thames Reservoir Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			33L	34L	35L	36L	37L	38L
	Red	Amber	Green						
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation Within a Conservation Area C1	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation	Nature Conservation Sites of Metropolitan or Borough Grade I Importance Nature Reserve to the south Air Quality Management Area Archaeological Priority Zones	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Within a Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Core Policy 16, (Opportunity Area) which sets out that the Council will support appropriate employment generating development or redevelopment.	In a Regional Park. Crosses a Nature Conservation Sites of Metropolitan or Borough Grade I and II Importance or local importance a London wide designation. Air Quality Management Area Proximity to an area forming Green Chains, these are habitats, linked by natural and man-made corridors that enable flora and fauna to migrate into the centre of London.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - Publication of the revised Local Plan (Reg 19) anticipated Q3 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - the Hillingdon Local Plan Part 2 was adopted in 2020
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone	Not within a minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Previously developed land	Greenfield land	Greenfield land	Previously developed land	Previously developed land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Highways, Residential and Playing Fields / Open Space	Golf Course	Agricultural and golf course, HS2 / railway crossing	HS2 / railway crossing	Industrial. employment area and the associated parking and storage areas. An industrial infrastructure facility. A Brook and Lake are located to the north east of the proposed area.	HS2 / railway crossing, open land.
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Highway - Potential acquisition	Mostly golf course - Potential restrictions but acquisitions could be possible	Greenfield/ railway line - Potential acquisition	Railway and water constraints - Potential acquisition	Industrial - Potential restrictions but acquisitions could be possible	Greenfield/ railway line - Potential acquisition

Lower Thames Reservoir WTW - Technical

Criteria		Description	Red	Amber	Green
Design					
Primary	DES1	There must be sufficient space for permanent works and environmental mitigation measures, including space to undertake roof flooding test and maintenance.	Insufficient space.	Restricted site.	Adequate space.
Primary	DES2	The plant must be outside Flood Zones 2 and 3 to allow maintenance and continuous operation during flood events.	Site is within flood zone 2 or 3.	Site is within flood zone 2 or 3 but can be designed to avoid damage.	Site is outside of the flood zone.
Primary	DES3	Plant must be outside areas of contaminated land.	Within area of contaminated land.	Within 500m contaminated land. Likely that impact can be managed or mitigated.	Not within 500m of contaminated land.
Primary	DES4	The site must not result in an increased risk to the level of service (e.g. low pressure, asset failure, water quality - consider pipe pressure rating, asset condition, pumping stations and their efficiency and Net Positive Suction Head etc.)	High risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	Low to Medium risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	No risk to level of service or potential opportunity to improve the level of service.
Primary	DES5	The site must minimise the risk to the existing and future network and the requirement for downstream network upgrades. Consider flow reversals, pressure management, non-return valves, zone configuration, boundary valves, flow meters.	Risk to downstream network cannot be managed within economic investment.	Risk can be managed but likely to require appropriate and economic investment / downstream upgrades.	No risk - no investment required.
Primary	DES6	The site should be near the raw water source (s) and positioned in the direction of pipeline corridor(s) to minimise length of raw water main and associated risks. Where feasible, pumping from the source to the WTW should be minimised and raw water should gravitate from the source to WTWs.	Pumping required from source to WTWs and WTW >2.5Km from the source.	Pumping required at source to the WTWs and WTW <=2.5km from the source.	Raw water can gravitate from source to WTW and the WTW is <=2.5Km from the source.
Primary	DES7	The site should preferably be near existing or planned assets to allow for operational efficiencies / minimise requirement to create additional asset e.g. trunk mains.	N/a	Site is not adjacent to existing asset.	Site is adjacent to existing asset.
Primary	DES8	The site should be within a reasonable distance of a suitable watercourse to accept emergency overflow, drain down and commissioning discharges.	No suitable watercourse available.	Suitable watercourse is available, but more than 500m from site.	Suitable watercourse is available within 500m.
Primary	DES9	Power supply can be brought to site within a reasonable distance and without major network enhancements.	N/a	Power supply can be brought to site but requires extensive work to the network.	Power supply can be brought to the site without extensive work to the network.
Primary	DES10	Communications e.g. fibre optic can be brought to site within a reasonable distance and without major network enhancements.	N/a	Communications can be brought to site but requires extensive work on network.	Communications can be brought to site without extensive work on network.
Primary	DES11	Ground conditions should be adequate - consider loading and flotation.	High risk ground conditions, which would be uneconomical to mitigate.	Ground condition risks can be managed, but may require significant investment.	Low risk ground conditions.
Secondary	DES12	There must be sufficient space for planned future expansion and/or process enhancement.	No space for envisaged requirement for expansion.	No space for future expansion, but unlikely to be required.	Adequate space for envisaged expansion.
Secondary	DES13	Where possible, project should use or re-use existing assets.	N/a	Project does not make use of existing assets.	Project makes use of existing assets.
Secondary	DES14	Where possible, works should be built on land already owned by the water company.	Site cannot be acquired by Thames Water or Affinity Water without the use of compulsory purchase powers.	Site not already owned by Thames Water or Affinity Water.	Site already owned by Thames Water or Affinity Water.
Secondary	DES15	Where possible, corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience.	Potential to negatively impact on system resilience can be mitigated.	Does not negatively impact on system resilience.
Secondary	DES16	Where possible, the site should be selected such that the topography minimises the requirement for earthworks and engineered slopes.	N/a	Terrain is unfavourable to the design of the asset (less than 4m or more than 12m elevation difference across the site)	Terrain is favourable to the design of the asset (between 4m and 12m elevation difference across the site)
Secondary	DES17	Site selection should minimise the risk to security e.g. vandalism, trespassing.	High risk which would be uneconomical to mitigate.	Risk can be managed but may require significant investment.	Low risk.
Construction					
Primary	CON1	The site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, gradient of land.	Works cannot be constructed safely.	Works can be constructed safely but abnormal control measures required.	Works can be constructed safely without abnormal control measures.
Primary	CON2	Sufficient space can be made available for construction, materials storage and site accommodation.	Insufficient space.	Restricted site.	Adequate space.
Primary	CON3	Suitable access for construction workers, deliveries and construction waste removal.	Suitable access cannot be provided.	Restricted access; may require upgrades e.g. passing places.	Adequate access.
Operation					
Primary	OPS1	The site allows works to be operated without endangering construction workers, operational staff, visitors or members of the public.	Works cannot be operated safely or abnormal control measures required.	N/a	Works can be operated safely without unusual control measures.
Primary	OPS2	Suitable access for operation including deliveries e.g. chemicals, water tankering and waste removal.	Suitable access cannot be provided.	Major works required to provide suitable permanent access.	Adequate access already exists at site perimeter.
Primary	OPS3	Operational travel time from existing sites to be minimised.	> 60 mins.	>30mins <= 60mins.	<=30mins.

ID	LTR_WTW_CON_01 LTR_WTW_CON_01_(T)	LTR_WTW_CON_02	LTR_WTW_CON_03	LTR_WTW_CON_04	LTR_WTW_CON_05
Design					
DES1	Site is split across two locations to provide sufficient space for the permanent WTW, space for soil disposal (as landscape bunds etc.), and temporary construction compound. Permanent works should be contained within LTR_WTW_CON_01.	Sufficient space for the permanent works, but limited scope to permanently store spoil (e.g. as landscape bunds).	Sufficient space for the permanent works, but limited scope to permanently store spoil (e.g. as landscape bunds).		
DES2					
DES3	Overlap with historical landfill.	The site is completely within historical landfill and is adjacent to an authorised landfill.		The site is within 500m of a historic landfill; however the landfill is on the opposite side of the local stream and the motorway.	Site is fully within historic landfill
DES4					
DES5	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location
DES6	Pumping is required from the intake tunnel and the site is approximately 2km from the connection point (as the crow flies)	Pumping is required from the intake tunnel and the site is approximately 2.5km from the connection point (as the crow flies).	Pumping is required from the intake tunnel and the site is approximately 1.3km from the connection point (as the crow flies)	Pumping is required from the intake tunnel and the site is <2km from the connection point (approx. 1.7km as the crow flies)	Pumping is required from the intake tunnel and the site is approximately 750m from the connection point (as the crow flies).
DES7					Not adjacent, but very close to the existing WTW.
DES8	The River Colne is within 500m of the site.	The River Colne is within 500m of the site.	The River Colne is within 500m of the site.	Main river within 500m of the site. To be confirmed - size of watercourse might be too small for intended purpose.	Within 500m of the Grand Union Canal
DES9	Within 500m of the local Industrial park; therefore it is assumed that power can be brought to the site without extensive work to the network.	Within 500m of the local Industrial park; therefore it is assumed that power can be brought to the site without extensive work to the network.	Within 500m of the local Industrial park; therefore it is assumed that power can be brought to the site without extensive work to the network.	The site is near to the existing WTW; therefore it is assumed that power can be brought to the site without extensive work to the network.	Adjacent to a railway station and a business park; therefore it is assumed that power can be brought to the site without extensive work to the network.
DES10	Within 500m of an industrial park; therefore assume that communications can be brought to the site without extensive work to the network.	Within 500m of an industrial park; therefore assume that communications can be brought to the site without extensive work to the network.	Within 500m of an industrial park; therefore assume that communications can be brought to the site without extensive work to the network.	The site is near to Iver; therefore it is assumed that communications can be brought to the site without extensive work to the network.	Adjacent to a railway station and business park; therefore it is assumed that communications can be brought to the site without extensive work to the network.
DES11	Naturally high / fluctuating groundwater (Soil HOST class 10: "Soils seasonally waterlogged by fluctuating groundwater and with relatively rapid lateral saturated conductivity." Soilscape (National Soil Map): "Loamy and clayey floodplain soils with naturally high groundwater." Drainage (National Soil Map): "Naturally wet"). BGS mapping and existing BHs indicate site is underlain by Alluvium, River Terrace Deposits, London Clay Formation and Lambeth Group. Made Ground (Barlow's Pit Landfill) present beneath the W extent of the LTR_WTW_CON_1 site. Made Ground (Palmers Moor Landfill) present beneath the LTR_WTW_CON_1_(T) site. Alluvium compressible and low bearing capacity potentially requiring piled foundations. Consideration to uplift pressure on buried structures and groundwater control during construction required due to high groundwater level. Mitigation and control measures will be required for constructing foundations/ structures within landfill - piles very likely to be required. Site is underlain by a Principal and Secondary A Aquifer (superficial deposits) and Unproductive strata (bedrock). The site is not within a Source Protection Zone.	Naturally high / fluctuating groundwater (Soil HOST class 10: "Soils seasonally waterlogged by fluctuating groundwater and with relatively rapid lateral saturated conductivity." Soilscape (National Soil Map): "Loamy and clayey floodplain soils with naturally high groundwater." Drainage (National Soil Map): "Naturally wet"). BGS mapping and existing BHs indicate site underlain by Alluvium, River Terrace Deposits, London Clay Formation and Lambeth Group. Made Ground (Palmers Moor Farm Landfill) present beneath the site. Alluvium compressible and low bearing capacity potentially requiring piled foundations. Consideration to uplift pressure on buried structures and groundwater control during construction required due to high groundwater level. Mitigation and control measures will be required for constructing foundations/ structures within landfill - piles very likely to be required. The site is not within a Source Protection Zone. Site is underlain by a Principal Aquifer (superficial deposits) and Unproductive	Naturally high / fluctuating groundwater (Soil HOST class 10: "Soils seasonally waterlogged by fluctuating groundwater and with relatively rapid lateral saturated conductivity." Soilscape (National Soil Map): "Loamy and clayey floodplain soils with naturally high groundwater." Drainage (National Soil Map): "Naturally wet"). BGS mapping and existing BHs indicate site underlain by Alluvium, River Terrace Deposits, London Clay Formation and Lambeth Group. Alluvium compressible and low bearing capacity potentially requiring piled foundations. Consideration to uplift pressure on buried structures and groundwater control during construction required due to high groundwater level. The site is not within a Source Protection Zone. Site is underlain by Unproductive strata (bedrock) and Secondary B Aquifer (superficial).	No groundwater issues highlighted for the majority of the site (see below), but eastern edge matches the properties for Sites 01, 02, and 03. (Soil HOST class 24: "Slowly permeable, seasonally waterlogged soils over slowly permeable substrates with negligible storage capacity." Soilscape (National Soil Map): "Slowly permeable seasonally wet acid loamy and clayey soils." Drainage (National Soil Map): "Impeded drainage"). BGS mapping (no existing BHs on site) indicates site underlain by London Clay Formation but likely overlain by a layer of River Terrace Deposits. Consideration to uplift pressure on buried structures and groundwater control during construction required due to high groundwater level. Consideration to shrink swell potential of London Clay Formation. The site is not within a Source Protection Zone. Site is underlain by Unproductive strata (bedrock and superficial).	Naturally high / fluctuating groundwater. (Soil HOST class 9: "Soils seasonally waterlogged by fluctuating groundwater and with relatively slow lateral saturated conductivity." Soilscape (National Soil Map): "Loamy soils with naturally high groundwater." Drainage (National Soil Map): "Naturally wet"). BGS mapping (no existing BHs on site) indicates site underlain by Langley Silt (possible), River Terrace Deposits and London Clay Formation. Historical mapping indicates former gravel pit on northern extent of site therefore infilled ground likely. Site located on Thorney Lane South Landfill. Langley Silt compressible with collapsible fabric and low bearing capacity therefore not suitable founding material and will require removal if still present. Consideration to uplift pressure on buried structures and groundwater control during construction required due to high groundwater level. Mitigation and control measures will be required for constructing foundations/ structures within landfill - piles very likely to be required. The site is not within a Source Protection Zone. Site is underlain by a Principal Aquifer (superficial deposits) and Unproductive strata (bedrock).
DES12	There would be space to expand in LTR_WTW_CON_01_(T) in the future.		Space within the area for future permanent works but compounds would need to be elsewhere e.g. Site 01 land.		
DES13					
DES14	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.
DES15	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.
DES16	5m elevation difference from west to east	4-5m elevation difference across the site	<2m elevation difference across the site	The proposed site location slopes from west to east with an elevation difference of ~10m. This would support gravity flow within the WTW and minimise required earthworks.	Terrain is largely flat (<2m elevation difference across the site) based on 1m LiDAR; this would require intermediate pumping stations or earthworks to enable flow by gravity through the WTW.
DES17	Site is near to an industrial site, communities, and the motorway. Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Site is near to an industrial site, communities, and the motorway. Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Site is near to an industrial site, communities, and the motorway. Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	The site is in relatively rural area (further down country lanes, near to large residential properties). It is assumed to be a lower risk due to lower numbers of people in the area.	Site is near to an industrial site, communities, and the railway. Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.
Construction					
CON1	Overhead lines present across the south of the site		Overhead pylons crossing the site	AFW trunk mains cross the centre of the site. These would need to be avoided.	
CON2	Space within LTR_WTW_CON_01_(T)				
CON3	Local lane is a single-track country lane. Restricted access; may require upgrades e.g. passing places.	Local lane is a single-track country lane. Restricted access; may require upgrades e.g. passing places.	Access of a B road. Double lanes.	Surrounding roads are single track farm roads	
Operation					
OPS1					
OPS2	The local lane is a single-track country lane. Major works required to provide suitable permanent access.	The local lane is a single-track country lane. Major works required to provide suitable permanent access.	Access of a B road. Double lanes.	Surrounding roads are single track farm roads	
OPS3	<10 minute drive from the existing Iver WTW	<10 minute drive from the existing Iver WTW	<10 minute drive from the existing Iver WTW	<20 mins drive from the existing Iver WTW.	<5 mins drive from the existing Iver WTW.

ID	LTR_WTW_CON_06_(P) LTR_WTW_CON_06_(T)	LTR_WTW_CON_07	LTR_WTW_CON_08	LTR_WTW_CON_09	LTR_WTW_CON_10_(P) LTR_WTW_CON_10_(T)
Design					
DES1	Permanent works should be contained within LTR_WTW_CON_06_(P).				
DES2					
DES3	LTR_WTW_CON_06_(P) area contains Groundsure historical waste sites, historical garages, and historical energy features. LTR_WTW_CON_06_(T) is fully within historic landfill.	Historical landfill (EA/ NRW) located directly adjacent to the east of the site		Historical landfill and authorised landfill located directly adjacent to the west and south side of site	Permanent site is mostly within historic landfill
DES4					
DES5	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location
DES6	Pumping is required from the intake tunnel and the site is <300m from the connection point (as the crow flies)	Pumping is required from the intake tunnel and the site is >2.5km from the connection point (approximately 11.5km as the crow flies).	Pumping is required from the intake tunnel and the site is >2.5km from the connection point (approximately 3.75km as the crow flies).	Pumping is required from the intake tunnel and the site is approximately 2.4km (as the crow flies) from the connection point.	Pumping is required from the intake tunnel and the site is >2.5km from the connection point (approximately 7.3km as the crow flies).
DES7	Site is adjacent to the existing WTW	Site is adjacent to the existing service reservoir			
DES8	Main river within 500m of the site. To be confirmed - size of watercourse might be too small for intended purpose.	There is a 'Main river' adjacent to the site; however this classification is now under consultation. The size of the watercourse might be too small for intended purpose and other sources are approximately 3km away. This criteria has been assessed as amber due to the uncertainty of the suitability of the adjacent watercourse.	Main river adjacent to the site. To be confirmed - size of watercourse might be too small for intended purpose.	Site is adjacent to the River Colne	Within 125m of a 'main river'
DES9	Adjacent to the existing WTW; therefore it is assumed that power can be brought to the site without extensive work to the network.	Within London and therefore it is assumed that power can be brought to the site without extensive work to the network.	The site is adjacent to a substation; therefore it is assumed that power can be brought to the site without extensive work to the network.	Within 500m of an industrial park; therefore it is assumed that power can be brought to the site without extensive work to the network.	Within London and therefore it is assumed that power can be brought to the site without extensive work to the network.
DES10	Adjacent to the existing Iver WTW; therefore it is assumed that communications can be brought to the site without extensive work to the network.	Rural area, but adjacent to the existing service reservoir, farms, and some residential properties. Therefore assume that communications can be brought to the site without extensive work to the network.	The site is adjacent to a substation; therefore it is assumed that communications can be brought to the site without extensive work to the network.	Within London and therefore it is assumed that Communications can be brought to the site without extensive work to the network.	Within London and therefore it is assumed that Communications can be brought to the site without extensive work to the network.
DES11	Naturally high / fluctuating groundwater. (Soil HOST class 9: "Soils seasonally waterlogged by fluctuating groundwater and with relatively slow lateral saturated conductivity." Soilscape (National Soil Map): "Loamy soils with naturally high groundwater." Drainage (National Soil Map): "Naturally wet"). BGS mapping and existing BHs indicate LTR_WTW_CON_06(P) site underlain by Langley Silt (possible Alluvium), River Terrace Deposits and London Clay Formation. Existing BHs on W extent of site, to the E of Court Lane indicate Made Ground (Three Valleys Landfill) to be present. Historical mapping indicates site to be former brick works therefore possible Made Ground present across the site. Groundsure indicates previous surface ground workings on the LTR_WTW_CON_06(_P) site. LTR_WTW_CON_06(T) located on Thorney Lane South Landfill. Langley Silt (if still present) compressible with collapsible fabric and low bearing capacity therefore not suitable founding material and would require removal. Consideration to uplift pressure on buried structures and groundwater control during construction required due to high groundwater level. Mitigation and control measures will be required for constructing foundations/ structures within landfill - piles very likely to be required. The site is not within a Source Protection Zone. The site is underlain by Principal Aquifer (superficial materials) and Unproductive strata (bedrock).	No groundwater issues highlighted (Soil HOST class 25: "Slowly permeable, seasonally waterlogged soils over impermeable clay substrates with no storage capacity." Soilscape (National Soil Map): "Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils" Drainage (National Soil Map): "Impeded drainage"). BGS mapping (no existing BHs on site) indicates site underlain by London Clay Formation. Glacial Sand and Gravel is located to the north of the site underlying the existing Harefield Reservoir. Consideration to shrink swell potential of London Clay Formation. The site lies within a Zone II - Outer Protection Zone with the eastern extent of the site lying within a Zone I - Inner Protection Zone SPZ. The northern tip of the site is underlain by a Secondary A Aquifer (superficial). The site is underlain by Unproductive strata (bedrock).	No groundwater issues highlighted for the majority of the site (see below), but eastern edge matches the properties for Sites 01, 02, and 03. (Soil HOST class 24: "Slowly permeable, seasonally waterlogged soils over slowly permeable substrates with negligible storage capacity." Soilscape (National Soil Map): "Slowly permeable seasonally wet acid loamy and clayey soils." Drainage (National Soil Map): "Impeded drainage"). BGS mapping and existing BHs indicates the majority of the site to be underlain by London Clay Formation with the Lambeth Group along the eastern edge with a thin layer of superficial deposits. Superficial Alluvium deposits are present along the eastern edge and River Terrace Deposits along the western edge of the site. A small area of worked ground is present towards the north western extent of the site. Consideration to shrink swell potential of London Clay Formation. The site does not lie within a SPZ. A small part of the site along the southern edge is underlain by a Secondary A Aquifer (superficial). The site is underlain by Unproductive strata (bedrock).	Naturally high / fluctuating groundwater (Soil HOST class 10: "Soils seasonally waterlogged by fluctuating groundwater and with relatively rapid lateral saturated conductivity." Soilscape (National Soil Map): "Loamy and clayey floodplain soils with naturally high groundwater." Drainage (National Soil Map): "Naturally wet"). BGS mapping indicates the site to be underlain by Alluvium over the Lambeth Group with a thin slither of Shepperton Gravel (River Terrace Deposits) in the north east corner which looks to have been extracted as Made Ground is noted to be present here. Existing BHs in the vicinity indicate the London Clay Formation to be present beneath a thin layer of Made Ground, Alluvium and River Terrace Deposits. Alluvium compressible and low bearing capacity potentially requiring piled foundations. Consideration to shrink Swell potential of the London Clay Formation. The site does not lie within a SPZ. This site is underlain by a Secondary A Aquifer with a thin slither of Principal Aquifer (superficial). The site is underlain by Unproductive strata (bedrock).	No groundwater issues highlighted (Soil HOST class 25: "Slowly permeable, seasonally waterlogged soils over impermeable clay substrates with no storage capacity." Soilscape (National Soil Map): "Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils" Drainage (National Soil Map): "Impeded drainage"). BGS mapping indicates the LTR_WTW_CON_!0_(P) site to be underlain by Alluvium and possibly some residual Shepperton Gravel Member (River Terrace Deposits) although it is likely that this has been previously extracted as the site is indicated to be underlain by Made Ground (Historic Landfill site - Harvil Road). The majority of the site is underlain directly by the Seadford Chalk Formation and Hewhaven Chalk Formation, with Lambeth Group present in the eastern extent of the site. The northern half of the site lies within a Zone II - Outer Protection Zone SPZ. The site is underlain by a Principal Aquifer and Secondary A Aquifer (bedrock) and the majority of the site is underlain by a Secondary A Aquifer (superficial). The LTR_WTW_CON_10_(T) site is underlain minimal superficial cover, with an area of Black Park Gavel Member (River Terrace Deposits) located in the southern extent of the site. The London Clay Formation is present across most of the site below the superficial material except in the western third of the site where the Lambeth Group underlies the superficial material over the Chalk. A small area of Surface Ground Working relating to cuttings is present on the northern edge of the site. Consideration to Shrink Swell potential of the London Clay Formation. Potential presence of solution features at the Lambeth Group/ Chalk interface. The site lies within a Zone I - Inner Protection SPZ. The site is on the edge of a Secondary A Aquifer (superficial and bedrock).
DES12	No space for future expansion. However, this is unlikely, as the site is large enough for a 57.5Ml/d - 115Ml/d plant.				
DES13		Locating the WTW in this location mitigates the need for a balancing tank at the WTW as the water can be pumped directly into the existing service reservoir.			
DES14	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.
DES15	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.
DES16	Approximately 8m elevation difference across the whole site. However, to avoid the existing AFW trunk mains in the East of the site, the works will be situated to the west of these, where there is a difference in ground elevation of approximately 3m.	~17m elevation difference across the site	~11m elevation difference can be achieved across the bottom half of the site. There is further variation across the entire site.	1-3m elevation difference across the site	~24m elevation difference across the site
DES17	Same risk level as the existing site. Site is near to an industrial site, communities, and the railway. Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its rural location and lower numbers of people nearby, it is assumed to be a lower risk.	The site is relatively rural and is on the opposite side of the substation to Uxbridge; therefore is assumed to be a lower risk due to lower numbers of people in the area.	Site is near to an industrial site, communities, and the motorway. Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its rural location and lower numbers of people nearby, it is assumed to be a lower risk.
Construction					
CON1	AFW trunk mains cross the centre of the site. These would need to be avoided.	AFW trunk mains cross the centre of the site. These would need to be avoided. Relatively steep gradient within the site.	AFW trunk mains cross the centre of the site. These would need to be avoided. Pylons across the middle of the site.	Overhead lines present across the north of the site	Overhead lines present across the centre of the site Relatively steep gradient within the site.
CON2	LTR_WTW_CON_06_(T) could be used for nearby compounds, but this would increase traffic across local lanes				
CON3		A two-lane road is adjacent to the existing service reservoir; however, access into the field is required.	Access from local road (single track)	Adequate access for permanent site, yet for temporary site, local lane is a single-track country lane which may require upgrades e.g. passing places.	
Operation					
OPS1					
OPS2	Utilising existing WTW access road	A two-lane road is adjacent to the existing service reservoir; however, permanent access into the field is required.	Access from local road (single track)	Adequate access for permanent site, yet for temporary site, the local lane is a single-track country lane which may require upgrades e.g. passing places.	Utilising existing main road
OPS3	Adjacent to the existing WTW.	Adjacent to the existing service reservoir.	<25min drive from the existing Iver WTW.	<10min drive from the existing Iver WTW.	<25min drive from the existing Iver WTW.

Lower Thames Reservoir WTW - Environment and Community

		Criteria	RED	AMBER	GREEN	LTR_WTW_CON_01	LTR_WTW_CON_01 (T)	LTR_WTW_CON_02	LTR_WTW_CON_03	LTR_WTW_CON_04	LTR_WTW_CON_05	LTR_WTW_CON_06 (P)	LTR_WTW_CON_06 (T)	LTR_WTW_CON_07	LTR_WTW_CON_08	LTR_WTW_CON_09	LTR_WTW_CON_10 (P)	LTR_WTW_CON_10 (T)
Environment																		
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Site includes statutory designated site or is adjacent.	Site within 100m of statutory designated site. Site includes or within 100m of non-statutory designated site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	Site of Nature Conservation of Metropolitan importance is adjacent to the Site.	Site of Nature Conservation of Metropolitan importance is within / adjacent to site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	Nature Conservation Site of Metropolitan Importance is within / adjacent to the Site.	Site adjacent to Local Nature Reserve.	Nature Conservation Site of Borough Importance is within the Site.
Primary	ENV2	Minimise impacts on ancient woodland.	Site within 15m of an area of mapped ancient woodland.	Site within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	Site is adjacent to ancient woodland.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Site includes designated heritage asset.	Site within 500m of designated heritage asset.	No designated heritage assets within 500m of Site.	Conservation area within 500m and two listed buildings (on other side of M25).	Conservation area within 500m and two listed buildings (on other side of M25).	Conservation area within 500m.	Adjacent to conservation area and in close proximity to two listed buildings.	Conservation area and listed buildings within 500m	Listed building within 500m (on other side of M25).	Listed building within site.	Listed building within 500m (on other side of M25).	Listed building within 500m	Site is in close proximity to group of three listed buildings.	Site is in close proximity to a conservation area.	Listed buildings within 500m	No designated heritage assets within 500m of Site.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Site includes authorised landfill.	Site within 500m of an authorised landfill or within historic landfill.	Site over 500m from authorised or historic landfill.	Site within historic landfill.	Site within historic landfill.	Site within historic landfill.	Site is within 500m of a historic landfill site.	Site is within 500m of a historic landfill site.	Site is within historic landfill site.	Site is within 500m of a historic landfill site.	Site is within historic landfill site.	Site is adjacent to a historical landfill site.	Site is within 500m of a historical landfill site.	Site is within 500m of a historical landfill site.	Site within historic landfill.	Site is within 500m of a historical landfill site.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Site includes Grade 1, 2 or 3a agricultural land	Site includes Grade 3 agricultural land	Site within Grade 4 agricultural land or lower or non-agricultural land	Site in non-agricultural land.	Site in non-agricultural land.	Site in non-agricultural land.	Site in non-agricultural land.	Site within Grade 3 agricultural land.	Site in non-agricultural land.	Site in non-agricultural land.	Site in non-agricultural land.	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.	Site in urban land.	Grade 3 agricultural land within Site although current land use suggests that this may not be the case.	Grade 3 agricultural land within Site although current land use suggests that this may not be the case.
Secondary	ENV7	Minimise loss of priority habitat.	Site includes priority habitat	Site within 100m of priority habitat	No priority habitat within 100m of Site	No priority habitat within 100m of Site	Site within 100m of priority habitat but on other side of M25 therefore scored as green.	Site within 100m of priority habitat	Deciduous woodland priority habitat within site.	Deciduous woodland priority habitat within site.	Deciduous woodland priority habitat within site.	Site within 100m of priority habitat	Deciduous woodland priority habitat within site.	Site within 100m of priority habitat	No priority habitat within 100m of Site	Site within 100m of priority habitat	Site within 100m of priority habitat	Site within 100m of priority habitat
Community																		
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and community assets within Site.	Temporary loss of community assets during construction.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	Site partly within public park and garden.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	Commercial property on the Site.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	Commercial property on the Site.	Commercial property on the Site.	Commercial property on the Site.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Site predominantly within built up areas. National Cycle Route or PRoW within Site.	Site partly within built up areas. Community assets within 500m of site.	Site largely not within built up areas. No community assets within 500m of site. No National Cycle Routes or PRoWs within Site.	Site within close proximity to several residential properties. Site within 500m public park and garden. In close proximity to PRoW.	Site within 500m of allotments and public park and garden. In close proximity to PRoW.	Site within proximity to some residential properties. Site within 500m of allotments and public park and garden. In close proximity to PRoW	Site within close proximity to several residential properties. PRoW within site.	Site within proximity to some residential properties. School, religious buildings / grounds and cemetery within 500m of site. National Cycle Route and PRoW within site.	Site within proximity to several residential properties (on other side of railway). Golf course within 500m of site (on other side of M25 and railway). PRoW within close proximity.	Golf course within 500m of site (on other side of railway). PRoW within close proximity.	Site within proximity to several residential properties (on other side of railway). Golf course within 500m of site (on other side of M25 and railway). PRoW within close proximity.	Country Park / Public Park and Garden within 500m. PRoW runs through site.	Site within close proximity to a residential property within a farm.	Site partly within built up area.	Site adjacent to golf course. Site near PRoW.	Site adjacent to golf course. Site near PRoW.

Lower Thames Reservoir WTW - Planning and Land

Criteria Name	Indicative Values			T2AT LTR WTW					
	Red	Amber	Green	LTR_WTW_CON_1	LTR_WTW_CON_01_(T)	LTR_WTW_CON_2	LTR_WTW_CON_3	LTR_WTW_CON_4	LTR_WTW_CON_05
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Setting of a conservation area.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield Behind residential Access might be poor.	Greenfield Behind residential Access might be poor.	Greenfield Behind residential Access might be poor.	Greenfield Opposite residential Unusual site shape.	Greenfield	Greenfield

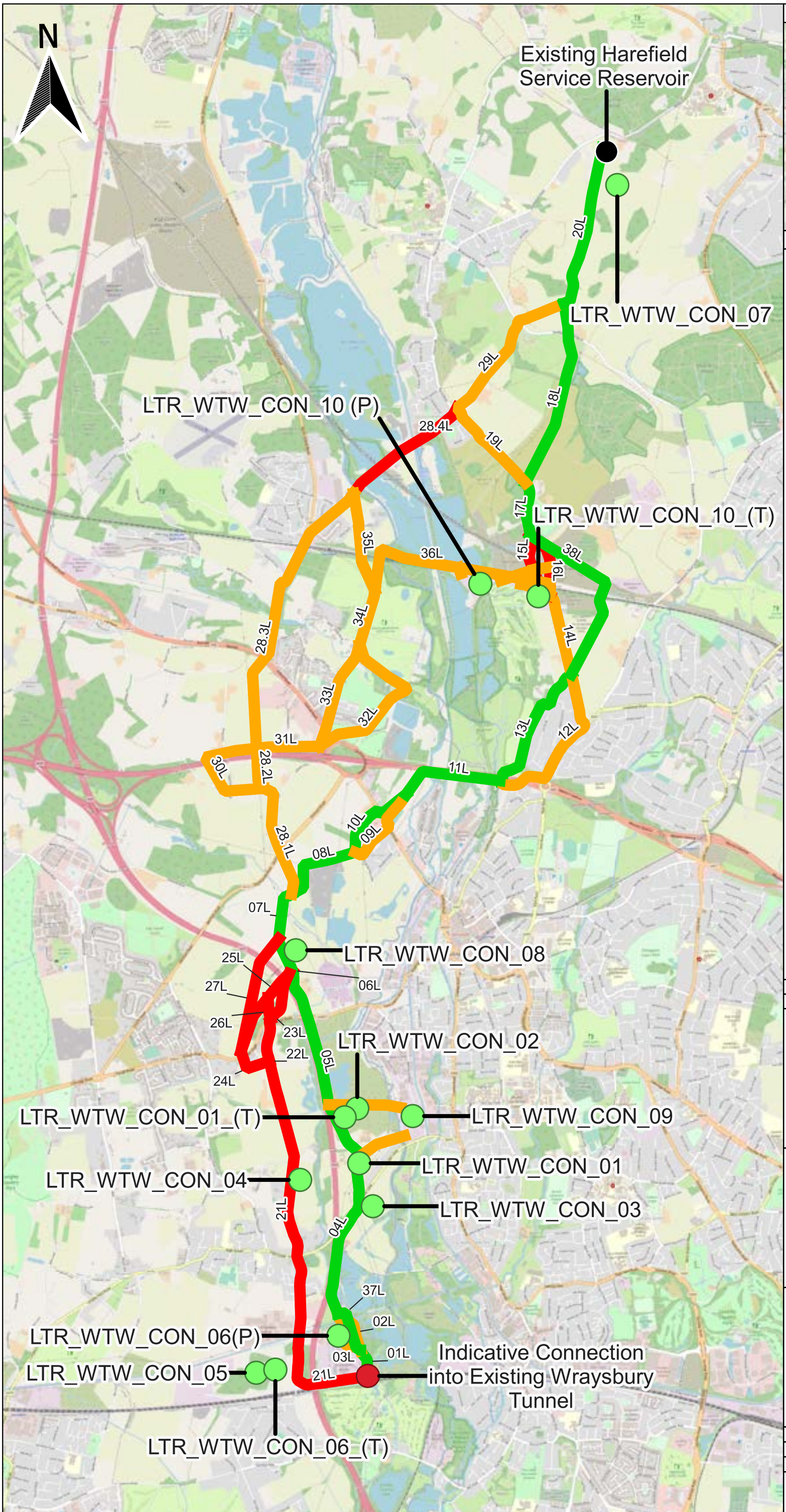
Lower Thames Reservoir WTW - Planning and Land

Criteria Name	Indicative Values			LTR_WTW_CON_06_(T)	LTR_WTW_CON_06_(P)	LTR_WTW_CON_7	LTR_WTW_CON_08	LTR_WTW_CON_09	LTR_WTW_CON_10 (P)
	Red	**Amber**	**Green**						
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Opportunity Site (MDS Boundary) Core Policy 16. The Council will generally support appropriate employment generating development or redevelopment with particular encouragement to be given to uses that would result in a reduction in HGV movements, subject to additional criteria.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation. Opportunity Site (MDS Boundary) Core Policy 16. The Council will generally support appropriate employment generating development or redevelopment with particular encouragement to be given to uses that would result in a reduction in HGV movements, subject to additional criteria.	Covered by a Nature Conservation Site of Metropolitan or Borough Grade I Importance. Policy EM7 Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss.	Designated as a Biodiversity Opportunity Area under Policy CP9 of the Core Strategy. Seeking the conservation, enhancement and net gain in local biodiversity resources within the Biodiversity Opportunity Areas. Regional Park under Policy CP9, the designation aims to maintain and enhance the landscape, historic environment and waterscape of the Park, whilst at the same time providing opportunities for countryside recreation.	Allocated for residential-led mixed use redevelopment. 20% of the site (2.5 hectares) should accommodate a mix of commercial uses including B1, B2 and B8 development. Doesn't appear to be an application. Should an application be submitted then the site would be reassessed as red. Archaeological Priority Zone under policy DMHB 7 of the Local Plan Part 2. The potential for significant archaeological remains, The Council, will ensure that sites of archaeological interest are not disturbed. If that cannot be avoided, satisfactory measures must be taken to mitigate the impacts of the proposals.	Archaeological Priority Zone under policy DMHB 7 of the Local Plan Part 2. The potential for significant archaeological remains, The Council, will ensure that sites of archaeological interest are not disturbed. If that cannot be avoided, satisfactory measures must be taken to mitigate the impacts of the proposals. Nature Conservation Sites of Metropolitan or Borough Grade I Importance. Policy EM7 Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Close to a Nature Reserve Air Quality Management Area
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development		No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - Publication of the revised Local Plan (Reg 19) anticipated Q3 2022.	No known emerging designations or land promotion - formal launch of Buckinghamshire Local Plan anticipated in 2022.	No known emerging designations or land promotion - Publication of the revised Local Plan (Reg 19) anticipated Q3 2022.	No known emerging designations or land promotion - Publication of the revised Local Plan (Reg 19) anticipated Q3 2022.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	Abuts a minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Previously developed land - Industrial estate	Greenfield land	Greenfield land	Previously developed land - Industrial site and adopted residential allocation	Previously developed land - Industrial
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Industrial:: Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Open space: Nature of surrounding land use will have minimal to no impact	Allocation - Not yet developed and no sign of an application since becoming allocated. Depending on the future development of this site, may mean that it could change the RAG rating.	Industrial - Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield	Significant employment area. Likely requirement to replace existing use elsewhere.	Greenfield. Access might be poor.	Greenfield. Access might have to be share with National Grid.	Significant employment area. Likely requirement to replace existing use elsewhere.	Employment/minerals area. Likely requirement to replace existing use elsewhere.

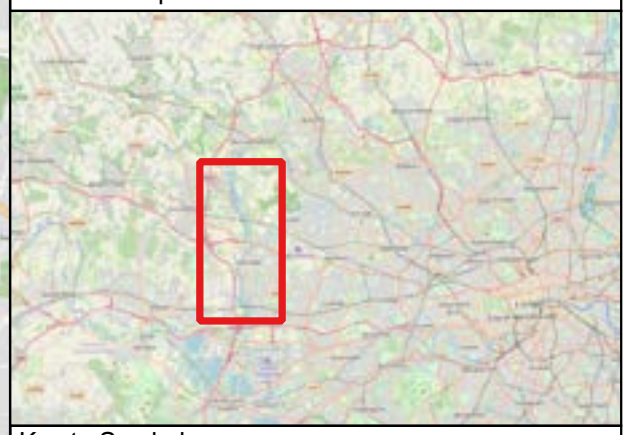
Lower Thames Reservoir WTW - Planning and Land

Criteria Name	Indicative Values			
	Red	Amber	Green	LTR_WTW_CON_10_(T)
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Archaeological Priority Zone under policy DMHB 7 of the Local Plan Part 2. The potential for significant archaeological remains, The Council, will ensure that sites of archaeological interest are not disturbed. If that cannot be avoided, satisfactory measures must be taken to mitigate the impacts of the proposals. Air Quality Management Area
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	No known emerging designations or land promotion - Publication of the revised Local Plan (Reg 19) anticipated Q3 2022.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Previously developed land - Industrial
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Industrial - Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Employment area. Likely requirement to replace existing use elsewhere.

Appendix D Map of T2AT LTR Shortlisted Pipeline Corridor Segments



Location Map



Key to Symbols

- Assessed Water Treatment Works Sites
- Existing Site
- Indicative Site
- Alternative Pipeline Corridor Segment
- Discounted Pipeline Corridor Segment
- Preferred Pipeline Corridor Segment

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	23/09/22	JA	For Information	ES	MF

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Lower Thames Reservoir (LTR)
Shortlisted Pipeline Corridor Segments

Designed	D Hoban		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	M Fox	

Scale at A3	Status	Rev	Security
1:35000	PRE	P1	STD

Drawing Number

420176-MMD-LTR-TM-DR-C-0032

0 1 2 km

Appendix E Map of T2AT LTR Working Pipeline Corridor and Sites

Location Map

Key to Symbols

- Existing Site
- Indicative Site
- Existing Wraysbury Tunnel Indicative Route
- LTR Major Crossings
- LTR Indicative Pipeline Corridor
- River Thames

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	23/09/22	JA	Formatting Modification	ES	MF
P1	24/07/22	JA	For Information	ES	QR

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Lower Thames Reservoir (LTR)
Working Pipeline Corridor and Sites

Designed	D Hoban		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	Q Rea	

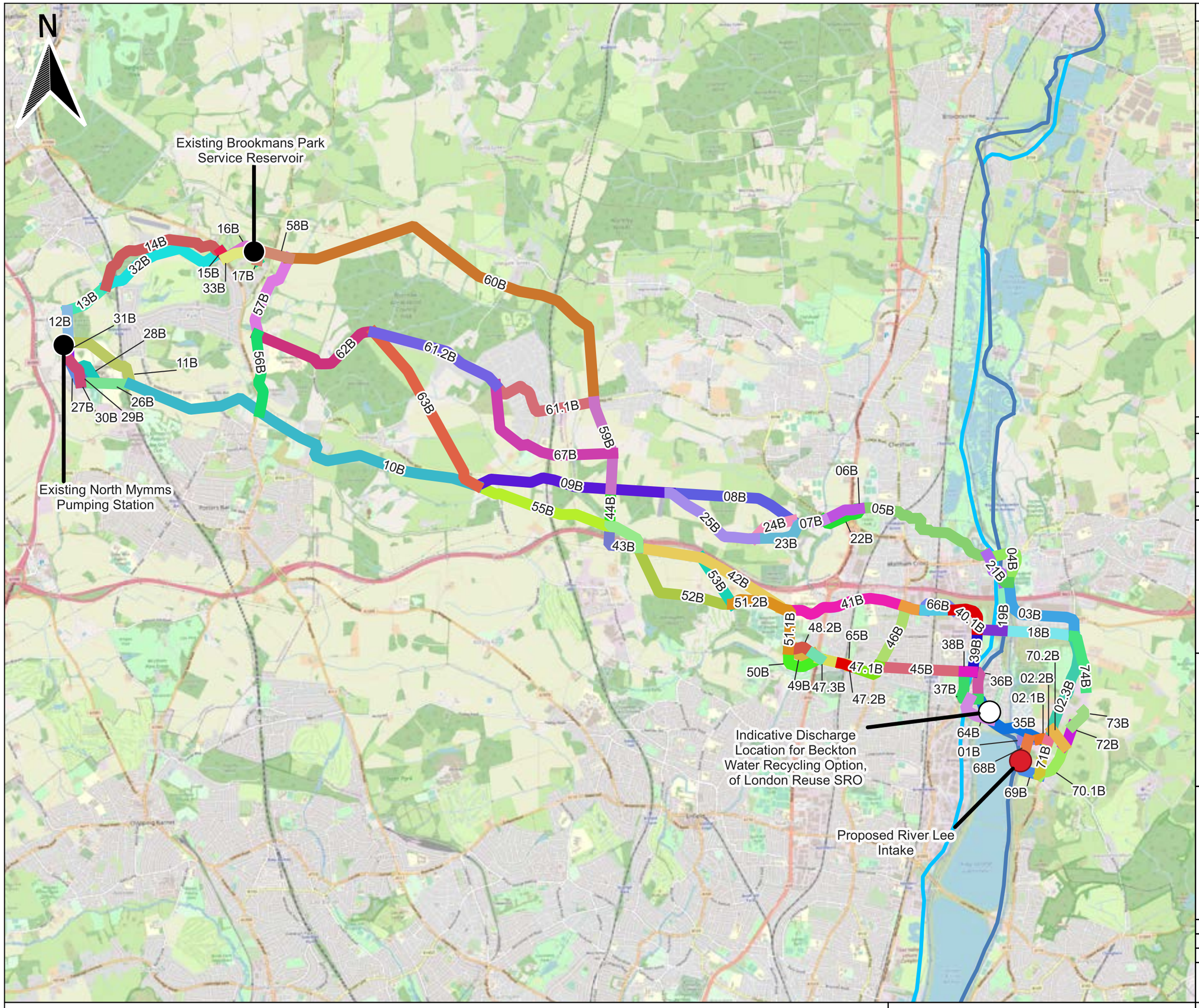
Scale at A3	Status	Rev	Security
1:60000	PRE	P2	STD

0 2 4 km

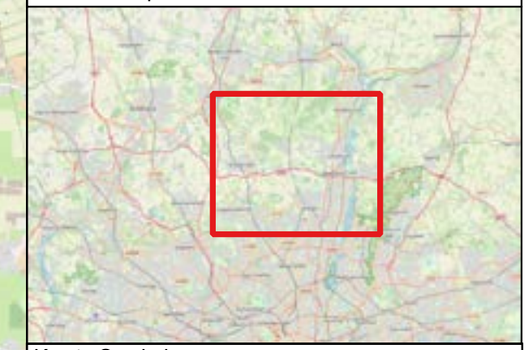
Drawing Number

420176-MMD-LTR-ALL-DR-C-0001

Appendix F Map of T2AT BRI Assessed Pipeline Corridor Segments



Location Map



Key to Symbols

- River Lea or Lee
- River Lee Navigation
- Existing Site
- Indicative Site
- Indicative Site (Other SRO)

Notes

1. For further information on the Beckton Water Recycling Option, refer to the London Effluent Reuse SRO Gate 2 submission

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	23/09/22	JA	Addition of 'Beckton Water Recycling Option' and format modifications	ES	MF
P1	26/07/22	JA	For Information	ES	QR

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Beckton Reuse Indirect (BRI)
Assessed Pipeline Corridor Segments

Designed	R Formarier		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	Q Rea	

Scale at A3	Status	Rev	Security
1:55000	PRE	P2	STD

0 2 4 km

Drawing Number

420176-MMD-BRI-TM-DR-C-0061

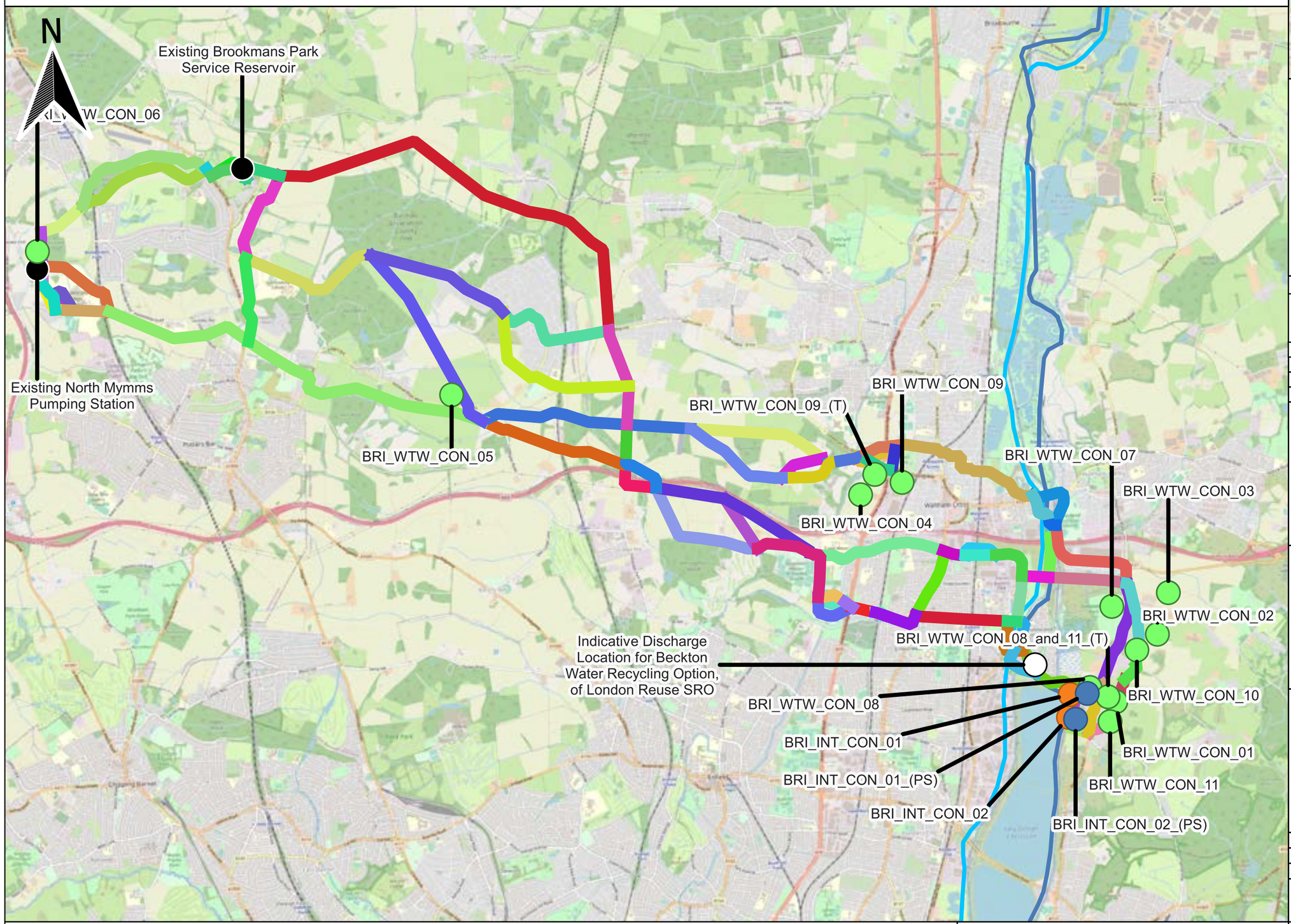
Appendix G Map of T2AT BRI Assessed Sites

Key to Symbols

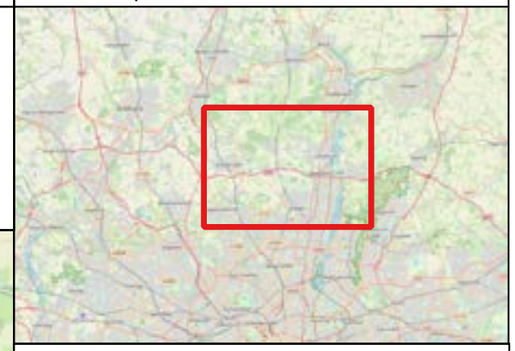
- Assessed Intake Sites
- Assessed Raw Water Pumping Station Sites
- Assessed Water Treatment Works Sites
- Existing Sites
- Indicative Site (Other SRO) (Note 1)

01B, 02.1B, 02.2B, 02.3B, 03B, 04B, 05B, 06B, 07B, 08B, 09B, 10B, 11B, 12B, 13B, 14B, 15B, 16B, 17B, 18B, 19B, 20B, 21B, 22B, 23B, 24B, 25B, 26B, 27B, 28B, 29B, 30B, 31B, 32B, 33B, 34B, 35B, 36B, 37B, 38B, 39B, 40.1B, 40.2B, 40.3B, 41B, 42B, 43B, 44B, 45B, 46B, 47.1B, 47.2B, 47.3B, 48.1B, 48.2B, 48.3B, 49B, 50B, 51.1B, 51.2B, 52B, 53B, 54B, 55B, 56B, 57B, 58B, 59B, 60B, 61.1B, 61.2B, 62B, 63B, 64B, 65B, 66B, 67B, 68B, 69B, 70.1B, 70.2B, 71B, 72B, 73B, 74B

- BRI_WTW_09_Spur_In
- BRI_WTW_09_Spur_Out
- River Lea or Lee
- River Lee Navigation



Location Map



Notes

1. For further information on the Beckton Water Recycling Option, refer to the London Effluent Reuse SRO Gate 2 submission

Rev	Date	Drawn	Description	Ch'k'd	App'd
P3	23/09/22	JA	Amendment to 'Beckton Water Recycling Option' and format modifications	ES	MF
P2	28/07/22	JA	Pipe Corridors Added	ES	QR
P1	24/07/22	JA	For Information	ES	QR

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Beckton Reuse Indirect (BRI)
Assessed Sites

Designed	R Formarier		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	Q Rea	

Scale at A3	Status	Rev	Security
1:55000	PRE	P3	STD

Drawing Number

420176-MMD-BRI-WTW-DR-C-0004

0 2 4 km

Appendix H T2AT BRI RAG Assessment Tables

Beckton Reuse Indirect Pipeline Corridor - Technical

			RED	AMBER	GREEN	Corridor ID																								
			Corridor segment (route) discounted due to at least one significant constraint (including influence of segments			01B	02.1B	02.2B	02.3B	03B	04B	05B	06B	07B	08B	09B	10B	11B	12B	13B	14B	15B	16B	17B	18B	19B	20B	21B	22B	23B	24B	25B	26B
										X	X	X				X												X				
Design																																
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Rural area. Pipeline halfway into Important Priority Habitat.	No constraints.	No constraints.	Low OHL along the route	Open cut in highway A road required at rivers near either end. Pipe bridge may be required as alternative. OHL cuts across near central. Open cut crossing in cycle path or road under motorway bridge. Overhead pylon adjacent to bridge. Runs through several local woodland.	OHL cut through central and southern end. Open cut in A road bridge deck at 3 river crossings near central. Runs alongside local/deciduous woodland at either end. Double river crossings likely to be problematic as bridge might not be deep enough.	Pipe bridge may be required at stream crossings near eastern end. Microtunneling required for crossing at railway near eastern end, and proximity of OHL. Tunnelling would severely affect urban areas on the other side of the allotment zone. Open cut under railway bridge near western end.. Runs through priority habitat at either end.	Open cut across A road and B road (dual carriageway) with traffic management. Open cut or pipe bridge may be required at local river at western end. Pipeline size will likely not be suitable for canal crossing. Runs through or alongside local woodland and habitat	Mostly through priority habitat and local woodland. No crossings.	Runs alongside some priority habitat and local woodland. No crossing. Mostly through farmlands.	OHL crossing at western end. Open cut under railway bridge or microtunnelling (but potential risk with foundations and access) Likely not granted from Network Rail. Open cut across minor road at western end. Microtunnelling or pipe bridge may be required to cross streams near central and western end. Runs alongside some priority habitats and local woodlands.	Open cut crossing over A road and minor road. Small section near central runs through priority habitat and local woodland.	Open cut across minor road. Microtunneling at railway crossing (4 railway tracks running in parallel), proximity of OHL.	Require pipe bridge at local river, with proximity of OHL and Pylon. Open cut over local lane (narrow road might need full closure). Runs through Priority habitat and local woodland at southern end.	Open cut crossing over minor road at eastern end.	Microtunneling at railway (4 railway tracks running in parallel). Open cut crossing over A road. Runs alongside some priority habitat and local woodland.	No constraints.	Proximity of Pylon. Runs alongside some priority habitat and woodland.	No constraints.	Pipe bridge required for crossing 2 rivers. Proximity of OHL.	Narrow space left side of the river makes construction difficult. Open cut under motorway, proximity of OHL.	Pipe bridge required to cross two rivers. Proximity of OHL.	Open cut crossing over A road. OHL at northern end.	Open cut across or microtunnelling A road and B road. Pipe bridge or microtunnelling required at river crossing.	Eastern end within Priority habitat.	Limited constraints.	Proximity of OHL.	Difficult crossing at railway, cutting line type Run through priority habitat and woodland at eastern end. OHL cut through at eastern end.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Terrain, hydraulics and short pipe length result in 5 to 8m elevation difference between 2 ends which results in shaft installation and tunnel. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and motorway might require installation of shafts, pipe bridge, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at rivers might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at rivers and railways might require installation of shafts, pipe bridge, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and railways might require installation of shafts, pipe bridge, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~40m). Some extra washouts and air valves may be required. Crossing points at river and railways might require installation of shafts, pipe bridge, tunnelling or air valves.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~65m). Some extra washouts and air valves may be required. Crossing points at road might require installation of shafts, tunnelling or air valves.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~20m). Some extra washouts and air valves may be required. Crossing points at railway might require installation of shafts, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~40m). Some extra washouts and air valves may be required. Crossing points at railway and road might require installation of shafts, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at motorway might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at rivers might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at A road might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and roads might require installation of shafts, pipe bridge or air valves.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~20m). Some extra washouts and air valves may be required.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~25m). Some extra washouts and air valves may be required.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~25m). Some extra washouts and air valves may be required.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at railway might require installation of shafts, pipe bridge or air valves.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under an asset of significant public importance i.e. M25 which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. 2 watercourses which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under assets of significant public importance i.e. 2 railway lines which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	This segment requires passage under or over assets of significant public importance i.e. A road which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues for AFW due to ground movement and restricted access. Furthermore the failure of the AFW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under an asset of significant public importance i.e. local A road which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	This segment requires passage under or over assets of significant public importance i.e. 2 watercourses which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under an asset of significant public importance i.e. motorway which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. 2 watercourses which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under an asset of significant public importance i.e. A road which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. A road which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling / dualling at motorway crossing point.	Likely to have higher construction costs due to microtunnelling under watercourses.	Likely to have higher construction cost due to difficult railway crossings, and due to reinstatement of contaminated land.	Likely to have higher construction costs due to main road reinstatement requirements.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction cost due to difficult railway crossings.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under railway line.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under railway line.	No abnormal difficulty foreseen or specific impact on construction n costs.	No abnormal difficulty foreseen or specific impact on construction n costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under watercourses and due to reinstatement of contaminated land.	Likely to have higher construction costs due to microtunnelling / dualling at motorway crossing point, as well as reinstatement of contaminated land.	Likely to have higher construction costs due to microtunnelling under watercourses.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to reinstatement of main road.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction cost due to difficult railway crossings.
Construction																																
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Ground conditions and gradients to be assessed. Interface at River at western end.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	Control measures required for OHLs. Public interface at road. Ground conditions and gradients to be assessed	Control measures required for OHL near northern end and rivers cutting across. Public interface at road. Watercourse ~30m to northern end. Ground conditions and gradients to be assessed	Control measures required for OHLs. Public interface at road. Pipeline runs across and alongside rivers. Ground conditions and gradients to be assessed	Control measures required for OHLs. Public interface at road. Pipeline runs across and/or alongside streams and railways. Ground conditions and gradients to be assessed	Public interface at road. Pipeline runs across and alongside streams. Ground conditions and gradients to be assessed	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at footpath.	Control measures required for OHLs. Public interface at road. Pipeline runs across and/or alongside streams. Ground conditions and gradients to be assessed	Ground conditions and gradients to be assessed. Public interface at road.	Control measures required for OHLs. Public interface at road. Ground conditions and gradients to be assessed	Control measures required for OHLs. Public interface at road. Pipeline runs across stream. Ground conditions and gradients to be assessed	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at narrow country road.	Ground conditions and gradients to be assessed.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at footpath. Proximity of Rivers.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at footpath. Proximity of Rivers.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road. Proximity of Rivers.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road. Proximity of Rivers.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of Rivers.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed.
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Relatively limited space on the southern part as running along road in residential area.	limited space along pipeline, but available space at southern end.	Limited space, assume the local recreation ground near southern end can be used	limited space along pipeline, but available space near allotment zone	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Adequate space left side of southern part.	Limited space. Assume sports field on the right available to be used.	Through urban area, restricted space.	Rural area - adequate space	Rural area - adequate space	Rural area - adequate space	Rural area - adequate space	Adequate space along central part.
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	Adjacent to minor road. 120m to nearest A road. Part of the pipeline is in field, away from access road, temporary access required.	Good access adjacent to A road	Good access adjacent to A road	Good access Along A road	Good access adjacent to A road	Good access adjacent to A road	Good access adjacent to A road and B road, but lanes within residential area being too narrow	Good access adjacent to A road and B road	100m to nearest B road. May require upgrade to local lane and river bridge?	500m to nearest B road. May require temporary roads.	Adjacent to B road and minor road at western end. Will require temporary road to reach central and eastern part.	Adjacent to A road, require temporary roads for eastern side.	2km to nearest A road. Require temporary roads	2.5km to nearest B road. 3km to nearest A road. May require upgrade to narrow country road.	2km to nearest A road. May require upgrade to narrow country road.	Good access adjacent to A road	Good access adjacent to A road	Good access adjacent to A road. Might require temporary road.	200m to nearest B road, 400m to nearest A road. May require temporary road.	Good access - connected into A road.	~400m to nearest A road. Lane being narrow at northern part. Require upgrade or temporary road.	Good access - connected into A road	Connected into A road at northern end. Lanes might be narrow near central part.	Excellent access adjacent to A road & B road	~500m to nearest B road. May require road upgrade/temporary road.	~500m to nearest B road. May require temporary road.	More than 1km to nearest B road. May require road upgrade.	Runs alongside minor road.
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Mostly within Flood zone 2, partially within zone 3	Low risk	Low risk	Low risk	Mostly within flood zone 2&3 but can be designed to avoid damage.	Within in Flood zone 2&3	Mostly within Flood zone 2, small portion within flood zone 3.	Eastern end within flood zone 2	Runs through Flood zone 3 at eastern end.	Within flood zone 1	Runs through and alongside flood zone 2 & 3 at a few locations.	Within flood zone 1	Within flood zone 2 & 3 at western end	Southern end within flood zone 2 & 3	Within flood zone 1	Within flood zone 1	Within flood zone 1	Within flood zone 1	Within flood zone 1	Partially within Flood zone 2&3	All within Flood zone 2&3.	All within Flood zone 2&3.	All within Flood zone 2&3.	Within Flood zone 2 at eastern end.	Within flood zone 1	Within flood zone 1	Within flood zone 1	Within flood zone 1

Beckton Reuse Indirect Pipeline Corridor - Technical

			RED	AMBER	GREEN	27B	28B	29B	30B	31B	32B	33B	34B	35B	36B	37B	38B	39B	40.1B	40.2B	40.3B	41B	42B	43B	44B	45B	46B	47.1B	47.2B	47.3B	48.1B	48.2B	48.3B
			Corridor segment (route) discounted due to at least one significant constraint (including influence of segments												x		x			x		x					x							
Design																																		
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Limited constraints.	Limited constraints.	Limited constraints.	Limited constraints.	Runs alongside OHL	Running through woodland. Microtunneling under railway at western end. Open cut crossing over A road at eastern end.	Limited constraints. Pylons nearby	Limited constraints.	Proximity of OHL (OHL crosses at western part). Pipe bridge or tunnelling required at 3 locations. Open cut in bridge deck to cross river at western end (or attach pipe to bridge deck)	Crossing of the lock on the southern end, which is likely not feasible. Open cut across the local road at northern end.	Open cut across A road. Additional small river crossings (tunnelling or pipe bridge)	Open cut across A road dual carriageway.	Limited constraints.	Limited constraints.	Difficult crossing at railway due to high retaining wall and foundations, lane is narrow, likely to have many utilities crossing already.	Limited constraints.	OHL crosses on the western side. Open cut in bridge deck (which might not be deep enough) to cross railway. Open cut across A road (dual carriageway)	OHL crosses near central. Rural area.	Open cut crossing under motorway. May require pipe bridge at river crossing at eastern end. Open cut in bridge at river crossing up north.	Limited constraints.	Microtunneling at railway crossing, and proximity of OHL. The local road too busy, difficult for construction.	OHL crosses at northern end. Relatively busy road.	Limited constraints.	Open cut crossing under railway bridge. Open cut in bridge deck to cross river. The local street not ideal due to being busy with many utilities buried in.	Limited constraints.	Open cut across A road (dual carriageway).	Require pipe bridge to cross watercourse (bridge deck too small not viable for attaching pipe to it). OHL crosses near river.	Limited constraints.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~40m). Some extra washouts and air valves may be required. Crossing points at railway and road might require installation of shafts, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, small change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and motorway might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Entire segment withing urban area.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Entire segment withing urban area.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Entire segment withing urban area.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at railway might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at railway might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at railway and a road might require installation of shafts, pipe bridge or air valves. Entire segment within urban area.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation. Some extra washouts and air valves may be required.	Terrain appears favourable to design of pipeline, small change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and motorway might require installation of shafts, pipe bridge or air valves.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~20m). Some extra washouts and air valves may be required.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at railway might require installation of shafts, pipe bridge or air valves. Entire segment withing urban area.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and motorway might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and A road might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and A road might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and A road might require installation of shafts, pipe bridge or air valves.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious impact on 4 Rs.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under or over assets of significant public importance i.e. 4 watercourses which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under or over assets of significant public importance i.e. major road and rail infrastructure which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under or over assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under or over assets of significant public importance i.e. local A road which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. 1 watercourse which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under railway line.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction cost due to reinstatement of contaminated land.	Likely to have higher construction costs due to microtunnelling under watercourses.	Likely to have higher construction cost due to reinstatement of contaminated land.	Likely to have higher construction costs due to microtunnelling under watercourses.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction cost due to reinstatement of contaminated land.	Likely to have higher construction cost due to reinstatement of contaminated land.	Likely to have higher construction cost due to difficult railway crossings, and due to reinstatement of contaminated land.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to crossing at railway and reinstatement of highway.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under motorway.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling.	Likely to have higher construction costs due to reinstatement of busy road.	Likely to have higher construction costs due to reinstatement of busy road.	Likely to have higher construction costs due to reinstatement of busy road.	Likely to have higher construction costs due to reinstatement of busy road.	Likely to have higher construction costs due to reinstatement of main road.	Likely to have higher construction costs due to going through tunnel.	No abnormal difficulty foreseen or specific impact on construction costs.
Construction																																	
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed.	Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed.	Ground conditions and gradients to be assessed. Public interface at road. Adjacent to river.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road. Adjacent to open waters.	Ground conditions and gradients to be assessed. Public interface at road. Adjacent to river.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of open water area in south	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Adequate space along pipeline route.	Adequate space along pipeline route.	limited space in residential area.	Limited space at southern part, adequate space at northern part (open field)	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Adequate space.	Adequate space - mostly within open field.	Insufficient space - All through residential area	Restricted site - All through residential area, but recreational area at southern side may be of use?	Assume green space north of pipeline available for use	Adequate space along left side of pipeline route.	Limited space at western end but adequate space in open field on the eastern side.	Limited space at western end but adequate space in open field on the eastern side.	Limited space at western end but adequate space in open field on the eastern side.	Insufficient space - through residential area.	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Insufficient space - through residential area.	Insufficient space - through residential area.	Insufficient space - through residential area.	Insufficient space - through residential area.	Insufficient space - through residential area.	Restricted site - sports field and public green space may be available for storage?	Restricted site - sports field and public green space may be available for storage?	Restricted site - sports field and public green space may be available for storage?
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	Connected into minor road at southern end, will require temporary road for northern part.	Adjacent to minor road, might require temporary road for northern part.	runs along minor road, but might require upgrade to the road.	Minor road connected into southern end. May require temporary roads or upgrade to road. Some sections of the road might be private.	Access from north west side, road might require upgrade.	Good access at both ends. Require temporary roads for middle part.	Good access - adjacent to A road	Good access - adjacent to A road	Close to A road at eastern end. ~500 to A road at western end. Mostly unpaved path access	Good access - connected into A road, runs along minor road.	Adjacent to A road, but lanes within residential area are narrow	Good access - adjacent to A road	Good access - runs along A road	Good access - runs along A road	Good access - runs along A road	Good access - runs along A road	Good access - runs along A road	~700m to nearest A road. May require temporary road for western side.	Restricted access - far from major road, lane being narrow and requires upgrade.	Restricted access - far from major road, lane being narrow and requires upgrade.	Good access - connected into A roads	Good access - runs along A road.	Good access - connected into A roads	Good access - connected into A roads	Good access - connected into A roads	Good access - connected into A road	Good access - connected into A road	Good access - connected into A road
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Within flood zone 1	Within flood zone 1	Within flood zone 1	Within flood zone 1	Northern end within flood zone 2 & 3	Within flood zone 1	Within flood zone 1	Within flood zone 2, eastern end within flood zone 3	Within flood zone 2 & 3	Within flood zone 2 & 3	Within flood zone 2 & 3	Within flood zone 2	Within flood zone 2	Partially within flood zone 2.	Partially within flood zone 2.	Partially within flood zone 2.	Within flood zone 1	Within flood zone 1	Partially within Flood zone 2&3	Southern end within Flood zone 2&3	Eastern end within Flood zone 2&3	Within flood zone 1	Runs through flood zone 2&3 at eastern end.	Runs through flood zone 2&3 at eastern end.	Runs through flood zone 2&3 at eastern end.	Within flood zone 1	Within flood zone 1	Within flood zone 1

Beckton Reuse Indirect Pipeline Corridor - Technical

			RED	AMBER	GREEN	49B	50B	51.1B	51.2B	52B	53B	54B	55B	56B	57B	58B	59B	60B	61.1B	61.2B	62B	63B	64B	65B	66B	67B	68B	69B	70.1B	70.2B	71B	72B
			Corridor segment (route) discounted due to at least one significant constraint (including influence of segments																X													
Design																																
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Require pipe bridge to cross New River	Challenging crossing at watercourse due to the presence of water tunnel. Open cut across A road (dual carriageway).	Limited constrains.	Limited constrains.	OHL crosses at northern end.	OHL crosses at northern end.	Microtunneling under M25	Pipe bridge may be required at river crossing at eastern end. Microtunneling at railway crossing. Open cut across country road, with proximity of OHL	limited constraints. might be going through a little local woodland.	Might require pipe bridge at stream.	Open cut crossing over B road.	Rural area, no crossing. OHL cross near central. Going through a small patch of local woods near central.	OHL crosses at 3 locations along pipe route. Microtunneling under railway. Potentially require pipe bridge over streams. Woodland and habitat crossed by pipeline require assessment. Open cut at minor road.	OHL crosses at eastern end. Open cut in bridge deck at river crossing. Microtunneling under railway which is likely unfeasible due to bridge being overloaded with utilities already. Running through compact residential area.	limited constraints. might be going through a little local woodland.	Run in thin corridor through SSSI area on the road.	OHL crosses at south. Might require pipe bridge at 2 streams. Open cut crossing over B road and minor road near central.	Cut through by two OHLs. Pipe bridge or tunnelling required at river crossing.	Pipe bridge likely required to cross Turkey Brook, pipe attached under railway bridge to cross railway Open cut crossing over minor road. Proximity of OHL and pylon.	Microtunneling under railway required.	OHL crosses at 3 locations. May require pipe bridge. Microtunneling under railway. Open cut crossing at B road.	Proximity to OHL.	Proximity to OHL at western end.	Limited constrains.	Limited constrains.	Low OHL along the route	OHL going through.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and A road might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~30m). Some extra washouts and air valves may be required. Crossing points at railway and road might require installation of shafts, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, small change in ground elevation. Pipe crown will be lower than SR BWL. Crossing points at river and motorway might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, small change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at railway might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation. Some extra washouts and air valves may be required. Crossing points at railway and road might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation. Some extra washouts and air valves may be required. Crossing point at railway might require installation of shafts, tunnelling or air valves.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation. Some extra washouts and air valves may be required. Crossing point at railway might require installation of shafts, tunnelling or air valves.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~20m). Some extra washouts and air valves may be required.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation (~55m). Some extra washouts and air valves may be required.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at river might require installation of shafts, pipe bridge or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at railway might require installation of shafts, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL. Crossing point at railway might require installation of shafts, tunnelling or air valves.	Terrain appears not ideal to design of pipeline but still acceptable, relatively large change in ground elevation. Some extra washouts and air valves may be required. Crossing point at railway might require installation of shafts, tunnelling or air valves.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain, hydraulics and short pipe length result in 5 to 8m elevation difference between 2 ends which results in shaft installation and tunnel. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	This segment requires passage under or over assets of significant public importance i.e. 1 watercourse which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under or over assets of significant public importance i.e. local A road which may cause future reliability and response issues due to traffic loading / ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under an asset of significant public importance i.e. motorway which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious negative impact on 4 Rs.	No obvious negative impact on 4 Rs.	No obvious negative impact on 4 Rs.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	This segment requires passage under assets of significant public importance i.e. 1 watercourse which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	No obvious impact on 4 Rs.	This segment requires passage under or over assets of significant public importance i.e. 1 watercourse which may cause future reliability and response issues for TW due to ground movement and restricted access. Furthermore the failure of the TW asset on 3rd party assets will require 4R consideration and mitigation.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	This segment requires passage under assets of significant public importance i.e. 1 railway line which may cause future reliability and response issues due to traffic loading / ground movement and restricted access.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.	No obvious negative impact on 4 Rs. Segment outside AFW existing operating area.
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	Likely to have higher construction costs due to microtunnelling under watercourses.	Likely to have higher construction costs due to microtunnelling under watercourses and due to reinstatement of main road.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under motorway.	Likely to have higher construction cost due to difficult railway crossings.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction cost due to difficult railway crossings.	Likely to have higher construction cost due to difficult railway crossings.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	Likely to have higher construction costs due to microtunnelling under watercourses.	Likely to have higher construction costs due to microtunnelling under watercourse and railway line.	Likely to have higher construction cost due to difficult railway crossings, and due to reinstatement of contaminated land.	Likely to have higher construction cost due to microtunnelling under railway line.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.
Construction																																
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of river.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at motorway.	OHL at road crossing. Public interface at road. Ground conditions and gradients to be assessed. river crossing at eastern end.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed. Public interface at road. Proximity of lake at southern end.	Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed. Proximity of rivers.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed. Proximity of rivers.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed. Proximity of rivers.	Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed. Proximity of streams.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed. Proximity of river.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed. Proximity of river.	Ground conditions and gradients to be assessed. Public interface at road.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed. Proximity of open water area.	control measures required for OHL. Ground conditions and gradients to be assessed. Proximity of open water area.	control measures required for OHL. Ground conditions and gradients to be assessed. Proximity of open water area.	Ground conditions and gradients to be assessed. Public interface at road.	Ground conditions and gradients to be assessed.	control measures required for OHL. Public interface at road. Ground conditions and gradients to be assessed.	control measures required for OHL. Public interface at narrow country road. Ground conditions and gradients to be assessed.
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Restricted site - sports field and public green space may be available for storage?	Restricted site - sports field and public green space may be available for storage?	Limited space on the southern part, unless use sports field. Adequate space at northern part.	Limited space on the southern part, unless use sports field. Adequate space at northern part.	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	limited space due to running along residential area.	limited space due to running along residential area.	Rural area. Adequate space (assume farmland available for use)	Rural area. Adequate space (assume farmland available for use)	Largely lies in open field - adequate space.	urban area, limited space. Green space at eastern side may be available.	Partially in open field - adequate space.	Largely lies in open field - adequate space.	Largely lies in open field - adequate space.	Largely lies in open field - adequate space.	Open field - adequate space.	Limited space on the southern side.	Open field - adequate space.
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	Good access - connected into A road	Good access - connected into A road	~500m to nearest A road.	~500m to nearest A road.	~1.5km to nearest A road. Require temporary road for western part.	~1.5km to nearest A road. Require temporary road.	Far from major road, require temporary road.	~300m to nearest B road, may require temporary roads for middle and eastern part.	Good access - adjacent to A road.	Good access - adjacent to A road and B road.	Good access - adjacent to A road and B road.	limited access. May require temporary road or upgrade to existing narrow country road. Connected into B road at northern end.	Limited access. Connected into B road at eastern end. Require temporary roads.	Runs along and connects into B road	Runs along and connects into B road	Runs along B road, connected into A road and some minor roads.	Good access at both ends. May require temporary roads for central part.	May require temporary roads. ~1000m to nearest A road	Lanes being narrow, but 400m to nearest A road.	Good access - adjacent to A road	Crosses by B road near central. Require temporary roads for either end.	Temporary road likely to be required from main road.	Temporary road likely to be required towards the river.	Connected into A road, may require temporary road ~400m in field.	Connected into A road, may require temporary road ~250m in field.	Good access - along A road	260m to A road. May require temporary road ~320m
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	Within flood zone 1	Within flood zone 1	Within flood zone 1	Within flood zone 1	within flood zone 1	within flood zone 1	Northern end within flood zone 2&3	Going through flood zone 2 & 3 at both ends.	within flood zone 1	within flood zone 1	within flood zone 1	within flood zone 1	Cutting through flood zone 2 & 3 near central (but very small section	Cut through Flood zone 2&3 at eastern end.	Cut through Flood zone 2&3 at eastern end.	within flood zone 1	Run through Flood zone 2&3 near central. Minimum impact	within Flood zone 2&3 near central.	within Flood zone 2&3.	within flood zone 1	Run through Flood zone 2&3 at eastern end.	within Flood zone 2&3.	Partially within Flood zone 2&3.	within flood zone 1	within flood zone 1	within flood zone 1	within flood zone 1

Beckton Reuse Indirect Pipeline Corridor - Technical

			RED	AMBER	GREEN	73B	74B
			Corridor segment (route) discounted due to at least one significant constraint (including influence of segments				
Design							
Primary	DES1	Pinch points and corridor features (including crossings and construction requirements)	Features pose a high risk to design or construction either technically or in terms of health and safety. Potential to be a sensitive location for external stakeholders. Tunnelling or pipe bridge required.	Will require compromise/mitigation in order to be workable, unlikely to be a sensitive corridor for external stakeholders. Tunnelling or pipe bridge required.	No or limited constraints.	Open cut across local street.	Open cut across local lane. OHL about 150m away and running parallel to the pipeline route.
Secondary	DES2	Where possible, the route should be selected such that the topography minimises the requirement for earthworks and additional assets e.g. balancing tanks.	N/A	Terrain is unfavourable to design of asset	Terrain is favourable to design of asset	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.	Terrain appears favourable to design of pipeline, minimal change in ground elevation. Pipe crown will be lower than SR BWL.
Secondary	DES3	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience	Potential to negatively impact on system resilience can be mitigated	Does not negatively impact on system resilience	Flagged up only, due to the interface between assets of significant public importance (T2AT & Railways). Design of these interfaces requires particular attention to the 4Rs.	Flagged up only, due to the interface between assets of significant public importance (T2AT & Railways). Design of these interfaces requires particular attention to the 4Rs.
Secondary	DES4	Cost Favourability	N/A	Likely to have higher construction costs when compared to other alternatives e.g. reinstatement of highway, rock excavation.	Likely to have lower construction costs when compared to other alternatives e.g. reinstatement of farm land.	No abnormal difficulty foreseen or specific impact on construction costs.	No abnormal difficulty foreseen or specific impact on construction costs.
Construction							
Primary	CON1	Site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, ground conditions and gradient of the terrain, open water areas, public access areas.	Works cannot be constructed safely	Works can be constructed safely but abnormal control measures required	Works can be constructed safely without abnormal control measures	Ground conditions and gradients to be assessed. Public interface at road.	Control measures required for OHL. Ground conditions and gradients to be assessed. Public interface at road.
Primary	CON2	Sufficient space can be made available for construction and materials storage.	Insufficient space	Restricted site	Adequate space	Open field - adequate space.	Open field - adequate space.
Primary	CON3	Suitable access to route section for construction workers, deliveries and waste removal	Suitable access cannot be provided	Restricted access, e.g. Requires upgrade to road network, long temporary roads, access road crossings, bridge reinforcement, low bridges, etc.	Adequate access	300m to A road, may require temporary road ~200m in field.	Northern part along A road, may require temporary road ~500m in field.
Secondary	CON4	Corridor should avoid Flood Zones 2 and 3 to minimise the risk of flood events.	Not applicable	Section is partially within Flood Zone 2 or 3	Section is within Flood Zone 1, or an area at low risk of surface water flooding	within flood zone 1	within flood zone 1

Beckton Reuse Indirect Pipeline Corridor - Environment and Community

		Criteria	RED	AMBER	GREEN	01B	2.1B	2.2B	2.3B	03B	04B	05B	06B	07B	08B	09B	10B	11B	12B
Environment																			
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	Route corridor is adjacent to a SSSI. Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site adjacent to route corridor.	Local Wildlife Site adjacent to route corridor.	No designated sites within 100m of route corridor.	Route corridor is within proximity of an SPA/Ramsar therefore there are potentially HRA risks associated with this route, therefore scored as red. Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	Route corridor adjacent to SSSI. Local Wildlife Site within route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor adjacent to ancient woodland.	Route corridor adjacent to ancient woodland.	Ancient woodland within route corridor.	Ancient woodland within route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed building within 100m of route corridor.	Listed building within route corridor although assume direct impacts on these would be avoided by routing pipeline along road so scored amber.	No designated heritage assets within 100m of route corridor.	Route corridor is adjacent to Scheduled Monuments.	Route corridor is adjacent to Scheduled Monuments.	Route corridor is adjacent to Scheduled Monuments.	No designated heritage assets within 100m of route corridor.	Listed building within 100m of route corridor.	Listed building within 100m of route corridor.	Conservation area within route corridor. Listed building within route corridor although assume this will be avoided.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Route corridor is in non-agricultural land.	Route corridor is in urban land.	Grade 2 agricultural land within route corridor (although given current land use may not be the case - scored as amber).	Grade 2 agricultural land within route corridor (although given current land use may not be the case - scored as amber).	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland and coastal and floodplain grazing marsh priority habitat within route corridor.	No priority habitat within 100m of route corridor	No priority habitat within 100m of route corridor	Site within 100m of priority habitat	Site within 100m of priority habitat	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland and other priority habitat (no main habitat but additional habitats present) within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat and good quality semi-improved grassland within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.
Community																			
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Buildings within route corridor although assume these would be avoided therefore not scored as red.	Buildings within route corridor although assume these would be avoided therefore not scored as red. Public park and garden within route corridor.	Buildings within route corridor although assume these would be avoided therefore not scored as red. Public park and garden within route corridor.	Public park and garden within route corridor.	Country Park within route corridor.	Allotments and Country Park within route corridor.	Sports facility within route corridor.	Sports facility within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Playing field and play space within route corridor.	University grounds within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	Route corridor partly within built up areas.	Route corridor partly within built up areas. PRoW within route corridor.	Route corridor partly within built up areas. PRoW within route corridor.	Route corridor partly within built up areas. PRoW and National Cycle Route within route corridor.	Route corridor predominantly within built up areas. PRoW and National Cycle Route within route corridor.	Route corridor predominantly within built up areas. PRoW and National Cycle Route within route corridor.	PRoW and National Cycle Route within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.

Beckton Reuse Indirect Pipeline Corridor - Environment and Community

		Criteria	RED	AMBER	GREEN	13B	14B	15B	16B	17B	18B	19B	20B	21B	22B	23B	24B	25B	26B	27B
Environment																				
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	Route corridor adjacent to SSSI. Local Wildlife Site within route corridor.	Route corridor within 100m of SSSI. Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	Ancient woodland within route corridor.	Ancient woodland within route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Scheduled Monument within route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed building within 100m of route corridor.	Listed building within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Route corridor within 500m of historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Route corridor is in non-agricultural land.	Route corridor is in non-agricultural land.	Route corridor is in urban land.	Route corridor is in urban land.	Grade 2 agricultural land within route corridor (although given current land use may not be the case - scored as amber).	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland within route corridor although distant from likely route of pipeline so assume this will be avoided and therefore scored as green.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor although to east of River Lee Navigation so unlikely to be directly impacted so scored as amber.	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Coastal and floodplain grazing marsh priority habitat within route corridor.	Coastal and floodplain grazing marsh priority habitat within route corridor.
Community																				
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Playing field within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Country Park within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Country Park within route corridor.	Sports facility and public park and garden within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	University grounds and sports facility within route corridor (although sports facility unlikely to be impacted with this route corridor).	University grounds and sports facility within route corridor (although sports facility unlikely to be impacted with this route corridor).
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW and National Cycle Route within route corridor.	PRoW within route corridor.	Route corridor predominantly within built up areas. PRoW within route corridor.	Route corridor predominantly within built up areas. PRoW within route corridor.	PRoW and National Cycle Route within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	National Cycle Route and PRoW within route corridor.

Beckton Reuse Indirect Pipeline Corridor - Environment and Community

		Criteria	RED	AMBER	GREEN	28B	29B	30B	31B	32B	33B	34B	35B	36B	37B	38B	39B	40.1B	40.2B	40.3B
Environment																				
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	SSI within route corridor. Local Wildlife Site within route corridor. Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Route corridor crosses Wildlife corridor.	No designated sites within 100m of route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Ancient woodland within route corridor.	Ancient woodland within route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed building within 100m of route corridor.	Listed building within 100m of route corridor.	Listed building within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor within 500m of historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Historic landfill site within route corridor.	Route corridor within 500m of historic landfill.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Historic landfill site within route corridor.	Historic landfill within 500m of route corridor.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 3 agricultural land within route corridor although given land use this is unlikely to be the case therefore scored as green.	Grade 3 agricultural land within route corridor although given land use this is unlikely to be the case therefore scored as green.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Route corridor is in non-agricultural land.	Grade 3 agricultural land within route corridor.	Route corridor is in non-agricultural land.	Route corridor is in urban land.	Route corridor is in non-agricultural land.	Route corridor is in non-agricultural land.	Route corridor is in non-agricultural land.	Route corridor is in non-agricultural and urban land.	Route corridor is in urban land.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	No priority habitat within 100m of route corridor	No priority habitat within 100m of route corridor	Coastal and floodplain grazing marsh priority habitat within route corridor.	Deciduous woodland and coastal and floodplain grazing marsh priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland and coastal and floodplain grazing marsh priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Site within 100m of priority habitat	Site within 100m of priority habitat	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within 100m of route corridor.
Community																				
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	University grounds and sports facility within route corridor.	University grounds and sports facility within route corridor.	University grounds and sports facility within route corridor (although sports facility unlikely to be impacted with this route corridor).	University grounds within route corridor.	Golf course within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	National Cycle Route and PRoW within route corridor.	National Cycle Route and PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	National Cycle Route and PRoW within route corridor.	Route corridor predominantly within built up areas. National Cycle Route and PRoW within route corridor.	Route corridor predominantly within built up areas. National Cycle Route and PRoW within route corridor.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.

Beckton Reuse Indirect Pipeline Corridor - Environment and Community

		Criteria	RED	AMBER	GREEN
Environment					
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor
Community					
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.

		41B	42B	43B	44B	45B	46B
Environment							
Primary	ENV1	Route corridor crosse Wildlife corridor. Site of Metropolitan Importance for Nature Conservation within route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within route corridor.	Route corridor crosses Wildlife Corridor. Site of Metropolitan Importance for Nature Conservation within route corridor.	No designated sites within 100m of route corridor.
Primary	ENV2	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Listed buildings within route corridor although assume this will be avoided therefore scored as amber.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed building within 100m of route corridor.	Listed building within 100m of route corridor.
Secondary	ENV5	Route corridor within 500m of historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Historic landfill site within route corridor.	Route corridor within 500m of historic landfill.
Secondary	ENV6	Route corridor is in urban land.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Route corridor is in non-agricultural and urban land.	Route corridor is in urban land.
Secondary	ENV7	Deciduous woodland priority habitat within route corridor.	Deciduous woodland and good quality semi-improved grassland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Site within 100m of priority habitat	No priority habitat within 100m of route corridor
Community							
Primary	COM1	Further education college grounds within route corridor.	Further education college grounds within route corridor although assume this would not be impacted by this route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Route corridor predominantly within built up areas.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	Route corridor predominantly within built up areas. National Cycle Route within route corridor.	Route corridor predominantly within built up areas.

		47.1B	47.2B	47.3B	48.1B	48.2B
Environment						
Primary	ENV1	Route corridor crosses Wildlife Corridor.	Route corridor crosses Wildlife Corridor.	Route corridor crosses Wildlife Corridor.	No designated sites within 100m of route corridor.	Route corridor crosses Wildlife corridor. Site of Metropolitan Importance for Nature Conservation within route corridor.
Primary	ENV2	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Listed building within route corridor although assume this will be avoided therefore scored as amber.	No designated heritage assets within 100m of route corridor.	Listed buildings within route corridor although assume this will be avoided therefore scored as amber.	Listed buildings within route corridor although assume this will be avoided therefore scored as amber.	Listed buildings within route corridor although assume this will be avoided therefore scored as amber.
Secondary	ENV5	Historic landfill site within route corridor.	Historic landfill within 500m of route corridor.	Historic landfill within 500m of route corridor.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.
Secondary	ENV6	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.
Secondary	ENV7	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within 100m of route corridor.	Deciduous woodland priority habitat within 100m of route corridor.	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within 100m of route corridor.
Community						
Primary	COM1	Buildings within route corridor although assume these would be avoided therefore not scored as red.	Buildings within route corridor although assume these would be avoided therefore not scored as red.	Buildings within route corridor although assume these would be avoided therefore not scored as red.	Buildings within route corridor although assume these would be avoided therefore not scored as red.	Buildings within route corridor although assume these would be avoided therefore not scored as red. School grounds, sports centre and sports facilities within route corridor.
Secondary	COM2	Route corridor predominantly within built up areas. PRoW within route corridor.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.

		48.3B	49B	50B	51.1B
Environment					
Primary	ENV1	No designated sites within 100m of route corridor.	Route corridor crosses Wildlife corridor. Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	No designated sites within 100m of route corridor.
Primary	ENV2	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Listed buildings within route corridor although assume this will be avoided therefore scored as amber.	Listed building within route corridor although assume this will be avoided therefore scored as amber.	Listed buildings within route corridor although assume this will be avoided therefore scored as amber.	Listed buildings within route corridor although assume this will be avoided therefore scored as amber.
Secondary	ENV5	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.
Secondary	ENV6	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.	Grade 3 agricultural land within route corridor.
Secondary	ENV7	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.
Community					
Primary	COM1	School grounds, sports centre and sports facilities within route corridor.	Buildings within route corridor although assume these would be avoided therefore not scored as red. School grounds, sports centre and sports facilities within route corridor.	Buildings within route corridor although assume these would be avoided therefore not scored as red. Sports centre and sports facilities within route corridor.	Sports facilities within route corridor.
Secondary	COM2	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas.	Route corridor predominantly within built up areas. PRoW within route corridor.	Route corridor partly within built up areas.

Beckton Reuse Indirect Pipeline Corridor - Environment and Community

		Criteria	RED	AMBER	GREEN	51.2B	52B	53B	54B	55B	56B	57B	58B	59B	60B	61.1B	61.2B	62B	63B	64B	65B
Environment																					
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	Local Wildlife Site within route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	SSSI/NNR/SAC within 100m of route corridor therefore there are potentially HRA risks associated with this route corridor therefore scored as red. Local Wildlife Sites within route corridor.	Local Wildlife Site within 100m of route corridor.	Adjacent to SSSI/LNR.	Adjacent to SSSI/LNR.	Adjacent to SSSI/LNR. Local Wildlife Sites within route corridor.	Site of Metropolitan Importance for Nature Conservation within route corridor.	Route corridor crosses Wildlife corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor is adjacent to ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Route corridor is adjacent to ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Ancient woodland within route corridor.	No area of mapped ancient woodland within 100m of route corridor.	Adjacent to ancient woodland.	Adjacent to ancient woodland.	Adjacent to ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed building within route corridor although assume this will be avoided therefore scored as amber.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed building within route corridor although assume this will be avoided therefore scored as amber.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed buildings within route corridor although assume these will be avoided therefore scored as amber.	Listed buildings within 100m of route corridor.	Listed buildings within route corridor although assume these will be avoided therefore scored as amber.	No designated heritage assets within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	Listed buildings within 100m of route corridor.	No designated heritage assets within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Historic landfill within 500m of route corridor.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Historic landfill within 500m of route corridor.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor with some areas of Grade 3a.	Grade 3 agricultural land within route corridor with some areas of Grade 3a.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Route corridor is in urban land.	Grade 3 agricultural land mapped within route corridor but given current land use, this is unlikely to be the case therefore this has been scored green.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland and other priority habitat (no main habitat but additional habitats present) within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	No priority habitat within 100m of route corridor
Community																					
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	Golf course within route corridor.	Golf course within route corridor.	Golf course within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	School grounds within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Buildings within route corridor although assume these would be avoided therefore not scored as red.	No property and community assets within route corridor.	Buildings within route corridor although assume these would be avoided therefore not scored as red.	Buildings within route corridor although assume these would be avoided therefore not scored as red. Route is adjacent to public park or gardens.	School grounds within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Public park and garden and play space within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	Route corridor partly within built up areas.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	PRoW within route corridor.	Route corridor partly within built up areas.	PRoW within route corridor.	PRoW and National Cycle Route within route corridor.	Route corridor predominantly within built up areas. PRoW within route corridor.

Beckton Reuse Indirect Pipeline Corridor - Environment and Community

		Criteria	RED	AMBER	GREEN	66B	67B	68B	69B	70.1B	70.2B	71B	72B	73B	74B
Environment															
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Route corridor includes statutory designated site or is adjacent.	Route corridor within 100m of statutory designated site. Route corridor includes or within 100m of non-statutory designated site.	No designated sites within 100m of route corridor.	Route corridor crosses Wildlife corridor.	Local Wildlife Site within route corridor.	Route corridor is adjacent to a SSSI. Local Wildlife Site within route corridor. Site of Metropolitan Importance for Nature Conservation adjacent to route corridor.	Route corridor is adjacent to a SSSI. Site of Metropolitan Importance for Nature Conservation adjacent to route corridor.	Local Wildlife Sites adjacent to route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	No designated sites within 100m of route corridor.	Local Wildlife Site within 100m of route corridor.	Local Wildlife Site adjacent to route corridor.
Primary	ENV2	Minimise impacts on ancient woodland.	Route corridor within 15m of an area of mapped ancient woodland.	Route corridor within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.	No area of mapped ancient woodland within 100m of route corridor.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Route corridor includes designated heritage asset.	Route corridor within 100m of designated heritage asset.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed building within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	Listed building within 100m of route corridor.	Listed buildings within route corridor although assume these will be avoided therefore scored ENV3 as amber.	Listed buildings within route corridor although assume these will be avoided therefore scored ENV3 as amber.	Listed building within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.	No designated heritage assets within 100m of route corridor.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Route corridor includes authorised landfill.	Route corridor within 500m of an authorised landfill or within historic landfill.	Route corridor over 500m from authorised or historic landfill.	Historic landfill within route corridor.	Historic landfill within 500m of route corridor.	Historic landfill within 500m of route corridor.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Route corridor over 500m from authorised or historic landfill.	Historic landfill within 500m of route corridor.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Route corridor includes Grade 1, 2 or 3a agricultural land	Route corridor includes Grade 3 agricultural land	Route corridor within Grade 4 agricultural land or lower or non-agricultural land	Route corridor is in non-agricultural and urban land.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.	Grade 3 agricultural land within route corridor.
Secondary	ENV7	Minimise loss of priority habitat.	Route corridor includes priority habitat	Route corridor within 100m of priority habitat	No priority habitat within 100m of route corridor	Deciduous woodland priority habitat within route corridor.	Deciduous woodland priority habitat within route corridor.	Deciduous woodland and coastal and floodplain grazing marsh priority habitat within route corridor.	Coastal and floodplain grazing marsh priority habitat within route corridor.	Deciduous woodland within 100m of route corridor.	No priority habitat within 100m of route corridor	Deciduous woodland within 100m of route corridor.	No priority habitat within 100m of route corridor	Deciduous woodland within route corridor.	Traditional orchard priority habitat within 100m of route corridor.
Community															
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and built community assets within route corridor.	Open space community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	School grounds within route corridor. Playing field within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.	Buildings within route corridor although assume these would be avoided therefore not scored as red.	No property and community assets within route corridor.	No property and community assets within route corridor.	No property and community assets within route corridor.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Route corridor predominantly within built up areas.	Route corridor partly within built up areas. Recreation assets within route corridor. National Cycle Route or PRoW within route corridor.	Route corridor largely not through built up areas. No recreation assets, National Cycle Route or PRoW within route corridor.	Route corridor predomir	PRoW within route cor	PRoW within route co	PRoW within route cor	PRoW within route cor	PRoW within route cor	Route corridor partly wit	PRoW within route c	Route corridor largely not through built up areas.	Route corridor largely not through built up areas.

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			Corridor ID									
	Red	Amber	Green	1	2.1	2.2	2.3	3	4	5	6	7	8	9
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local wildlife Site. Designated glasshouses - Proposed Retained Existing E13A and E13B. When granting planning permission for new, replacement, or extensions to, glasshouses or other buildings including packhouses, and any ancillary activities or uses, the Council will require that these sites are fully returned to a condition appropriate for their previous use when or if the land is no longer used for glasshouse horticulture.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Proposed Retained Existing glasshouses protected by policy E13A. When granting planning permission for new, replacement, or extensions to, glasshouses or other buildings including packhouses, and any ancillary activities or uses, the Council will require that these sites are fully returned to a condition appropriate for their previous use when or if the land is no longer used for glasshouse horticulture.	In close proximity to areas designated for glasshouses	Abuts a Regional Park and Local wildlife Site.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Scheduled Ancient Monument Town Centre boundary ED2 WC4 employment area ORC 1 New open space Abuts a Regional Park boundary LV1	ED2 WC4 employment area ORC 1 New open space Abuts a Regional boundary LV1 Open space, sport and recreation ORC2 Local wildlife site Parkland, which is protected as a leisure destination and an historic and archaeological asset. It is designated Open Space ORC1, a Historic Park and SAM. Landscape protection zone	ED2 PP4 Employment area Proximity to parkland, which is protected as a leisure destination and an historic and archaeological asset. It is designated Open Space ORC1, a Historic Park and SAM.	Local Wildlife site to the north	Local Wildlife site to the north	Local Wildlife site to the south
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Within a local nature reserve and local wildlife site Within a Regional Park. The Vision for the Park is included in the Local Plan under section 14(2)(a) of the Park Act. The delivery of the Vision is supported by the Local Plan through a number of policies.	Within a Regional Park. The Vision for the Park is included in the Local Plan under section 14(2)(a) of the Park Act. The delivery of the Vision is supported by the Local Plan through a number of policies.	Within a Regional Park. The Vision for the Park is included in the Local Plan under section 14(2)(a) of the Park Act. The delivery of the Vision is supported by the Local Plan through a number of policies.	Abuts local nature reserve and local wildlife site Within a Regional Park. The Vision for the Park is included in the Local Plan under section 14(2)(a) of the Park Act. The delivery of the Vision is supported by the Local Plan through a number of policies.	Employment designation. Proposals for development on allocated sites should accord with the site specific requirements	Within a regional park	Local Plan recently adopted - No known emerging designations or land promotion	Local Plan recently adopted - No known emerging designations or land promotion	Local Plan recently adopted - No known emerging designations or land promotion	Local Plan recently adopted - No known emerging designations or land promotion	Area of Archaeological Interest
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm. Subsequently removed in the emerging plan, which would result in the RAG rating changing to Green once the plan is adopted.	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Partially on previously developed land	Partially on previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Large majority greenfield land	Previously developed land	Greenfield land	Greenfield land	Partially on previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open Space, a Reservoir, and a commercial business. Nature of surrounding land use will have minimal to no impact.	Open Space and a commercial business. Nature of surrounding land use will have minimal to no impact.	A121, residential, industrial, open space and park land. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability.	A121, residential, industrial, open space and park land. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability.	Housing and employment. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability.	A121 - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Woodland, several minor tributaries, residential roads. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	An employment allocation, woodland. The Pipeline crosses the A10 a dual carriageway and the B198. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Dense Woodland and a Sports Ground. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Open fields, woodland / dense trees within the search area. Nature of surrounding land use will have minimal to no impact	Open fields with tree lined boundaries and some areas of woodland. Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Part on previously developed land - Potential restrictions but acquisitions could be possible.	Part on previously developed land - Potential restrictions but acquisitions could be possible.	Highway - Potential acquisition	Highway - Potential acquisition	Highway - Potential acquisition	Highway - Potential acquisition	Part greenfield Part highway	Highway	Greenfield land	Greenfield land	Part greenfield Part highway

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			10	11	12	13	14	15	16	17	18	19	20
	Red	Amber	Green											
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Landscape Character Area - RA10 Wildlife Site - R12 Area of Archaeological Significance - R29	Community Forest - RA11 and a Landscape Character Area - RA10	Community Forest - RA11 and Landscape Character Area - RA10 Proximity to a Wildlife Site - R12	Community Forest - RA11 and Landscape Character Area - RA10 Proximity to a Wildlife Site - R12	Wildlife Site - R12 and Ancient woodland Landscape Character Area	Landscape Character Area	Landscape Character Area	Landscape Character Area	Within the Local Wildlife Site Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Housing allocation Conservation Area, Permission for proposals that result in substantial harm to the significance of a designated heritage asset, including Conservation Areas, will be exceptional or wholly exceptional in accordance with national policy and guidance. Wildlife Sites Area of Archaeological Interest	Proximity to a housing allocation Community Forest	Community Forest Proximity to SSSI Abuts wildlife site WS144	Proximity to a housing allocation Abuts wildlife site WS145 Community Forest Proximity to SSSI	Cuts through Wildlife Sites WS90 - WS146	NA	NA	NA	Within a local nature reserve and local wildlife site Within a regional park	Within a regional park	Within a regional park
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Partially on previously developed land	Previously developed land	Greenfield land	Greenfield land	Greenfield land	Partially on previously developed land	Partially on previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Largely open fields, the pipeline also intersects a number of roads and runs through playing fields. Nature of surrounding land use will have minimal to no impact	Open fields and an area of woodland. Nature of surrounding land use will have minimal to no impact	Open fields with trees along boundaries and an area of woodland. Nature of surrounding land use will have minimal to no impact	Open fields with trees along boundaries and areas of woodland. Nature of surrounding land use will have minimal to no impact	Open fields with some areas of trees. Nature of surrounding land use will have minimal to no impact	A100 and neighbouring open fields. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Open fields. Nature of surrounding land use will have minimal to no impact	Communications telecoms and industrial land, and open space. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	The River Lee, open space and parkland including numerous public footpaths. Nature of surrounding land use will have minimal to no impact	River Lee and the M25. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	River Lee and open space. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Part greenfield Part highway	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Part employment	Greenfield land

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			21	22	23	24	25	26	27	28	29	30	31
	Red	Amber	Green											
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	ED2 WC4 employment area ORC 1 New open space Abuts a Regional Park boundary LV1	Proximity to parkland, which is protected as a leisure destination and an historic and archaeological asset. It is designated Open Space ORC1, a Historic Park and SAM. ED2 PP1 Employment area: Policy PP1: Park Plaza West Land at Park Plaza West is allocated for the development of a business campus. This campus will be developed in strict accordance with a Master Plan and design codes. Policy INF14: Hotels Site is identified for a hotel.	No policies that impact the Site	No policies that impact the Site	No policies that impact the Site	Community Forest - RA11 and Landscape Character Area - RA10 Major Developed Site in the Green Belt - RA5, RA6, RA7	Community Forest - RA11 and Landscape Character Area - RA10	Community Forest - RA11 and Landscape Character Area - RA10 Major Developed Site in the Green Belt - RA5, RA6, RA7	Community Forest - RA11 and Landscape Character Area - RA10 Major Developed Site in the Green Belt - RA5, RA6, RA7	Community Forest - RA11 and Landscape Character Area - RA10	Community Forest - RA11 and Landscape Character Area - RA10
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Local Plan recently adopted- No known emerging designations or land promotion	Local Plan recently adopted- No known emerging designations or land promotion	Local Plan recently adopted- No known emerging designations or land promotion	Local Plan recently adopted- No known emerging designations or land promotion	Local Plan recently adopted- No known emerging designations or land promotion	Community Forest Major Developed Sites within the Green Belt SADM34	Community Forest Major Developed Sites within the Green Belt SADM34	Community Forest Major Developed Sites within the Green Belt SADM34	Community Forest Major Developed Sites within the Green Belt SADM34	Community Forest	Community Forest
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Outside of the green belt	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Previously developed land	Greenfield land	Partially on previously developed land	Greenfield land	Previously developed land	Greenfield land	Greenfield land	Previously developed land	Previously developed land	Partially on previously developed land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Industrial estate. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Employment allocation, the Pipeline crosses the A10 and the B198.Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Woodland Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Open field with tree lined boundaries. Nature of surrounding land use will have minimal to no impact	Open space. Nature of surrounding land use will have minimal to no impact	Sports field, open space, trainline and a College. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Residential and open space. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	A College and treed open space. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	A College - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Residential / open space. Nature of surrounding land use will have minimal to no impact	Open fields. Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Industrial estate	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Residential	Employment	Employment	Employment	Highways/ Greenfield

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			32	33	34	35	36	37	38	39	40.1	40.2	40.3
	Red	Amber	Green											
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Landscape Character Area Cuts through a Wildlife Site - R12 and Ancient woodland	Landscape Character Area	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Site of metropolitan importance for nature conservation. Land covered by Area Action Plan Area of Special Character Local open space.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local wildlife Site. Proximity to environmental constraints Local open space. Site of metropolitan importance for nature conservation. Area of special character. Conservation area	Conservation area Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Site of metropolitan importance for nature conservation. Area of special character, Conservation area	Site of metropolitan importance for nature conservation.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Site of metropolitan importance for nature conservation. Area of special character Conservation area	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Site of metropolitan importance for nature conservation. Area of special character. Abuts a strategic Industrial Location	Local Open Space Area of Special Character Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Abuts a strategic Industrial Location	Local Open Space Area of Special Character Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Abuts a strategic Industrial Location Crosses a Wildlife Corridor and Unimplemented UDP Highways Improvement/Upgrading route.	Abuts a strategic Industrial Location
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Wildlife Sites	NA	Site of Metropolitan Importance for Nature Conservation (BG2, BG3). London National Park City (PL8) Areas of Special Character (DE9) Green loop (RE3, BG1) Conservation area (DE2, DE8) Local Open Space (BG6)	Local nature reserve and local wildlife site. Within a regional park. Areas of Special Character (DE9) Site of Metropolitan Importance for Nature Conservation (BG2, BG3). London National Park City (PL8) Areas of Special Character (DE9) Green loop (RE3, BG1) Conservation area (DE2, DE8) Local Open Space (BG6)	Site of Metropolitan Importance for Nature Conservation (BG2, BG3). Conservation area (DE2, DE8)	Site of Metropolitan Importance for Nature Conservation (BG2, BG3). London National Park City (PL8) Areas of Special Character (DE9) Green loop (RE3, BG1) Conservation area (DE2, DE8) Local Open Space (BG6)	Site of Metropolitan Importance for Nature Conservation (BG2, BG3). Conservation area (DE2, DE8) Local Open Space (BG6)	Abuts an areas of Special Character (DE9) Abuts a Strategic Industrial Location (E2, E3, E5) Site of Metropolitan Importance for Nature Conservation (BG2, BG3) Regional Park (PL8). Developments which are likely to result in a signficant adverse impact upon the character or function of the Park will not be permitted. Local Open Space (BG6) London National Park City (PL8)	Industrial area (SA52) and a Strategic Industrial Location (E2, E3, E5) Areas of Special Character (DE9) Regional Park (PL8). Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local Open Space (BG6)	Industrial area (SA52) and a Strategic Industrial Location (E2, E3, E5) Areas of Special Character (DE9) Regional Park (PL8). Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local Open Space (BG6)	Abuts a strategic Industrial Location
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Outside of the green belt	Partially within the green belt - unlikely to cause harm	Outside of the green belt	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open fields with heavily treed areas, intersects a golf course and a trainline. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Pinch point: communications telecoms and trees. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	2 rivers and open space - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Runs along the river Lee, marsh land and open space. Nature of surrounding land use will have minimal to no impact	Highways land, abuts a lock and residential area. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways, open space and residential. - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways, abuts open space and industrial uses. Nature of surrounding land use will have minimal to no impact	Highways and open space Nature of surrounding land use will have minimal to no impact	Highways and open space Nature of surrounding land use will have minimal to no impact	Highways land. Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield/ Residential	Telecoms	Greenfield	Greenfield	Highways	Highways	Highways	Highway Note: Thames Water property interest nearby.	Highways	Highways	Highways

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values											
	Red	Amber	Green	41	42	43	44	45	46	47.1	47.2	47.3	48.1	48.2
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Local Open Space Crosses Site of Metropolitan Importance for Nature Conservation Conservation Area Area of Special Character	Area of Special Character Unimplemented UDP Highways Improvement/Upgrading with Proposal no. (diagrammatic route) Site of Local Importance for Nature Conservation.	Area of Special Character Site of Local Importance for Nature Conservation	No policies that impact the Site	Crosses 4 Local centres Crosses an Unimplemented UDP Highways Improvement/Upgrading with Proposal no. (diagrammatic route) Land covered by an Area Action Plan	Crosses a Local centre Land covered by Area Action Plan	Land covered by Area Action Plan Local Centre Green Chain Corridor Metropolitan Open Land Wildlife Corridor (diagrammatic) Conservation Area Site of Borough Importance for Nature Conservation	Land covered by Area Action Plan Green Chain Corridor Metropolitan Open Land Wildlife Corridor (diagrammatic) Conservation Area Site of Borough Importance for Nature Conservation	Majority unconstrained Small section: Site of Borough Importance for Nature Conservation/ Wildlife Corridor/ Green Chain Corridor	NA	Local Open Space Crosses Site of Metropolitan Importance for Nature Conservation Conservation Area
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Green links (BG1) Conservation Area (DE2, DE8) Local Open Space (BG6) Local Centre (PL2, PL5, PL7, TC1, TC2) Areas of Special Character (DE9) Spatial growth: Sporting/ leisure	Areas of Special Character (DE9) Edge of site allocation SA60: The site should provide natural burial uses Spatial growth: Sporting/ leisure. Through site allocation SA62: Land at Tottenham Hotspurs Football Club Training Ground. The site should provide professional sport, recreation and community sports/leisure uses, including ancillary related facilities. London National Park City (PL8)	Areas of Special Character (DE9) Site of Borough Importance for Nature Conservation (BG2, BG3) Rural place making areas.	Local Plan recently adopted- No known emerging designations or land promotion	Crosses Wildlife Corridor (RE3) and a Green link (BG1) Crosses 4 Local Centre (PL2, PL5, PL7, TC1, TC2)	Green link (BG1) Crosses 2 Local Centres (PL2, PL5, PL7, TC1, TC2)	Wildlife Corridor (RE3) Conservation Area (DE2, DE8) Site of Borough Importance for Nature Conservation (BG2, BG3) Metropolitan Open Land (BG5) and Local Open space (BG6)	Wildlife Corridor (RE3) Conservation Area (DE2, DE8) Site of Borough Importance for Nature Conservation (BG2, BG3) Metropolitan Open Land (BG5) and Local Open space (BG6)	Majority unconstrained Small section: Wildlife Corridor (RE3)/ Site of Borough Importance for Nature Conservation (BG2, BG3)	NA	London National Park City (PL8) Green links (BG1) Conservation Area (DE2, DE8) Local Open Space (BG6)
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Outside of the green belt	Outside of the green belt	Outside of the green belt	Outside of the green belt	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Previously developed land	Greenfield land	Partially on previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land	Previously developed land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Highways and College gardens - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Currently open fields, a proposed burial site and sports fields. Search area intersects the M25. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Open fields with areas of dense trees and motorway M25- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways, open fields with areas of dense woodland- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways, residential and trainline. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways, and residential properties set back from the road - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways and open space - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways and open space - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	A College and Sports pitch and residential streets - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Highways	Greenfield	Part greenfield Part highway	Greenfield	Highways	Highways	Highways	Highways	Highways	Highways/ Residential area	Highways

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			48.3	49	50	51.1	51.2	52	53	54	55	56	57
	Red	Amber	Green											
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Local Open Space Crosses Site of Metropolitan Importance for Nature Conservation Conservation Area Area of Special Character	Local Open Space Crosses Site of Metropolitan Importance for Nature Conservation Conservation Area Area of Special Character	Crosses Site of Metropolitan Importance for Nature Conservation Conservation Area Area of Special Character	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Conservation Area and Grade II park and garden Area of Special Character Local Open Space	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Site of Metropolitan Importance for Nature Conservation Conservation Area and Grade II park and garden Area of Special Character Local Open Space	Area of Special Character	Area of Special Character	No policies that impact the Site	Area of Archaeological Significance - R29 and a Parkland Landscape Character Area - RA10	Parkland Landscape Character Area - RA10	Wildlife Site - R12 Common and Farmed Plateau Landscape Character- RA10
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	London National Park City (PL8) Green links (BG1) Conservation Area (DE2, DE8) Local Open Space (BG6) Areas of Special Character (DE9)	London National Park City (PL8) Green links (BG1) Conservation Area (DE2, DE8) Local Open Space (BG6)	London National Park City (PL8) Green links (BG1) Conservation Area (DE2, DE8)	Site allocation SA62: The site should provide professional sport, recreation and community sports/leisure uses, including ancillary related facilities. London National Park City (PL8) London National Park City (PL8) Green links (BG1) Conservation Area (DE2, DE8) Spatial growth: Sporting/ leisure Regional Park (PL8). Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local Open Space (BG6) Areas of Special Character (DE9)	Site allocation SA62: The site should provide professional sport, recreation and community sports/leisure uses, including ancillary related facilities. London National Park City (PL8) London National Park City (PL8) Green links (BG1) Conservation Area (DE2, DE8) Spatial growth: Sporting/ leisure Regional Park (PL8). Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local Open Space (BG6) Areas of Special Character (DE9) Site of Metropolitan Importance for Nature Conservation (BG2, BG3)	Areas of Special Character (DE9) Edge of site allocation SA60: The site should provide natural burial uses. Site of Borough Importance for Nature Conservation (BG2, BG3)	Areas of Special Character (DE9)	Local Plan recently adopted- No known emerging designations or land promotion	Proximity to Wildlife Site Area of Archaeological Interest	Wildlife Site	Wildlife Site
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Previously developed land	Partially on previously developed land	Previously developed land	Previously developed land	Previously developed land	Partially on previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Highways and open space - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	A College and Sports pitch- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Footpaths and Collage land- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways and sports facilities- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highways and sports facilities- Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Farm and Park land - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Open fields. Nature of surrounding land use will have minimal to no impact	Open fields, areas of woodland and M25. Nature of surrounding land use will have minimal to no impact	Open fields, areas of woodland and trainline Nature of surrounding land use will have minimal to no impact	A100 and Open fields with areas of woodland Nature of surrounding land use will have minimal to no impact	Highway and open fields with areas of dense woodland and agricultural land. Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Highways/ Residential area	Highways/ Residential area	Greenfield	Highways	Highways	Greenfield/ highways	Greenfield	Part greenfield Part highway	Greenfield	Greenfield land	Greenfield land

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			58	59	60	61.1	61.2	62	63	64	65	66	67
	Red	Amber	Green											
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Landscape Character Area	No policies that impact the Site	Common and Farmed Plateau Landscape - RA10 To the north of a wildlife site and SSSI	Landscape Character Area - RA10 Area of Archaeological Significance - R29	Wildlife Site - R12 Boarders Site of Special Scientific Interest - R13 Landscape Character Area - RA10	Common and Farmed Plateau Landscape Character- RA10 Boarders ancient woodland and SSSI.	Wildlife Site - R12 Area of Archaeological Significance - R29 Parkland Landscape Character Area - RA10 - Boarders ancient woodland	Local open space Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Site of metropolitan importance for nature conservation. Area of special character Conservation area	Land covered by Area Action Plan Green Chain Corridor Wildlife Corridor Conservation Area Site of Borough Importance for Nature Conservation Metropolitan Open Land	Land covered by Area Action Plan Area of Special Character Crosses Unimplemented UDP Highways Improvement/Upgrading with Proposal no. (diagrammatic route) and Wildlife Corridor A strategic Industrial Location A Regional Park and Local Open Space	Common and Farmed Plateau Landscape Character- RA10.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	NA	Local Plan recently adopted- No known emerging designations or land promotion	Wildlife Site Area of Archaeological Interest SAD15	Within a Large Village and Neighbourhood Centre. EA9 - Employment Area Proximity to Wildlife Site and a Area of Archaeological Interest	Proximity to Wildlife Site and a Area of Archaeological Interest	Proximity to a School a Major Developed Sites within the Green Belt Proximity to woodland designated a Special Scientific Interest	Crosses an area of Archaeological Interest	Areas of Special Character (DE9) Site of Metropolitan Importance for Nature Conservation (BG2, BG3). London National Park City (PL8) Green loop (RE3, BG1) Conservation area (DE2, DE8) Local Open Space (BG6)	Wildlife Corridor (RE3) Conservation Area (DE2, DE8) Site of Borough Importance for Nature Conservation (BG2, BG3)	Industrial area (SA52) and a Strategic Industrial Location (E2, E3, E5) Areas of Special Character (DE9) Crosses a Wildlife Corridor (RE3) Regional Park (PL8). Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local Open Space (BG6)	Housing Sites HS28 / 29 Cuts through Wildlife Site and a Area of Archaeological Interest
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Greenfield land	Open fields with tree lined boundaries, trainline.	Previously developed land	Previously developed land	Previously developed land	Greenfield land	Greenfield land	Previously developed land	Partially on previously developed land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Highways, open fields with some areas of trees. Nature of surrounding land use will have minimal to no impact	Open fields with small areas of woodland. Nature of surrounding land use will have minimal to no impact	Within the green belt	Highway, residential, village centre and open fields. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highway and open fields. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Highway, open fields and woodland, and a School . Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Open fields. Nature of surrounding land use will have minimal to no impact	Open space (classified as wetlands) and crosses the River Lee. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Trainline Nature of surrounding land use will have minimal to no impact	Highway, abuts open space which contains public footpaths and industrial uses. Nature of surrounding land use will have minimal to no impact	Emerging housing allocation, trainline, open space with treed boundaries, a sports club. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield land	Greenfield land	Greenfield land	Highways	Highways	Highways	Greenfield land	Greenfield land	Residential area	Uses industrial estate road. Note: Thames Water property interest nearby.	Greenfield land

Beckton Reuse Indirect Pipeline Corridor - Planning and Land

Criteria Name	Indicative Values			68	69	70.1	70.2	71	72	73	74
	Red	Amber	Green								
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Local wildlife Site. Designated glasshouses - Proposed Retained Existing E13A and E13B. When granting planning permission for new, replacement, or extensions to, glasshouses or other buildings including packhouses, and any ancillary activities or uses, the Council will require that these sites are fully returned to a condition appropriate for their previous use when or if the land is no longer used for glasshouse horticulture.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted.	NA	Abuts a Regional Park.	NA	NA	NA
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Within a local nature reserve and local wildlife site Within a Regional Park. The Vision for the Park is included in the Local Plan under section 14(2)(a) of the Park Act. The delivery of the Vision is supported by the Local Plan through a number of policies.	Within a Regional Park. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted.	Abuts a Regional Park. The Vision for the Park is included in the Local Plan under section 14(2)(a) of the Park Act. The delivery of the Vision is supported by the Local Plan through a number of policies.	NA	Abuts a Regional Park. The Vision for the Park is included in the Local Plan under section 14(2)(a) of the Park Act. The delivery of the Vision is supported by the Local Plan through a number of policies.	NA	NA	NA
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Partially on previously developed land	Greenfield land	Greenfield land	Greenfield land	Previously developed land	Greenfield land	Greenfield land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Open Space, a Reservoir, and a commercial business. Nature of surrounding land use will have minimal to no impact.	Open space. Nature of surrounding land use will have minimal to no impact	Open space. Nature of surrounding land use will have minimal to no impact	Open space. Nature of surrounding land use will have minimal to no impact	A121 and open space. Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability.	Open space. Nature of surrounding land use will have minimal to no impact	Open space. Nature of surrounding land use will have minimal to no impact	Open space. Nature of surrounding land use will have minimal to no impact
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Part on previously developed land - Potential restrictions but acquisitions could be possible.	Greenfield land	Greenfield land	Greenfield land	Highway - Potential acquisition	Greenfield land	Greenfield land	Greenfield land

Beckton Reuse Indirect WTW - Technical

Criteria		Description	Red	Amber	Green	BRI_WTW_CON_01	BRI_WTW_CON_02	BRI_WTW_CON_03	BRI_WTW_CON_04	BRI_WTW_CON_05	BRI_WTW_CON_06	BRI_WTW_CON_07	BRI_WTW_CON_08 BRI_WTW_CON_08_and_11_(T)	BRI_WTW_CON_09 BRI_WTW_CON_09_(T)	BRI_WTW_CON_10	BRI_WTW_CON_11 BRI_WTW_CON_08_and_11_(T)
Design																
Primary	DES1	There must be sufficient space for permanent works and environmental mitigation measures, including space to undertake roof flooding test and maintenance	Insufficient space.	Restricted site.	Adequate space.								There is space for the permanent WTW works within BRI_WTW_CON_08, but reduced scope for permanent soil disposal (as landscape bunds etc)			There is space for the permanent WTW works, but reduced scope for permanent soil disposal (as landscape bunds etc)
Primary	DES2	The plant must be outside Flood Zones 2 and 3 to allow maintenance and continuous operation during flood	Site is within flood zone 2 or 3.	Site is within flood zone 2 or 3 but can be designed to avoid damage.	Site is outside of the flood zone.			Site on the very edge of a flood zone. Can be avoided easily.			Site on the very edge of a flood zone. Can be avoided easily.	Site on the very edge of a flood zone.	Permanent site on the very edge of a flood zone. Can be avoided easily.			
Primary	DES3	Plant must be outside areas of contaminated land.	Within area of contaminated land.	Within 500m contaminated land. Likely that impact can be managed or mitigated.	Not within 500m of contaminated land.	Less than 400m away from historic landfill.	Less than 300m from authorised landfill	Less than 300m from authorised landfill	Less than 100m away from authorised landfill.	More than 2,000m away from historic landfill.	More than 500m away from authorised landfill.	Authorised landfill within zone area.	Less than 50m away from historic landfill.	Less than 50m away from historic landfill.	The boundary is less than 170m away from authorised landfill and ~380m from historic landfill. But the permanent works can be situated 450-500m away.	Temporary site less than 400m from historic landfill, but permanent site more than 500m.
Primary	DES4	The site must not result in an increased risk to the level of service (e.g. low pressure, asset failure, water quality - consider pipe pressure rating, asset condition, pumping stations and their efficiency and Net Positive	High risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	Low to Medium risk of deterioration in level of service or significant operational changes or asset investment required to mitigate	No risk to level of service or potential opportunity to improve the level of service.											
Primary	DES5	The site must minimise the risk to the existing and future network and the requirement for downstream network upgrades. Consider flow reversals, pressure management, non-return valves, zone configuration, boundary valves, flow meters	Risk to downstream network cannot be managed within economic investment.	Risk can be managed but likely to require appropriate and economic investment / downstream upgrades.	No risk - no investment required.	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the WTW location
Primary	*DES6*	*Site should be near the raw water source (s) and positioned in the direction of pipeline corridor(s) to minimise length of raw water main and associated risks. Where feasible, pumping from the source to the WTW should be minimised and raw water should gravitate from the source to*	*Pumping required from source to WTWs and WTW >2.5Km from the source.*	*Pumping required at source to the WTWs and WTW <=2.5km from the source.*	*Raw water can gravitate from source to WTW and the WTW is <=2.5Km from the source.*	Site less than 500m away from raw water source. Level goes from 13mAOD from the source to about 23mAOD at the plant site. Pumping likely to be required.	Site less than 1,400m away from raw water source. Level goes from 13mAOD from the source to about 30mAOD at the plant site. Pumping likely to be required.	Site less than 1,800m away from raw water source. Level goes from 13mAOD from the source to about 25mAOD at the plant site. Pumping likely to be required.	Site is ~3.8km from raw water source. Level goes from 13mAOD from the source to about 27mAOD at the plant site. Pumping likely to be required.	Site more than 9km away from raw water source. Level goes from 13mAOD from the source to about 80mAOD at the plant site. Pumping likely to be required.	Site located more than 15km away from raw water source.	Site located less than 1,000m away from raw water source. Level goes from 13mAOD from the source to about 25mAOD at the plant site. Pumping likely to be required.	Site is less than 500m away from raw water source. Level goes from 13mAOD to 18mAOD. The raw water could be gravitated to the WTW site without the need for a separate pumping station.	Site is ~3.5km away from raw water source. Level goes from 13mAOD from the source to about 27mAOD at the plant site. Pumping likely to be required.	Site less than 1,000m away from raw water source. Level goes from 13mAOD from the source to about 25mAOD at the plant site. Pumping likely to be required.	Site less than 500m away from raw water source. Level goes from 13mAOD from the source to about 25mAOD at the plant site. Pumping likely to be required.
Primary	DES7	The site should preferably be near existing or planned assets to allow for operational efficiencies / minimise requirement to create additional asset	N/a	Site is not adjacent to existing asset.	Site is adjacent to existing asset.						Near existing WTW facility.					
Primary	DES8	The site should be within a reasonable distance of a suitable watercourse to accept emergency overflow, drain down and commissioning discharges.	No suitable watercourse available.	Suitable watercourse is available, but more than 500m from site.	Suitable watercourse is available within 500m.	River Lee is 400m away from site location.	River Lee is about 1,000m away from site location. An 'inland river' is parallel to the south of the local street (300m from the site). However, background mapping suggests that this is culverted and there are likely to be more limitations on discharging additional flows into it.	A river is nearby and could potentially be used as classified as a main river. To be confirmed - size of watercourse might be too small for intended purpose. River Lee is about 1,000m away from site location.	A river is nearby and could potentially be of use. To be confirmed - size of watercourse might be too small for intended purpose. River Lee is about 2,500m away from site location.	A brook is about 350m away from site location and another brook is about 150m away. To be confirmed - size of watercourse might be too small for intended purpose.	A brook is about 50m away from site location. To be confirmed - size of watercourse might be too small for intended purpose.	River Lee is about 500m away from site location.	River Lee is less than 200m away from site location.	A river is about 350m away from site location and could be of use. To be confirmed - size of watercourse might be too small for intended purpose.	Nearest River Lee is about 700-750m away from site location. An 'inland river' is parallel to the south of the local street and crosses the site (assumed to be in a culvert and therefore there are likely limitations on discharging additional flows into it).	River Lee is less than 400m away from site location.
Primary	DES9	Power supply can be brought to site within a reasonable distance and without major network enhancements.	N/a	Power supply can be brought to site but requires extensive work to the network.	Power supply can be brought to the site without extensive work to the network.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near a village; therefore it is assumed that power supply is not likely to be an issue.	Site is near an existing WTW site therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.
Primary	DES10	Communications e.g. fibre optic can be brought to site within a reasonable distance and without major network enhancements.	N/a	Communications can be brought to site but requires extensive work on network.	Communications can be brought to site without extensive work on network.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near a village, Northaw; therefore it is assumed that communications is not likely to be an issue.	Site is near an existing WTW site therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.
Primary	DES11	Ground conditions should be adequate - consider loading and floatation.	High risk ground conditions, which would be uneconomical to mitigate.	Ground condition risks can be managed, but may require significant investment.	Low risk ground conditions.	BGS mapping and existing BHs indicate the site is underlain by the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. Minimal superficial cover expected - Till present to the south-west and Alluvium to the west of the site. The east of the site is in a 'Head Propensity' area. Landslide Deposits are located approximately 500m east of the site. Small area of infilled ground directly to the south of the site. Shallow perched groundwater expected above the London Clay Formation. Consideration to shrink swell potential of London Clay Formation. The SW corner of the site is within a Zone II - Outer Protection Zone SPZ. The site is not underlain by a designated aquifer (superficial or bedrock).	BGS mapping and existing BHs indicate the site is underlain by the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. Minimal superficial cover expected. The south of the site is in a 'Head Propensity' area. There are several areas of infilled ground to the north, south and east of the site. Landslide Deposits are located approximately 400m south-east of the site. Consideration to shrink swell potential of London Clay Formation. The west edge of the site is within a Zone II - Outer Protection Zone SPZ. The site is not underlain by a designated aquifer (superficial or bedrock).	BGS mapping and BHs indicate the site is underlain by the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. Minimal superficial cover expected. Consideration to shrink swell potential of London Clay Formation. Consideration to shrink swell potential of London Clay Formation. The western extent of the site is within a Zone II - Outer Protection Zone SPZ. The site is not underlain by a designated aquifer (superficial or bedrock).	BGS mapping and existing BHs indicate the site is underlain by superficial Enfield Silt "Brickearth", River Terrace Deposits and Kempton Park Gravel overlying the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. Enfield Silt compressible with collapsible fabric and low bearing capacity therefore not suitable founding material and will require removal. The southern third of the site is located in a Zone I - Inner Protection Zone with the middle third located in a Zone II - Outer Protection Zone SPZ. The site is not underlain by a designated aquifer (superficial or bedrock).	BGS Mapping indicates the site to be underlain by the London Clay Formation in the south and the Lambeth Group in the north. Minimal Superficial cover is expected - Sand and Gravel as well as the Dollis Hill Gravel Member are shown to be present to the immediate south of the site and River Terrace Deposits to the north east. Consideration to shrink swell potential of London Clay Formation. The site is not within a Source Protection Zone. The site is partially underlain by a Secondary A Aquifer (bedrock).	BGS mapping indicates minimal superficial cover over the majority of the site, with Glacial Gravel and River Terrace Deposits present around the perimeter. The Lambeth Group underlies the site, with the south west corner of the site being directly underlain by the Lewes Nodular Chalk and Seaford Chalk Formation. There are a number of areas of Surface Ground Workings (unspecified holes/ unspecified pits) located to the west and north of the centre of this site and an unspecified heap to the west. The site is in a BGS Non Coal Mining Area - small scale underground mining might have occurred within the Chalk. There is a risk of solution features being present at the Lambeth Group/ Chalk interface which may necessitate the use of piled foundations. The site is within a Zone 1 - Inner Protection Zone SPZ. Parts of the site are underlain by a Secondary A Aquifer (superficial) and Principal and Secondary A Aquifers (bedrock).	BGS mapping indicates the site is underlain by the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. An Authorised Landfill Site (Twigden Homes Ltd) approx. 95x115m in plan area is located in the centre of the site. An existing BH indicates the presence of Made Ground (within the area of Authorised Landfill) to a depth of approximately 6m underlain by River Terrace Deposits on site. Alluvium and River Terrace Deposits are present in BHs surrounding the site. Groundsure indicates Landscaped Ground present on the north extent of the site (shown to the north and west of the site on BGS mapping). Groundsure indicates a few small areas of surface ground workings in the north west corner of the site - identified as cuttings/ unspecified heap. Alluvium compressible and low bearing capacity potentially requiring piled foundations depending on the thickness present. Consideration to shrink swell potential of London Clay Formation. Site located in a Zone II - Outer Protection Zone SPZ with the north west of the site within a Zone I - Inner Protection Zone SPZ. The site is partially underlain by a Secondary A Aquifer (superficial).	BR_WTW_CON_08 - BGS mapping suggests the site is directly underlain by the London Clay Formation, however; existing BHs indicate the presence of Made Ground and Alluvium overlying the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. Infilled Ground is shown to be present on site. Historical landfill (EA/NRW records) Sewardstone Landfill located <50m from the north west corner of the BRI_WTW_CON_08 site. Groundsure indicates an area of surface ground working approximately 100m west of the site. Alluvium is compressible and low bearing capacity potentially requiring piled foundations depending on the thickness present. Consideration to shrink swell potential of London Clay Formation. Presence of existing foundations will need to be considered during detailed design. The majority of the BRI_WTW_CON_08 site and the SW corner of BRI_WTW_CON_08(T) is within a Zone II - Outer Protection Zone SPZ. The west of the site is underlain by a Secondary A (superficial) aquifer.	BGS mapping and existing BHs indicate the BRI_WTW_CON_09 site is underlain by superficial Enfield Silt "Brickearth" and Kempton Park Gravel with the BRI_WTW_CON_09_(T) site underlain by superficial Enfield Silt and River Terrace Deposits overlying the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. An Historic Landfill (Park Lane) underlies the majority of the BRI_WTW_CON_09 site. Enfield Silt compressible with collapsible fabric and low bearing capacity therefore not suitable founding material and will require removal if still present. Mitigation and control measures will be required for constructing foundations/ structures within landfill - piles very likely to be required. Consideration to shrink swell potential of London Clay Formation. The SW corner of the BRI_WTW_CON_09_(T) site lies within a Zone II - Outer Protection Zone SPZ. The site is on the boundary of a Secondary A Aquifer (superficial).	BGS mapping indicates the site is directly underlain by the London Clay Formation which overlies the Lambeth Group, Thanet Sand and Chalk. Minimal superficial cover expected. The eastern edge of the site is in a 'Head Propensity' area. Infilled ground is present beneath the majority of the southern half of the site therefore a thickness of Made Ground may be present here. Consideration to shrink swell potential of London Clay Formation. Shallow perched groundwater above the London Clay Formation possible. The north west corner of the site is bounded by a Zone II - Outer Protection Zone SPZ. The site is not underlain by a designated aquifer (superficial or bedrock).	BGS mapping suggests the site is directly underlain by the London Clay Formation which overlies the Lambeth Group, Thanet Sand and Chalk. Minimal superficial cover expected. Consideration to shrink swell potential of London Clay Formation. Shallow perched groundwater above the London Clay Formation possible. The site does not lie within a SPZ. The site is not underlain by a designated aquifer (superficial or bedrock).
Secondary	DES12	There must be sufficient space for planned future expansion and/or process enhancement.	No space for envisaged requirement for expansion.	No space for future expansion, but unlikely to be required.	Adequate space for envisaged expansion.											Not enough space within BRI_WTW_CON_11, but there could be space to expand into BRI_WTW_CON_08_and_11_(T)
Secondary	DES13	Where possible, project should use or re-use existing assets.	N/a	Project does not make use of existing assets.	Project makes use of existing assets.											
Secondary	DES14	Where possible, works should be built on land already owned by the water company.	Site cannot be acquired by Thames Water or Affinity Water without the use of compulsory purchase powers.	Site not already owned by Thames Water or Affinity Water.	Site already owned by Thames Water or Affinity Water.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation.
Secondary	DES15	Where possible corridor selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience.	Potential to negatively impact on system resilience can be mitigated.	Does not negatively impact on system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.	New WTW likely to increase system resilience.
Secondary	DES16	Where possible, the site should be selected such that the topography minimises the requirement for earthworks and engineered slopes.	N/a	Terrain is unfavourable to the design of the asset.	Terrain is favourable to the design of the asset.	Between 4m and 12m head available from the site. Potential for more head on site extremities as it gets more hilly.	Between 4m and 10m head available from the site. Potential for more head on site extremities as it gets more hilly.	Between 4m and 12m head available from the site. Potential for more head on site extremities as it gets more hilly.	Between 4m and 7m head available if using the full length of the site, which is likely to be unrealistic. The site is largely flat (<4m head).	Between 4m and 12m head available from the site. Potential for more head on site extremities as it gets more hilly.	Between 4m and 12m head available from the site. Potential for more head on site extremities as it gets more hilly.	Between 4m and 12m head available from the site. Potential for slightly more head on site extremities as it gets more hilly.	Terrain ranges from ~16-21mAOD in the permanent site, which is ~5m fall across the site.	Terrain ranges from ~23.5-28.5mAOD in the permanent site, which is ~5m fall across the site.	Terrain to the south of Mott Street ranges from 22-26mAOD and to the north of Mott Street ranges ~24-35mAOD, which is ~13m (max) fall across the site (permanent works could be kept within an area of 4-12m fall).	~12m head across the permanent site.
Secondary	DES17	Site selection should minimise the risk to security e.g. vandalism, trespassing.	High risk which would be uneconomical to mitigate.	Risk can be managed but may require significant investment.	Low risk.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its rural location and lower numbers of people nearby, it is assumed to be a lower risk	Due to its rural location and lower numbers of people nearby, it is assumed to be a lower risk	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.
Construction																
Primary	CON1	The site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, gradient of land	Works cannot be constructed safely.	Works can be constructed safely but abnormal control measures required.	Works can be constructed safely without abnormal control measures.		Overhead power lines running through the area.	Overhead power lines running through the area.	Overhead power lines running through the area.		Overhead power lines at proximity		Overhead power lines at the very edge of the temporary site and could be avoided.		Overhead power lines running through the eastern side of the area (area proposed to be for temporary works).	Overhead power lines at the very edge of the temporary site and could be avoided.
Primary	CON2	Sufficient space can be made available for construction, materials storage and site accommodation.	Insufficient space.	Restricted site.	Adequate space.	Space available within the defined zone	Space available within the defined zone	Space available within the defined zone	Space available within the defined zone	Space available within the defined zone	Space available within the defined zone	Space available within the defined zone		Space available within the defined zone	Space available within the defined zone	Space available within the defined zone
Primary	CON3	Suitable access for construction workers, deliveries and construction waste removal.	Suitable access cannot be provided.	Restricted access; may require upgrades e.g. passing places.	Adequate access.						Road access to be improved.					
Operation																
Primary	OPS1	The site allows works to be operated without endangering construction workers, operational staff, visitors or members of the public.	Works cannot be operated safely or abnormal control measures required.	N/a	Works can be operated safely without unusual control measures.											
Primary	OPS2	Suitable access for operation including deliveries e.g. chemicals, water tankering and waste removal.	Suitable access cannot be provided.	Major works required to provide suitable permanent access.	Adequate access already exists at site perimeter.						Road access to be improved.					
Primary	OPS3	Operational travel time from existing sites to be minimised.	> 60 mins.	>30mins <= 60mins.	<=30mins.	25 min drive from existing WTW to site location	25 min drive from existing WTW to site location	25 min drive from existing WTW to site location	20 min drive from existing WTW to site location	12 min drive from existing WTW to site location	25 min drive from existing WTW to site location	25 min drive from existing WTW to site location	25 min drive from existing WTW to site location	26 min drive from existing WTW to site location	25 min drive from existing WTW to site location	25 min drive from existing WTW to site location

Beckton Reuse Indirect WTW - Environment and Community

		Criteria	RED	AMBER	GREEN	BRI_WTW_CON_1	BRI_WTW_CON_2	BRI_WTW_CON_3	BRI_WTW_CON_4	BRI_WTW_CON_5	BRI_WTW_CON_6	BRI_WTW_CON_7	BRI_WTW_CON_8	BRI_WTW_CON_8_(T) and BRI_WTW_CON_11_(T)	BRI_WTW_CON_9	BRI_WTW_CON_9_(T)	BRI_WTW_CON_10	BRI_WTW_CON_11
Environment																		
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Site includes statutory designated site or is adjacent.	Site within 100m of statutory designated site. Site includes or within 100m of non-statutory designated site.	No designated sites within 100m of Site.	Site is within 100m of Local Wildlife Site.	Site is within 100m of Local Wildlife Site.	Site is within 100m of Local Wildlife Site.	Site within 100m of Local Wildlife Site and Wildlife Corridor.	Site is within 100m of Local Wildlife Site.	SSSI adjacent to site.	Site partly within Local Wildlife Site.	Site in close proximity to Local Wildlife Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	No designated sites within 100m of Site.	Site within 100m of Local Wildlife Site.
Primary	ENV2	Minimise impacts on ancient woodland.	Site within 15m of an area of mapped ancient woodland.	Site within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	Site within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	Site within 15m of an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Site includes designated heritage asset.	Site within 500m of designated heritage asset.	No designated heritage assets within 500m of Site.	Site is in close proximity to Grade II listed building with Grade II* listed building within 500m.	No designated heritage assets within 500m of Site.	No designated heritage assets within 500m of Site.	Site is in close proximity to a group of listed buildings and within 500m of a scheduled monument.	Conservation area and listed buildings within 500m of site with one listed building in close proximity.	Several listed buildings within proximity to site.	No designated heritage assets within 500m of Site.	Site is in close proximity to Grade II listed building with Grade II* listed building within 500m.	Site is in close proximity to Grade II listed building with Grade II* listed building within 500m.	Site is within 500m of listed buildings and a scheduled monument.	Site is in close proximity to a group of listed buildings and within 500m of a scheduled monument.	Site within 500m of Grade II listed	Site within 500m of Grade II* listed building.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Site includes authorised landfill.	Site within 500m of an authorised landfill or within historic landfill.	Site over 500m from authorised or historic landfill.	Site is within 500m of a historical landfill site.	Site over 500m from authorised or historic landfill.	Site over 500m from authorised or historic landfill.	Site is within 500m of a historical landfill site.	Site over 500m from authorised or historic landfill.	Site over 500m from authorised or historic landfill.	Site is within 500m of a historical landfill site.	Site is within 500m of a historical landfill site.	Site is within 500m of a historical landfill site.	Historic landfill within site.	Site is within 500m of a historical landfill site.	Site is within 500m of a historical landfill site.	Site over 500m from authorised or historic landfill.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 or 3a).	Site includes Grade 1, 2 or 3a agricultural land	Site includes Grade 3 agricultural land	Site within Grade 4 agricultural land or lower or non-agricultural land	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.	Site within Grade 2 and 3 agricultural land.	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land (although much of land use is industrial/commercial).	Site within Grade 3 agricultural land.	Site partly within Grade 2 agricultu	Site partly within Grade 2 agricultura	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.
Secondary	ENV7	Minimise loss of priority habitat.	Site includes priority habitat	Site within 100m of priority habitat	No priority habitat within 100m of Site	Site within 100m of priority habitat	Site within 100m of priority habitat	Site within 100m of priority habitat	Site within 100m of priority habitat	No priority habitat within 100m of Site	Site within 100m of priority habitat	Site within 100m of priority habitat	Deciduous woodland priority habitat within site (although aerial photography shows that this is likely to be limited to the edge of the Site therefore scored as amber).	Site within 100m of priority habitat	Site within 100m of priority habitat	Site within 100m of priority habitat	Site within 100m of priority habitat	Site within 100m of priority habitat
Community																		
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and community assets within Site.	Temporary loss of community assets during construction.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	Site wholly within Country Park / Public Park and Garden.	Commercial property on the Site.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	Commercial property on the Site.	Commercial property on the Site.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Site predominantly within built up areas. National Cycle Route or PRoW within Site.	Site partly within built up areas. Community assets within 500m of site.	Site largely not within built up areas. No community assets within 500m of site. No National Cycle Routes or PRoWs within Site.	Public Park and Garden within 500m. Cemetery within close proximity to site. PRoW runs through site.	Site within close proximity to some residential properties. Country Park / Public Park and Garden within 500m.	Site within close proximity to several residential properties. Country Park / Public Park and Garden within 500m. PRoW runs through site.	Site within close proximity to assumed residential property associated with farm. School and college within 500m of site (school is on other side of industrial area and college is on other side of M25). Sports facilities in close proximity; public park and garden and cemetery with 500m of site. PRoW runs through site.	Site within close proximity to residential properties. Playing fields and bowling greens within 500m of site.	Site within proximity to several residential properties. University within 500m of site. Playing field within 500m of site (but on other side of A1(M). Religious grounds and playing field within 500m of site to north. PRoW within and adjacent to site.	Site within close proximity to several residential properties. PRoW runs through site. Depending on site layout required, PRoW potentially cannot easily be avoided and may need to be diverted.	Site within close proximity to several residential properties. Public Park and Garden within 500m PRoW adjacent to site.	Site within close proximity to several residential properties. Public Park and Garden within 500m PRoW runs through site. Depending on site layout required, PRoW potentially cannot easily be avoided and may need to be diverted during construction.	Sports facilities in close proximity to site. PRoW adjacent to site.	Public Park and Garden within 500m PRoW adjacent to site.	Site within close proximity to some residential properties. Country Park / Public Park and Garden within 500m.	Site largely not within built up areas. No community assets within 500m of site. No National Cycle Routes or PRoWs within Site.

Beckton Reuse Indirect WTW - Planning and Land

Criteria Name	Indicative Values			BRI_WTW_CON_01	BRI_WTW_CON_02	BRI_WTW_CON_03	BRI_WTW_CON_04	BRI_WTW_CON_05	BRI_WTW_CON_06	BRI_WTW_CON_07	BRI_WTW_CON_08	BRI_WTW_CON_09	BRI_WTW_CON_09_(T)	BRI_WTW_CON_10	BRI_WTW_CON_11
	Red	Amber	Green												
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Abuts a Local Wildlife Site - Development or land use change which could directly or indirectly destroy or have an adverse effect upon a Wildlife Site will be refused unless it can be demonstrated that the reasons for the proposal clearly outweigh the need to safeguard the intrinsic nature conservation value of the site or feature.	Cuts through the top of woodland, designated a Local Wildlife Site. Abuts a Local Wildlife Site - Development or land use change which could directly or indirectly destroy or have an adverse effect upon a Wildlife Site will be refused unless it can be demonstrated that the reasons for the proposal clearly outweigh the need to safeguard the intrinsic nature conservation value of the site or feature.	Existing/ designated use does not conflict with use of site	Policy PP1: Park Plaza West is allocated for the development of a business campus. Restricted to use classes B1a (offices) or B1b (research and development) or other uses that support the campus Policy ED2: Employment Areas, reserved for employment use and other uses which support, or are wholly compatible with, the designation. Policy INF14: Identified for a hotel Abuts a country club CS1 New open space	Existing/ designated use does not conflict with use of site. There is an emerging residential allocation to the west and to the rear of existing development, this is outside of the site boundary.	Community Forest - RA11. Within the boundaries of the forest, the Council will seek to achieve the objectives of the Forest Plan in terms of planting, leisure and landscape improvement, where this accords with Green Belt policies. Landscape Character Area - RA10. A local landscape character policy. Proximity to a Wildlife Site - R12 Special Area of Conservation Proximity to a Site of Special Scientific Interest - R13	Within a Local Wildlife Site Within a Regional Park. POLICY GB10 – Development in the Park and POLICY RST24- Design and location of development in the park apply. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted.	Within a Regional Park. POLICY GB10 – Development in the Park and POLICY RST24- Design and location of development in the park apply. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Abuts a local wildlife Site. Designated for Glasshouses - Proposed Retained Existing E13A and also part Glasshouses - De-designated E13A area	Proximity to a historic Park to the north which is a Open Space ORC1, Historic Park and SAM. PP2 Park Plaza North is allocated for a mix of employment uses Policy ED2: Employment Areas, reserved for employment use and other uses which support, or are wholly compatible with, the designation. mix of B1, B2 and B8. New rail station to be located on the edge of the site.	Policy PP1: Park Plaza West is allocated for the development of a business campus. Restricted to use classes B1a (offices) or B1b (research and development) or other uses that support the campus Policy ED2: Employment Areas, reserved for employment use and other uses which support, or are wholly compatible with, the designation. Policy INF14: Identified for a hotel	Glasshouses - Proposed Retained Existing E13A and Glasshouses - New E13A. Planning permission will be granted for new and replacement horticultural glasshouses within areas identified for this purpose on the Alterations Proposals Map.	Abuts a Local Wildlife Site. Abuts a Local Wildlife Site - Development or land use change which could directly or indirectly destroy or have an adverse effect upon a Wildlife Site will be refused unless it can be demonstrated that the reasons for the proposal clearly outweigh the need to safeguard the intrinsic nature conservation value of the site or feature.
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Abuts a local nature reserve and local wildlife site. Development proposals which are likely to have a negative impact on a locally designated site will only be permitted where the benefits of the proposed development clearly outweigh the value of the ecological feature adversely affected and there are no appropriate alternatives.	Abuts a local nature reserve and local wildlife site. Development proposals which are likely to have a negative impact on a locally designated site will only be permitted where the benefits of the proposed development clearly outweigh the value of the ecological feature adversely affected and there are no appropriate alternatives.	No known emerging designations or land promotion that are likely to preclude development	Local Plan recently adopted- No known emerging designations or land promotion	No known emerging designations or land promotion that are likely to preclude development	Community Forest. Policy SP 11 Protection and enhancement of critical environmental assets. An area identified through the England Community Forest Programme. Proximity to SSSI Proximity to a wildlife site WS144/ WS145 and WS212. Local sites identified by locally developed criteria which are the most important non-statutory sites for wildlife.	Within a local nature reserve and local wildlife site. Development proposals which are likely to have a negative impact on a locally designated site will only be permitted where the benefits of the proposed development clearly outweigh the value of the ecological feature adversely affected and there are no appropriate alternatives. Within a regional park. The Park Vision outlines a common purpose for the Regional Park and expresses the desirable characteristics.	Abuts a local nature reserve and local wildlife site. Development proposals which are likely to have a negative impact on a locally designated site will only be permitted where the benefits of the proposed development clearly outweigh the value of the ecological feature adversely affected and there are no appropriate alternatives. Within a regional park. The Park Vision outlines a common purpose for the Regional Park and expresses the desirable characteristics.	Local Plan recently adopted- No known emerging designations or land promotion	Local Plan recently adopted- No known emerging designations or land promotion	No known emerging designations or land promotion that are likely to preclude development	Abuts a local nature reserve and local wildlife site. Development proposals which are likely to have a negative impact on a locally designated site will only be permitted where the benefits of the proposed development clearly outweigh the value of the ecological feature adversely affected and there are no appropriate alternatives.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Outside of the green belt	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Greenfield land	Previously developed land	Presently greenfield land	Presently greenfield land	Partially on previously developed land: A commercial property and open fields	Partially on previously developed land: A commercial property and open fields
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	A forested neighbourhood park and open fields	Parkland and open fields	Agricultural	Employment allocation	Open fields	Agricultural	Parkland	Commercial property	Employment allocation	Employment allocation	Parkland, open fields, employment land.	Employment land and open fields
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield Opposite residential area.	Greenfield Access may be difficult and require a separate acquisition.	Greenfield	Greenfield	Greenfield	Greenfield	Greenfield	Greenfield Behind residential	Greenfield	Greenfield	Greenfield Next to residential/commercial use.	Greenfield Access may be difficult and require separate acquisition.

Beckton Reuse Indirect Intake - Technical

Criteria		Description	Red	Amber	Green	BRI_INT_CON_01_(I) BRI_INT_CON_01_(T)	BRI_INT_CON_02_(I)
Design							
Primary	DES1	There must be sufficient space for permanent works and environmental mitigation measures.	Insufficient space.	Restricted site.	Adequate space.		
Primary	DES2	A location where there is sufficient riverbank frontage (taken as at least 30m in the case of T2AT) and enough space to construct the intake;	Insufficient river frontage	Available frontage restricts choice of intake location	No restriction on choice of intake location		
Primary	DES3	The M&E plant should be outside Flood Zones 2 and 3 to allow maintenance and continuous operation during flood events.	Site is within flood zone 2 or 3.	Site is within flood zone 2 or 3 but can be designed to avoid damage.	Site is outside of the flood zone.		
Primary	DES4	Plant must be outside areas of contaminated land.	Within area of contaminated land.	Within 500m contaminated land. Likely that impact can be managed or mitigated.	Not within 500m of contaminated land.	Less than 300m away from historic landfill. (Temporary site less than 200m.)	Northern end less than 500m away from historic landfill; however there is scope within this area to locate the intake more than 500m from the landfill
Primary	DES5	The site must not result in an increased risk to the level of service (e.g. low pressure, asset failure, water quality - consider pipe pressure rating, asset condition, pumping stations and their efficiency and Net Positive Suction Head etc.).	High risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	Low to Medium risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	No risk to level of service or potential opportunity to improve the level of service.		
Primary	DES6	The site must minimise the risk to the existing and future network and the requirement for downstream network upgrades. Consider flow reversals, pressure management, non-return valves, zone configuration, boundary valves, flow meters.	Risk to downstream network cannot be managed within economic investment.	Risk can be managed but likely to require appropriate and economic investment / downstream upgrades.	No risk - no investment required.	All options involve storage at the existing reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the intake location	All options involve storage at the existing reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the intake location
Primary	DES7	The site should preferably be near existing or planned assets to allow for operational efficiencies / minimise requirement to create additional assets.	N/a	Site is not adjacent to existing asset.	Site is adjacent to existing asset.		
Primary	DES8	Power supply can be brought to site within a reasonable distance and without major network enhancements.	N/a	Power supply can be brought to site but requires extensive work to the network.	Power supply can be brought to the site without extensive work to the network.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.
Primary	DES9	Communications e.g. fibre optic can be brought to site within a reasonable distance and without major network enhancements.	N/a	Communications can be brought to site but requires extensive work on network.	Communications can be brought to site without extensive work on network.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.
Primary	DES10	Suitable ground conditions	High risk ground conditions, which would be uneconomical to mitigate.	Ground condition risks can be managed, but may require significant investment.	Low risk ground conditions.	Geological mapping and existing BH logs indicate the construction compound is underlain by the London Clay Formation, Lambeth Group, Thanet Sand and Chalk.. Alluvium is present beneath the intake and western extent of the construction compound. An area of worked ground is indicated beneath the centre of the construction compound, therefore Made Ground likely to be present. Groundsure indicates an area of surface ground workings (pool) around the intake site and 2 no. historical tanks along the northern perimeter of the central compound area, likely associated with historical land use as a Nursery. Shallow perched groundwater expected above the London Clay Formation. Consideration to shrink swell potential of London Clay Formation. Alluvium is compressible and low bearing capacity. The intake and western extent of the compound is located at the interface of a Zone I - Inner Protection Zone and Zone II - Outer Protection Zone SPZ with the remainder of the site in Zone II. The site is not underlain by a designated bedrock aquifer, the western half of the site is underlain by a Secondary A superficial aquifer.	Geological mapping and existing BH logs indicate the intake is underlain by Alluvium, London Clay Formation, Lambeth Group, Thanet Sand and Chalk. Shallow perched groundwater expected above the London Clay Formation. Consideration to shrink swell potential of London Clay Formation. Alluvium is compressible and has low bearing capacity. The site is located within a Zone I - Inner Protection Zone and underlain by a Secondary A superficial aquifer. The site is not underlain by a designated bedrock aquifer.
Primary	DES11	Preferably located on the outside of a bend, as this reduces siltation and the amount of bed sediment drawn in.	N/a	On the inside of a sharp bend	On straight section or outside of bend		
Primary	DES12	Preferably located on a section of river with a stable bank with no evident signs of erosion or undercutting.	Clear signs of active erosion	Signs of historical instability	No visible indication of instability	Man-made river channel.	Man-made river channel.
Primary	DES13	Preferably on the main channel of the river, where the flow is greater and more reliable,	N/a	On a side channel where flow is regulated	On main channel		
Primary	DES14	Downstream of the confluence with major tributaries to maximise the flow available.	Upstream of confluence providing flow contribution which is necessary to meet abstraction required.	Upstream of confluence providing significant inflow relative to offtake and main channel flow.	Downstream of confluence		
Primary	DES15	For reuse schemes: Sufficient distance downstream from reuse discharge point to transfer scheme intake point	For tertiary treated final effluent, distance <800m. N/A for recycled water treated in a membrane plant with remineralisation.	For tertiary treated final effluent, distance >800m but <1600m. N/A for recycled water treated in a membrane plant with remineralisation.	For tertiary treated final effluent, distance >1600m. N/A for recycled water treated in a membrane plant with remineralisation.	N/A for recycled water.	N/A for recycled water.
Secondary	DES16	There must be sufficient space for planned future expansion and/or process enhancement.	No space for envisaged requirement for expansion.	No space for future expansion, but unlikely to be required.	Adequate space for envisaged expansion.		
Secondary	DES17	Where possible, project should use or re-use existing assets.	N/a	Project does not make use of existing assets.	Project makes use of existing assets.		
Secondary	DES18	Where possible, works should be built on land already owned by the water company.	Site cannot be acquired by Thames Water or Affinity Water without the use of compulsory purchase powers	Site not already owned by Thames Water or Affinity Water.	Site already owned by Thames Water or Affinity Water.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation."	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation."
Secondary	DES19	Intake location selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience.	Potential to negatively impact on system resilience can be mitigated.	Does not negatively impact on system resilience.		
Secondary	DES20	Where possible, the site should be selected such that the topography minimises the requirement for earthworks and engineered slopes.	Terrain is unfavourable to the design of the asset where building the ground up above flood level is impractical	Terrain is unfavourable to the design of the asset where the ground needs to be built up above flood level.	Terrain is favourable to the design of the asset - the top of the river bank is above design flood level	Ground potentially needs to be built up.	Ground potentially needs to be built up.
Secondary	DES21	Site selection should minimise the risk to security e.g. vandalism, trespassing.	High risk which would be uneconomical to mitigate.	Risk can be managed but may require significant investment.	Standard security control measures would be appropriate.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.
Construction							
Primary	CON1	The site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, gradient of land.	Works cannot be constructed safely.	Works can be constructed safely but abnormal control measures required.	Works can be constructed safely without abnormal control measures.	Overhead power lines 25m from intake structure, but within the construction corridor.	Overhead power lines running through the edge of the area.
Primary	CON2	Sufficient space can be made available for construction, materials storage and site accommodation.	Insufficient space.	Restricted site.	Adequate space.		
Primary	CON3	Suitable access for construction workers, deliveries and construction waste removal.	Suitable access cannot be provided.	Restricted access; may require upgrades e.g. passing places.	Adequate access.	No existing access to the intake site and it would require trees being removed.	
Operation							
Primary	OPS1	The site allows works to be operated without endangering construction workers, operational staff, visitors or members of the public.	Works cannot be operated safely or, abnormal control measures required.	N/a	Works can be operated safely without unusual control measures.		
Primary	OPS2	Suitable access for maintenance.	Suitable access cannot be provided.	Major works required to provide suitable permanent access.	Standard maintenance access can be provided.		
Primary	OPS3	Operational travel time from existing sites to be minimised.	> 60 mins.	>30mins <= 60mins.	<=30mins.	25 min drive from existing North Mymms WTW to site location	25 min drive from existing North Mymms WTW to site location

Beckton Reuse Indirect Intake - Environment and Community

		Criteria	RED	AMBER	GREEN	BRI_INT_CON_01_(I)	BRI_INT_CON_02_(I)
Environment							
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Site includes statutory designated site or is adjacent.	Site within 100m of statutory designated site. Site includes or within 100m of non-statutory designated site.	No designated sites within 100m of Site.	Site adjacent to SSSI. Local Wildlife Site adjacent to site. Site within 100m of Nature Conservation Site of Metropolitan Importance.	Site adjacent to SSSI. Site within 100m of Nature Conservation Site of Metropolitan Importance.
Primary	ENV2	Minimise impacts on ancient woodland.	Site within 15m of an area of mapped ancient woodland.	Site within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Site includes designated heritage asset.	Site within 500m of designated heritage asset.	No designated heritage assets within 500m of Site.	Site within 500m of Grade II listed building.	Site within 500m of Grade II listed building.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Site includes authorised landfill.	Site within 500m of an authorised landfill or within historic landfill.	Site over 500m from authorised or historic landfill.	Site is within 500m of a historical landfill site.	Site is within 500m of a historical landfill site.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Site includes Grade 1, 2 or 3a agricultural land	Site includes Grade 3 agricultural land	Site within Grade 4 agricultural land or lower or non-agricultural land	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.
Secondary	ENV7	Minimise loss of priority habitat.	Site includes priority habitat	Site within 100m of priority habitat	No priority habitat within 100m of Site	Coastal and floodplain grazing marsh priority habitat within site.	Coastal and floodplain grazing marsh priority habitat within site.
Community							
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and community assets within Site.	Temporary loss of community assets during construction.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.	No permanent or temporary loss of property and community assets.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Site predominantly within built up areas. National Cycle Route or PRoW within Site.	Site partly within built up areas. Community assets within 500m of site.	Site largely not within built up areas. No community assets within 500m of site. No National Cycle Routes or PRoWs within Site.	PRoW runs through site (although anticipate temporary disruption only)	PRoW runs through site (although anticipate temporary disruption only)

Beckton Reuse Indirect Intake - Planning and Land

Criteria Name	Indicative Values				
	Red	Amber	Green	BRI_INT_CON_01_(I)	BRI_INT_CON_02_(I)
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Within a Regional Park. POLICY GB10 – Development in the Park and POLICY RST24- Design and location of development in the LVRP apply. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Abuts a local wildlife Site.	Within a Regional Park. POLICY GB10 – Development in the Park and POLICY RST24- Design and location of development in the LVRP apply. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Glasshouses - De-designated E13A area
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Within a regional park. The Park Vision outlines a common purpose for the Regional Park and expresses the desirable characteristics.	Within a regional park. The Park Vision outlines a common purpose for the Regional Park and expresses the desirable characteristics.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt - unlikely to cause harm	Within the green belt - unlikely to cause harm
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Greenfield land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Riverbank.	Riverbank.
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Greenfield	Greenfield

Beckton Reuse Indirect Pumping Station - Technical

Criteria		Description	Red	Amber	Green	BRI_INT_CON_01_(PS)	BRI_INT_CON_02_(T)
Design							
Primary	DES1	There must be sufficient space for permanent works and environmental mitigation measures.	Insufficient space.	Restricted site.	Adequate space.	Just enough space.	
Primary	DES2	The plant should be outside Flood Zones 2 and 3 to allow maintenance and continuous operation during flood events.	Site is within flood zone 2 or 3.	Site is within flood zone 2 or 3 but can be designed to avoid damage.	Site is outside of the flood zone.		Temporary site partially within flood zone 2, but sufficient space to locate the PS outside of the flood zone.
Primary	DES3	Plant must be outside areas of contaminated land.	Within area of contaminated land.	Within 500m contaminated land. Likely that impact can be managed or mitigated.	Not within 500m of contaminated land.	Less than 300m away from historic landfill.	
Primary	DES4	The site must not result in an increased risk to the level of service (e.g. low pressure, asset failure, water quality - consider pipe pressure rating, asset condition, pumping stations and their efficiency and Net Positive Suction Head etc.).	High risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	Low to Medium risk of deterioration in level of service or significant operational changes or asset investment required to mitigate.	No risk to level of service or potential opportunity to improve the level of service.		
Primary	DES5	The site must minimise the risk to the existing and future network and the requirement for downstream network upgrades. Consider flow reversals, pressure management, non-return valves, zone configuration, boundary valves, flow meters.	Risk to downstream network cannot be managed within economic investment.	Risk can be managed but likely to require appropriate and economic investment / downstream upgrades.	No risk - no investment required.	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the PS location.	All options involve storage at the existing service reservoir and will likely involve subsequent downstream network enhancement, but this is independent of the PS location.
Primary	DES6	The site should preferably be near existing or planned assets to allow for operational efficiencies / minimise requirement to create additional asset e.g. trunk mains.	N/a	Site is not adjacent to existing asset.	Site is adjacent to existing asset.		
Primary	DES7	Power supply can be brought to site within a reasonable distance and without major network enhancements.	N/a	Power supply can be brought to site but requires extensive work to the network.	Power supply can be brought to the site without extensive work to the network.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.	Site is near an urban area; therefore it is assumed that power supply is not likely to be an issue.
Primary	DES8	Communications e.g. fibre optic can be brought to site within a reasonable distance and without major network enhancements.	N/a	Communications can be brought to site but requires extensive work on network.	Communications can be brought to site without extensive work on network.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.	Site is near an urban area; therefore it is assumed that communications is not likely to be an issue.
Primary	DES9	Suitable ground conditions	High risk ground conditions, which would be uneconomical to mitigate.	Ground condition risks can be managed, but may require significant investment.	Low risk ground conditions.	Geological mapping and existing BH records indicate the site to be underlain by London Clay Formation, Lambeth Group, Thanet Sand and Chalk. The majority of the site overlies worked ground therefore a thickness of Made Ground can be expected. Two historical tanks are recorded on the northern perimeter of the site likely associated with historical land use as a Nursery. Shallow perched groundwater expected above the London Clay Formation. Consideration to shrink swell potential of London Clay Formation. The site lies in the interface of a Zone I - Inner Protection Zone and a Zone II - Outer Protection Zone SPZ. The site is not underlain by a designated bedrock aquifer and located on the boundary of a Secondary A superficial aquifer	Geological mapping and existing BH logs indicate the construction compound is underlain by the London Clay Formation, Lambeth Group, Thanet Sand and Chalk. Alluvium is present along the western boundary of the construction compound. Worked ground is indicated to be present in the NE corner of the site therefore Made Ground likely to be present. The southern half of the site is in a 'Head Propensity' area. Shallow perched groundwater expected above the London Clay Formation. Consideration to shrink swell potential of London Clay Formation. Alluvium is compressible and low bearing capacity. The site is partially within a Zone I - Inner Protection Zone and Zone II - Outer Protection Zone. The site is not underlain by a designated bedrock aquifer, with the majority of the site underlain by a Secondary A superficial aquifer.
Secondary	DES10	There must be sufficient space for planned future expansion and/or process enhancement.	No space for envisaged requirement for expansion.	No space for future expansion, but unlikely to be required.	Adequate space for envisaged expansion.		
Secondary	DES11	Where possible, project should use or re-use existing assets.	N/a	Project does not make use of existing assets.	Project makes use of existing assets.		
Secondary	DES12	Where possible, works should be built on land already owned by the water company.	Site cannot be acquired by Thames Water or Affinity Water without the use of compulsory purchase powers	Site not already owned by Thames Water or Affinity Water.	Site already owned by Thames Water or Affinity Water.	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation."	Site not already owned by Thames Water or Affinity Water. Likelihood of being able to acquire the site with or without compulsory purchase powers will be established at later stages during stakeholder consultation."
Secondary	DES13	Where possible site selection should consider the 4 'R's described by the Cabinet Office: - Resistance - Reliability - Redundancy - Response and Recovery	Option reduces system resilience.	Potential to negatively impact on system resilience can be mitigated.	Does not negatively impact on system resilience.	New PS likely to increase system resilience.	New PS likely to increase system resilience.
Secondary	DES14	Where possible, the site should be selected such that the topography minimises the requirement for earthworks and engineered slopes.	Terrain is impossible for the design of the asset - A deep slope across the site	Terrain is unfavourable to the design of the asset - A slight fall across the site	Terrain is favourable to the design of the asset - Site being levelled.	~3m difference across site.	~4m difference across the area of a PS within the site.
Secondary	DES15	Site selection should minimise the risk to security e.g. vandalism, trespassing.	High risk which would be uneconomical to mitigate.	Risk can be managed but may require significant investment.	Standard security control measures would be appropriate.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.	Due to its urban location and greater numbers of people nearby, it is assumed to be a higher risk, but one that can be managed.
Construction							
Primary	CON1	The site must allow works to be constructed without endangering construction workers, operational staff, visitors or members of the public. e.g. consideration of overhead powerlines, gradient of land.	Works cannot be constructed safely.	Works can be constructed safely but abnormal control measures required.	Works can be constructed safely without abnormal control measures.		Overhead power lines at proximity
Primary	CON2	Sufficient space can be made available for construction, materials storage and site accommodation.	Insufficient space.	Restricted site.	Adequate space.	The space is available, but on the opposite side of the local minor road (less ideal).	
Primary	CON3	Suitable access for construction workers, deliveries and construction waste removal.	Suitable access cannot be provided.	Restricted access; may require upgrades e.g. passing places.	Adequate access.		
Operation							
Primary	OPS1	The site allows works to be operated without endangering construction workers, operational staff, visitors or members of the public.	Works cannot be operated safely or abnormal control measures required.	N/a	Works can be operated safely without unusual control measures.		
Primary	OPS2	Suitable access for operation including deliveries e.g. chemicals, water tankering and waste removal.	Suitable access cannot be provided.	Major works required to provide suitable permanent access.	Adequate access already exists at site perimeter.		
Primary	OPS3	Operational travel time from existing sites to be minimised.	> 60 mins.	>30mins <= 60mins.	<=30mins.	25 min drive from existing North Mymms WTW to site location	25 min drive from existing North Mymms WTW to site location

Note: The pumping station for BRI_INT_CON_02 would be located within the area assessed as BRI_INT_CON_02_(T)

Beckton Reuse Indirect Pumping Station - Environment and Community

		Criteria	RED	AMBER	GREEN	BRI_INT_CON_01_(T)	BRI_INT_CON_01_(PS)	BRI_INT_CON_02_(T)
Environment								
Primary	ENV1	Minimise impacts on statutory designated sites (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, National Nature Reserve, Local Nature Reserve) and non-statutory designated sites.	Site includes statutory designated site or is adjacent.	Site within 100m of statutory designated site. Site includes or within 100m of non-statutory designated site.	No designated sites within 100m of Site.	Site adjacent to SSSI. Local Wildlife Site within site. Site within 100m of Nature Conservation Site of Metropolitan Importance.	Local Wildlife Site within 100m of site.	Site within 15m of SSSI. Site within 100m of Nature Conservation Site of Metropolitan Importance.
Primary	ENV2	Minimise impacts on ancient woodland.	Site within 15m of an area of mapped ancient woodland.	Site within 100m an area of mapped ancient woodland.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.	No area of mapped ancient woodland within 100m of Site.
Primary	ENV3	Minimise impacts on designated heritage assets (scheduled monuments, listed buildings, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, and conservation areas) which could result in loss of significance.	Site includes designated heritage asset.	Site within 500m of designated heritage asset.	No designated heritage assets within 500m of Site.	Site within 500m of Grade II listed building.	Site within 500m of Grade II listed building.	Grade II* and Grade II listed buildings within 500m of site.
Secondary	ENV5	Minimise disturbance of potentially contaminated land (in relation to authorised and historic landfills)	Site includes authorised landfill.	Site within 500m of an authorised landfill or within historic landfill.	Site over 500m from authorised or historic landfill.	Site is within 500m of a historical landfill site.	Site is within 500m of a historical landfill site.	Site is within 500m of a historical landfill site.
Secondary	ENV6	Minimise permanent loss of best and most versatile agricultural land (Grades 1, 2 and 3a).	Site includes Grade 1, 2 or 3a agricultural land	Site includes Grade 3 agricultural land	Site within Grade 4 agricultural land or lower or non-agricultural land	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.	Site within Grade 3 agricultural land.
Secondary	ENV7	Minimise loss of priority habitat.	Site includes priority habitat	Site within 100m of priority habitat	No priority habitat within 100m of Site	Coastal and floodplain grazing marsh priority habitat within site.	Site within 100m of priority habitat	Coastal and floodplain grazing marsh priority habitat within site.
Community								
Primary	COM1	Avoid loss of property and community assets (schools, medical facilities, allotments, bowling green, cemetery, golf course, sports facility, play space, playing field, public park or garden, religious grounds, tennis courts).	Property and community assets within Site.	Temporary loss of community assets during construction.	No permanent or temporary loss of property and community assets.	Commercial property on the Site.	Commercial property on the Site.	Commercial property on the Site.
Secondary	COM2	Minimise impact on local community (including noise, visual amenity, temporary disturbance of community assets such as Country Parks and disruption to recreation, including National Cycle Route or Public Right of Way (PRoW)).	Site predominantly within built up areas. National Cycle Route or PRoW within Site.	Site partly within built up areas. Community assets within 500m of site.	Site largely not within built up areas. No community assets within 500m of site. No National Cycle Routes or PRoWs within Site.	Site within close proximity to some residential properties.	Site within close proximity to some residential properties.	Site within close proximity to some residential properties.

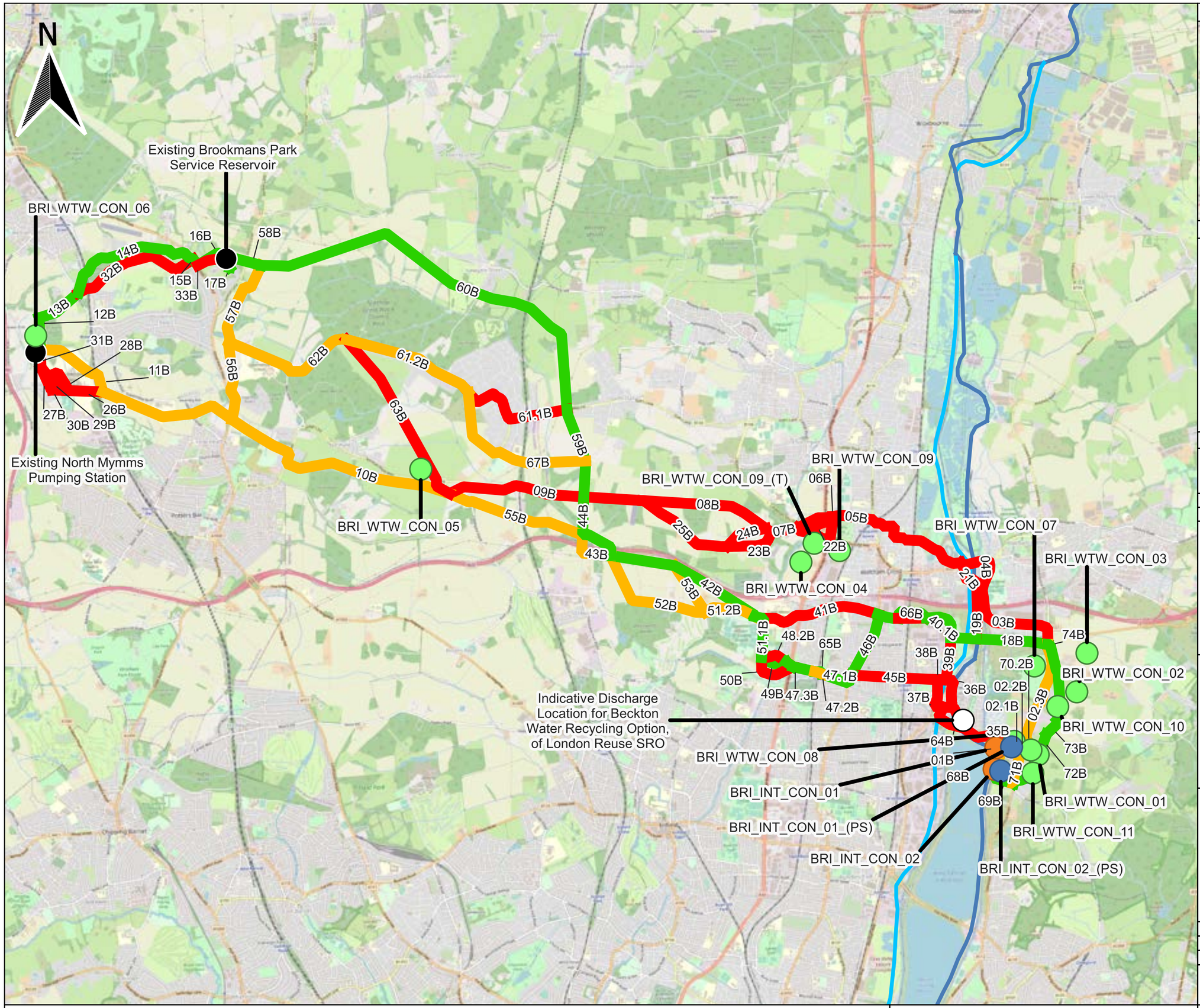
Note: The pumping station for BRI_INT_CON_02 would be located within the area assessed as BRI_INT_CON_02_(T)

Beckton Reuse Indirect Pumping Station - Planning and Land

Criteria Name	Indicative Values			BRI_INT_CON_01_(T)	BRI_INT_CON_01_(PS)	BRI_INT_CON_02_(T)
	Red	Amber	Green			
The existing or designated use	Existing/designated land use likely to conflict with the proposed development	Existing/ designated land use not ideal but mitigation measures would ensure acceptability	Existing/ designated land use does not conflict with the proposed development	Within a Regional Park. POLICY GB10 – Development in the Park and POLICY RST24- Design and location of development in the LVRP apply. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Within a local wildlife Site. Designated for Glasshouses - Proposed Retained Existing E13A.	Within a Regional Park. POLICY GB10 – Development in the Park and POLICY RST24- Design and location of development in the LVRP apply. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Designated for Glasshouses - Proposed Retained Existing E13A.	Within a Regional Park. POLICY GB10 – Development in the Park and POLICY RST24- Design and location of development in the LVRP apply. Developments which are likely to result in a significant adverse impact upon the character or function of the Park will not be permitted. Glasshouses - De-designated E13A area
Emerging designation, or evidence of land being promoted for development	Potential designated use or land promotion indicates high risk that development for alternative uses is likely to conflict with the proposed development	Potential designated use or land promotion indicates low risk that development for alternative uses is likely to conflict with the proposed development	No known emerging designations or land promotion that are likely to conflict with the proposed development	Small section within a local nature reserve and local wildlife site. Development proposals which are likely to have a negative impact on a locally designated site will only be permitted where the benefits of the proposed development clearly outweigh the value of the ecological feature adversely affected and there are no appropriate alternatives. Within a regional park. The Park Vision outlines a common purpose for the Regional Park and expresses the desirable characteristics.	Within a regional park. The Park Vision outlines a common purpose for the Regional Park and expresses the desirable characteristics.	Within a regional park. The Park Vision outlines a common purpose for the Regional Park and expresses the desirable characteristics.
Is the land allocated for mineral extraction	Route section intersects with an allocated minerals site	Route section intersects with a safeguarded site or zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone	No minerals site or safeguarding zone
Impact on the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt - unlikely to cause harm	Outside of the green belt	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances	Within the green belt – likely to cause harm, and a need to demonstrate very special circumstances
Is the land previously developed	Greenfield undeveloped land	Partially developed land	Previously developed land	Partially developed land	Previously developed land	Greenfield land
Impact on neighbouring land uses	Nature of surrounding land use likely to conflict with the proposed development	Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Nature of surrounding land use will have minimal to no impact	Parkland and open fields, existing employment and residential - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Parkland and open fields, existing employment and residential - Nature of surrounding land use not ideal, but mitigation measures would ensure acceptability	Riverbank.
Likely land acquisition complexity	Adverse issues for acquisitions	Potential restrictions but acquisitions could be possible	Potential acquisitions	Employment - Potential restrictions but acquisitions could be possible	Employment - Potential restrictions but acquisitions could be possible	Greenfield

Note: The pumping station for BRI_INT_CON_02 would be located within the area assessed as BRI_INT_CON_02_(T)

Appendix I Map of T2AT BRI Shortlisted Pipeline Corridor Segments



Location Map

Key to Symbols

- Assessed Intake Sites
- Assessed Raw Water Pumping Station Sites
- Assessed Water Treatment Works Sites
- Existing Sites
- Indicative Site (Other SRO)
- Alternative Pipeline Corridor Segment
- Discounted Pipeline Corridor Segment
- Preferred Pipeline Corridor Segment
- River Lea or Lee
- River Lee Navigation

Notes

1. For further information on the Beckton Water Recycling Option, refer to the London Effluent Reuse SRO Gate 2 submission

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	23/09/22	JA	For Information	ES	MF

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Beckton Reuse Indirect (BRI)
Shortlsted Pipeline Corridor Segments

Designed	D Hoban		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	M Fox	

Scale at A3	Status	Rev	Security
1:55000	PRE	P1	STD

0 2 4 km

Drawing Number

420176-MMD-BRI-TM-DR-C-0062

Appendix J Map of T2AT BRI Working Pipeline Corridor and Sites

N

Existing Brookmans Park Service Reservoir

Existing North Mymms Pumping Station

Great Northern line

M25

Lee Valley lines

New River

Hackney Downs & Cheshant line

Turkey Brook

River Lee

Indicative Discharge Location for Beckton Water Recycling Option, of London Reuse SRO

Proposed River Lee Intake

Proposed BRI Raw Water Pumping Station

Proposed BRI Water Treatment Works (WTW)

Location Map

Key to Symbols

- Existing Site
- Indicative Site
- Indicative Site (Other SRO) (Note 1)
- BRI Major Crossings
- BRI Indicative Pipeline Corridor
- River Lea or Lee
- River Lee Navigation

Notes

1. For further information on the Beckton Water Recycling Option, refer to the London Effluent Reuse SRO Gate 2 submission

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	23/09/22	JA	Addition of Beckton Water Recycling Option information	ES	MF
P1	24/07/22	JA	For Information	ES	QR

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Client

Thames Water / Affinity Water

Title

Thames to Affinity Transfer
Beckton Reuse Indirect (BRI)
Working Pipeline Corridor and Sites

Designed	R Formarier		Eng Check	E Stanley	
Drawn	J Alves		Coordination	-	
GIS Check	T Broadley		Approved	T Broadley	

Scale at A3	Status	Rev	Security
1:55000	PRE	P2	STD

0 2 4 km

Drawing Number

420176-MMD-BRI-TM-DR-C-0060

Affinity Water

Taking care of your water

Thames Water