



Affinity Water Drought Plan

Strategic Environmental Assessment
Environmental Report Appendix I - Preliminary
Assessment Summary Report

June 2022

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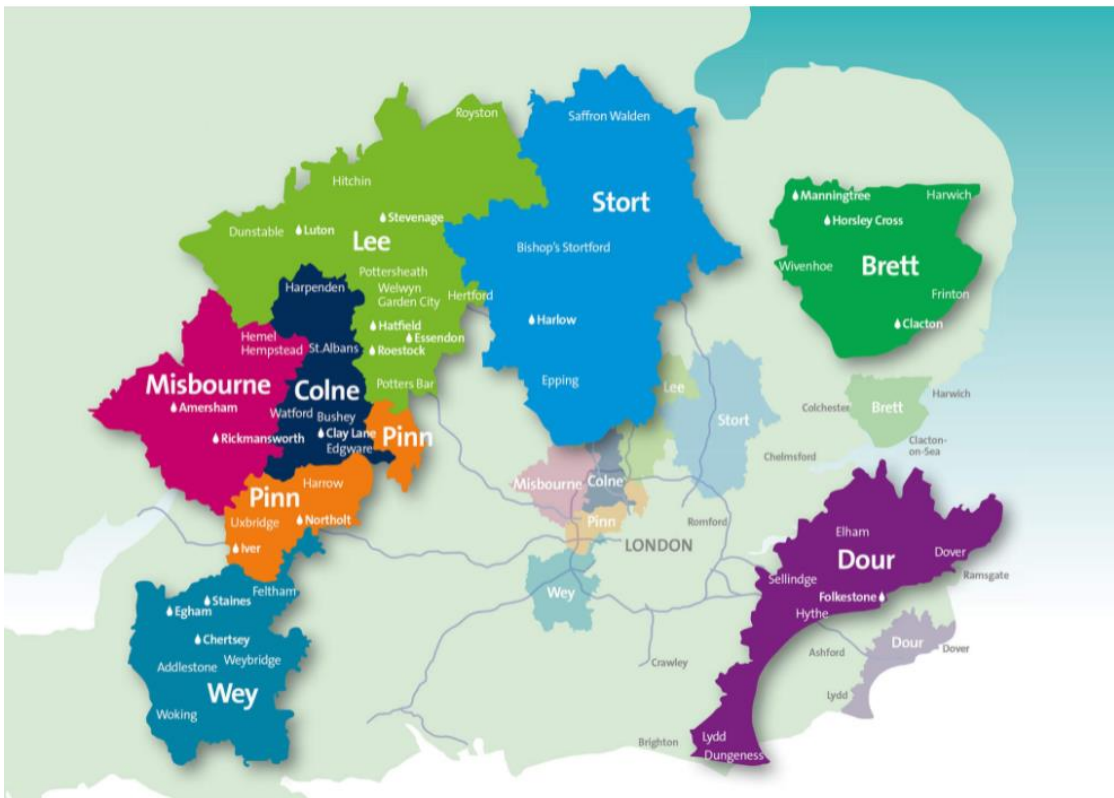
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1 Introduction

1.1 Background

Affinity Water are the largest water-only supplier in the UK. They provide on average 950 million litres of water each day to a population of more than 3.6 million people, or 1.4 million households, in parts of Bedfordshire, Berkshire, Buckinghamshire, Essex, Hertfordshire, Surrey, the London Boroughs of Harrow and Hillingdon and parts of the London Boroughs of Barnet, Brent, Ealing and Enfield. Affinity Water also supply water to the Tendring peninsula in Essex and the Folkestone and Dover areas of Kent. The Affinity Water supply area is shown in Figure 1.1.

Figure 1.1: Affinity Water Supply Area



1.2 Draft Drought Plan 2022

The Affinity Water region in the South-East of England is designated as an area of 'serious water stress' and future climate change and population growth is likely to place additional pressure on already scarce resources. Affinity Water have a statutory duty to prepare and maintain a Drought Plan under the Water Industry Act 1991, as amended by the Water Act 2003 and in accordance with the Drought Plan (England) Direction 2020.

Affinity Water have developed a draft Drought Plan to cover the period 2022 to 2027 to set out the actions they will take during a drought period in order manage effects on water resources. The draft Drought Plan includes the following three main areas of action:

- Actions to reduce demand (enhanced communication, leakage reduction, temporary use bans (TUBs) and non-essential use bands (NEUBs) amongst others)

- Actions to protect the environment (enhanced environmental monitoring, amongst others)
- Actions to maintain supply (drought permits, intra-company transfers and groundwater resting amongst others)
- Emergency Drought Orders

The draft Drought Plan was published in June 2021 and was subject to public consultation where customers and stakeholders were able to provide feedback on the content and approach of the Plan. Strategic Environmental Assessment (SEA) and Habitat Regulation Assessment (HRA) were not undertaken as part of the initial development of the draft Drought Plan. However, following the consultation feedback from Natural England, it was identified that these assessments were required to support the Drought Plan. SEA and HRA are therefore now being undertaken to feed into the development of the Drought Plan.

1.3 SEA Context

SEA is required under the European Union Directive 2001/42/EC, more commonly known as the SEA Directive and the Environmental Assessment of Plans and Programmes Regulations 2004 (the 'SEA Regulations'), which requires an assessment of the effects of certain plans and programmes on the environment.

The SEA also works to inform the decision-making process through the identification and assessment of significant and cumulative effects a plan or programme may have on the environment. The SEA process is conducted at a strategic level and enables consultation on the potential effects of a plan with a wide range of stakeholders.

A two phased approach is being implemented for the SEA of the draft Drought Plan as follows:

- Phase One: Preliminary assessment of the unconstrained list of options – this is a pre-cursor to the SEA full assessment and involved assessing the unconstrained list of options to identify risks and opportunities to support decision-making on the options to take forward into the constrained list.
- Phase Two: Full SEA assessment of the constrained list taken forward into the draft Drought Plan and in-combination effects assessments of the draft Drought Plan.

1.4 Purpose and Structure of the Preliminary Assessment Report

This report sets out the method and results of the preliminary assessment within Phase One which aims to take the unconstrained list to the constrained list for inclusion within the draft Drought Plan. There are 27 options included within the unconstrained list for assessment and a Red-Amber-Green (RAG) assessment approach has been used to identify options with high environmental risks, as detailed in Chapter 2. Further information on the approach for Phase Two, the full SEA assessment, is presented in Chapter 4 which outlines next steps.

The Preliminary Assessment report is structured as follows:

- Chapter 1: Introduction – sets the scene and provides context to the draft Drought Plan SEA and the preliminary assessment
- Chapter 2: Methodology and Criteria – outlines the methodology and criteria used to undertake the preliminary assessment
- Chapter 3: Assessment Results – summarises the results of the preliminary assessment
- Chapter 4: Next Steps – provides a summary and sets out the next steps for Phase One and Phase Two of the SEA
- Appendix A: Assessment Matrices – matrices for the individual unconstrained options

2 Preliminary Assessment Methodology

2.1 Methodology and Criteria

The preliminary assessment involved the assessment of 27 unconstrained drought permit options for the draft Drought Plan. A RAG approach has been implemented to identify options with high environmental risks using the criteria set out in Table 2.1. The criteria have been based on the Water Resources South East (WRSE) regional plan and Affinity Water Resource Management Plan 2024 (WRMP24) environmental assessment processes which have been fully consulted on and agreed with stakeholders and regulators. The RAG assessment considers both construction effects (if any additional infrastructure is required) and operational effects such as impacts on water quality, designated sites and wildlife.

It should be noted that the preliminary assessment of the unconstrained options is not a formal part of the SEA process. It is a pre-cursor to the full SEA to identify environmental risks that will be used to support decision-making on taking options forward into the draft Drought Plan. The full SEA will then be undertaken on the selected options as outlined in Chapter 4. The preliminary assessment criteria therefore does not cover all the SEA topics which will be included in the full assessment, it focusses on those topics considered to present key environmental risks to the feasibility of the options. Operational and network considerations alongside water quality and flows are not typically included in environmental screening, however they have been included as part of the preliminary assessment process to feed into the feasibility of the options being considered.

An ESRI ArcGIS platform was created to store the environmental and options data required to undertake the preliminary assessment. The WRMP24 ArcGIS platform has been replicated for the draft Drought Plan to ensure consistency. It includes key datasets such as those covered by legislation or that are nationally important, and those identified by Natural England in the feedback provided in 2021 as part of the draft Drought Plan consultation process such as (protected) landscapes, Sites of Special Scientific Interest (SSSIs), and priority habitats and species. Other datasets will be included in the full SEA which will also include looking at wider effects such as pathways and will also consider climate change effects on wildlife as highlighted by Natural England in the consultation feedback.

The results of the preliminary assessment are summarised in Chapter 3 with the assessment matrices for all 27 options included within Appendix A.

2.2 HRA

HRA has been undertaken as part of the draft Drought Plan process, however it does not cover the full unconstrained list. The HRA Stage 1 Screening was undertaken for nine options within the unconstrained list that were initially taken through into the draft Drought Plan which includes the following: THUN; PICC; AMER; FULL; WHIH; RUNGS; SLYE; SDRE; and SBUC. The respective HRA Stage 2 Appropriate Assessment was undertaken where it was required for the THUN option. The HRA has been updated following comments from Natural England.

The preliminary assessment utilised the outputs of the HRA (prepared in December 2021) to feed into the Biodiversity, Flora and Fauna topic for the options where it was available. Given the HRA identified no likely significant effects at Stage 1 for all the options except THUN, and the subsequent HRA Stage 2 Appropriate Assessment for THUN concluded no significant effects on site integrity, a green assessment rating was recorded under the designated site receptors for the nine options as detailed in Table 2.1. Further information is outlined in Section 3.2.

The finalised HRA will also feed into the full SEA assessment at the next stage (Phase Two).

2.3 Environmental Assessment Reports

Environmental Assessment Reports (EARs) have been developed and updated for the nine options within the unconstrained list that were taken through into the draft Drought Plan. There are also EARs available for options within the previous iteration of the Drought Plan (HUNT; HUGH and BOWB). The preliminary assessment has utilised the outputs of these to feed into Biodiversity, Flora and Fauna and Water topics for the options where they were available. The EARs will be utilised further in the full SEA assessments at the next stage (Phase Two).

Table 2.1: RAG Criteria for the Preliminary Assessment¹

SEA Topic	Dataset	Features	RAG criteria		
			Red	Amber	Green
Air Quality	Air quality management areas (AQMAs)		No criteria	Within 500m of an AQMA	Over 500m from an AQMA
Biodiversity, Flora and Fauna	Statutory designated sites	Special areas of conservation (SAC), Special protection area (SPA), RAMSAR	Less than 400m from designated site and/or major adverse effects on linkages to designated sites, and/or their qualifying features and whether the site is a Ground Water Dependent Terrestrial Ecosystem (GWDTE).	Within 400m to 5000m of a designated site and/or moderate/minor adverse effects on linkages to designated sites, and/or their qualifying features and whether the site is a Ground Water Dependent Terrestrial Ecosystem (GWDTE).	Over 5000m from a designated site. No adverse effects on linkages to designated sites, and/or their qualifying features and whether the site is a Ground Water Dependent Terrestrial Ecosystem (GWDTE).
		Sites of special scientific interest (SSI)	Direct effect/encroachment upon from SSSI and/or major adverse effects on linkages to designated sites, and/or their qualifying features and whether the site is a Ground Water Dependent Terrestrial Ecosystem (GWDTE).	Within a SSSI Impact Risk Zone (IRZ) and/or moderate/minor adverse effects on linkages to designated sites, and/or their qualifying features and whether the site is a Ground Water Dependent Terrestrial Ecosystem (GWDTE).	Outside a SSSI IRZ. No adverse effects on linkages to designated sites, and/or their qualifying features and whether the site is a Ground Water Dependent Terrestrial Ecosystem (GWDTE).
	Non statutory designated sites	Ancient Woodland	Encroaching upon Ancient Woodland	Within 500m of Ancient Woodland	Over 500m from Ancient Woodland
		National Nature Reserves	No criteria	Encroachment upon NNR	No direct encroachment on a National Nature Reserve
		Local Nature Reserves	No criteria	Encroachment upon LNR	No direct encroachment on a Local Nature Reserve
	Priority habitats		Direct Land take from Priority habitats	Within 500m of Priority habitats	Over 500m from Priority habitats
	Historic Environment	Statutory designated sites	Listed buildings	Direct effect on heritage sites or assets	Within 500m of heritage site or feature
Scheduled monuments					

¹ Several of the RAG criteria are based on distances. These were used as an initial guide and then potential for pathways and effects were also considered as part of the assessment. Where this changed the final RAG score from the set criteria an explanation is provided in the option assessment table.

SEA Topic	Dataset	Features	RAG criteria		
			Red	Amber	Green
	Non statutory designated sites	Registered Parks and Gardens and Battlefields			
Landscape	Statutory Designations	Areas of outstanding natural beauty (AONB)	No criteria	Encroachment upon or within 200m of an AONB or National Park and potential for effects.	Over 200m from an AONB or National Park and no potential for effects.
		National Park			
Geology and soils	Agriculture land classification		No criteria	Within Grade 1 or 2 land classification	Within other or unclassified land
	Landfill sites		No criteria	Directly through authorised landfill site (likely significant effect) or within 200m of an authorised landfill site and/or directly through historic landfill site	Over 200m from an authorised landfill site
Water	Groundwater	Groundwater source protection zones	No criteria	Within Zone 1 or Zone 2	Within Zone 3
		Nitrate Vulnerable Zone	No criteria	Within a Nitrate Vulnerable Zone	Outside a Nitrate Vulnerable Zone
	Surface water	Flood risk zones	No criteria	Within Flood Risk Zone 3 or Zone 2	Within Flood Risk Zone 1
		Water quality and flows	Potential deterioration in water quality and/or flows as a result of the option	Potential deterioration in water quality and/or flows, however sufficient capacity within water environment to cope with the option	No impacts on water quality and/or flows as a result of the option
Operational considerations	Time and work required to commission option		The option would take over nine months to commission.	The option would take six to nine months to commission.	The option would take less than six months to commission.

3 Preliminary Assessment Results

3.1 Unconstrained Options

All the options within the unconstrained list are potential Drought Permit options. Drought Permits are an option available to water companies during periods of drought conditions where they can apply to the Environment Agency to abstract an additional amount of water from the environment, or very licence conditions such as requirements for river augmentation. Drought Permits are applied as a last resort during serious drought conditions and where alternative options, such as reducing demand through voluntary and enforced (hosepipe bans) measures, have already been implemented. The unconstrained list of options assessed as part of the preliminary assessment are presented in Table 3.1.

Table 3.1: Unconstrained list of options

Region	Source	Waterbody / catchment	
Central	THUN	River Rib	
	HADH - BH2	River Ash	
	HUNT	River Gade	
	HUGH	Hughenden Stream	
	PICC	River Gade	
	FRIA	River Ver	
	AMER	River Misbourne	
	WELL	Charlton Mill Pond River Hiz	
	OFFS/OUGH	River Oughton	
	UTTL	River Cam	
	FULL	River Mimram	
	BOWB	River Ver	
	WHIH	River Beane	
	BATC	River Colne	
	RUNGS	Lower Greensand/Broughton Brook	
	DIGS	River Mimram	
	HOLY & MUDL	River Ver	
	THEG	River Gade	
	SLIP	River Rhee	
	BROO	River Beane	
	ROYD	River Stort	
	CHEH & CHAR	River Chess	
	STAN	River Stort	
	South East	SLYE	River Dour
		SDRE	Alkham Bourne/River Dour
		SBUC	River Dour
SHOL		River Dour	

3.2 Summary of Results

The individual option assessment matrices are presented in full in Appendix A. A summary of the RAG ratings identified for each option against the SEA topics is presented in Table 3.2 and a summary narrative for each topic is outlined below:

- **Air Quality** - Overall, there are only two options (HOLY & MUDL and CHEH & CHAR) which are identified to be within 500m of an AQMA and therefore an amber rating was identified. The remainder of the options are all identified to be over 500m from an AQMA and therefore a green rating was identified.
- **Biodiversity, Flora and Fauna** - There are a number of options where amber ratings have been identified for LNRs due to potential effects, not as a result of direct encroachment but where there may be hydrological linkages, for example where a LNR is located downstream of an option or where an LNR is groundwater dependant. No effects on NNRs identified at this stage. HRA Stage 1 Screening, and Appropriate Assessment where required, have been undertaken for nine of the options including THUN, PICC; AMER; FULL; WHIH; RUNGS; SLYE; SDRE; and SBUC. The HRA identified no likely significant effects at Stage 1 for all of the options except THUN (which had potential for effects on the Lee Valley SPA and Ramsar site) and as such Stage 2 was undertaken and concluded no effects are likely. Green ratings have therefore been identified for these nine options against the Natura 2000 sites (SPAs, SACs and Ramsar sites). Amber ratings have been identified for five options (HADH - BH2; HUGH; DIGS; ROYD; and SHOL) given potential for effects on Natura 2000 sites. However, HRA Stage 1 Screening has not been undertaken for these options and as such the effects are not fully understood at this stage. For the remainder of the options, no effects were identified for Natura 2000 sites, however as outlined previously, HRA has not been undertaken for these options. Amber ratings have been identified for SSSIs for all but two of the options given the potential for minor or moderate effects and/or their location within SSSI IRZs. There is only one option (BOWB) which is not located within a SSSI IRZ and no effects have been identified for SSSIs at this stage. There is potential for effects on Ancient Woodland as a result of a number of the options and the majority of options have the potential to affect priority habitats, not as a result of direct encroachment but through potential hydrological linkages and as such amber ratings have been identified.
- **Historic Environment** - There are a number of options which are identified as having the potential for minor effects on historic environment assets, including listed buildings, scheduled monuments and registered parks and gardens. These potential effects include construction related effects on the setting on these assets where construction work is anticipated. There are also assets which are located downstream of an option and there may be visual effects during operation. There are options which are adjacent to historic assets, however given no construction work is anticipated, for example where it is an existing abstraction point, no effects are therefore identified. No effects identified for registered battlefields.
- **Landscape** - There are four options (HUGH; AMER; OFFS/OUGH; and CHEH & CHAR) where potential effects have been identified for landscape designations. The sites are located within or within 200m of the Chilterns AONB. The four options within the South East (SLYE; SDRE; SBUC and SHOL) are all within the Kent Downs AONB, however the Draft EARs which have been developed for three of the options (SLYE; SDRE; and SBUC) identified that it is not a groundwater dependent AONB therefore effects are not anticipated. No effects were identified for National Parks.
- **Soils** - Two of the options (WELL and SLIP) are located within Grade 2 agricultural land, however no effects are anticipated therefore a green rating was identified. The remainder of the options are either located within Grade 3 or below, or on other non-agricultural classified land. There are two options (FULL and RUNGS) which are within or within 200m of a historic

landfill site, however no risk of contamination is anticipated therefore a green rating was identified.

- **Water** - All of the options are located within SPZ 1, however these options will not pose any risk to the SPZs and as such green ratings have been identified. Around half of the options are located within NVZs and ten options are located within Flood Zone 2 or 3. The majority of the options are identified as having the potential to deteriorate water quality and/or flows and therefore a red rating has been identified. However, amber ratings have been identified for THUN and BATC as details provided suggest that although there is potential for deterioration, the water environment has the capacity to cope. Further investigation may be required for these options. RUNGS is identified to have no effects on water quality / flows, therefore a green rating was identified, as the information provided suggests that the groundwater body which the option will be abstracting from has a high level of storativity and would not be affecting chalk streams. HUNT has also been identified to have no effects on water quality or flows.
- **Operational Considerations** - There are 12 options where red ratings have been identified due to operational constraints associated with the commissioning of the option where it is anticipated they will have a lead time of over nine months. There are two options which have an amber rating identified as they are anticipated to take around six to nine months to commission. The remaining options do not require a significant amount of work or time (less than six months) and therefore green ratings were identified.

Table 3.2: Preliminary Assessment Results Summary

Option	Air Quality	Biodiversity, Flora and Fauna								Historic Environment				Landscape		Soils			Water			Operational Considerations	
		LNR	NNR	SPA	SAC	RAMSAR	SSSI	Ancient Woodland	Priority Habitat	Listed Buildings	Scheduled Monuments	Registered Parks and Gardens	Registered Battlefields	AONB	National Parks	Agricultural Land	Authorised Landfill	Historic Landfill	SPZ	NVZ	Flood Zone		Water Quality and Flows
THUN²³																							
HADH - BH2																							
HUNT																							
HUGH																							
PICC																							
FRIA																							
AMER																							
WELL																							
OFFS/OU GH																							
UTTL																							
FULL																							
BOWB																							
WHIH																							
BATC																							
RUNGS																							
DIGS																							
HOLY & MUDL																							
THEG																							
SLIP																							
BROO																							
ROYD																							
CHEH & CHAR																							
STAN																							
SLYE																							
SDRE																							
SBUC																							
SHOL																							

² The nine options within the original constrained list within the draft Drought Plan are highlighted in bold.

³ The options highlighted in bold have also been subject to HRA. The HRA identified no likely significant effects at Stage 1 for all the options except THUN, and the subsequent HRA Stage 2 Appropriate Assessment for THUN concluded no significant effects on site integrity, a green assessment rating was recorded under the designated site (SPA, SAC and Ramsar) receptors for these nine options.

4 Constrained Options

4.1 Preliminary Assessment Workshop

A workshop with Mott MacDonald and Affinity Water was held on the 10 February 2022 to discuss the conclusions of the preliminary assessment. The aim of the workshop was to identify and agree the constrained options to be taken forward into the draft Drought Plan.

Based on the preliminary assessment, overall RAG ratings were provided, discussed and agreed for each option as part of the workshop. There were 13 options which were given an overall red rating as potential effects were identified for Natura 2000 sites or they were identified to have an operational lead time of over nine months, making them currently unsuitable as a drought permit option. The following options were therefore discounted from the constrained list:

- HADH - BH2
- HUNT
- HUGH
- BOWB
- BATC
- DIGS
- HOLY & MUDL
- THEG
- BROO
- ROYD
- CHEH & CHAR
- STAN
- SHOL

4.2 Constrained Options

The options identified as having an overall green or amber rating were discussed further and it was then agreed whether they would be taken through into the constrained list. The outcomes of this discussion are summarised in Table 4.2.

Table 4.1: Constrained List Selection Register

Option		Commentary
THUN	Included	The option will be taken forward into the constrained list. An overall green rating was identified for this option.
PICC	Included	The option will be taken forward into the constrained list. An overall amber rating as draft EAR identified minor effects on Croxley Common Moor SSSI and GWDTE.
FRIA	Excluded	The option will not be taken forward into the constrained list as per Environment Agency guidance and updated Section 20 agreement governing the emergency operation of the source.
AMER	Included	The option will be taken forward into the constrained list. An overall amber rating as draft EAR identified minor effects Sarratt Bottom SSSI and Frogmore Meadows SSSI (both GWDTE).
WELL	Excluded	The option will not be taken forward into constrained list. The source is located in the headwaters of the Upper Hiz and there will be direct impacts as a result of cessation of augmentation in the Charlton Mill Pond and the river downstream of it.
OFFS/OUGH	Excluded	The option will not be taken forward into constrained list. The sources are located near the headwaters of the River Oughton and there will be direct impacts on the Oughton Springs and the river itself, as a result of cessation of augmentation.
UTTL	Excluded	The option will not be taken forward into constrained list. This was agreed with the Environment Agency following discussions about requirements for compliance with the licence during drought conditions.

Option	Commentary	
FULL	Included	The option will be taken forward into the constrained list. An overall amber rating was identified for this option as the draft EAR identified moderate effects on the Tewinbury SSSI.
WHIH	Included	The option will be taken forward into the constrained list. An overall green rating was identified for this option.
RUNGS	Included	The option will be taken forward into the constrained list. An overall green rating was identified for this option.
SLIP	Excluded	The option will not be taken forward into constrained list. The source is located near the headwaters of the Rhee and there will be direct impacts in the Ashwell Springs as a result of cessation of augmentation.
SLYE	Included	The option will be taken forward into the constrained list. An overall green rating was identified for this option.
SDRE	Included	The option will be taken forward into the constrained list. An overall green rating was identified for this option.
SBUC	Included	The option will be taken forward into the constrained list. An overall green rating was identified for this option.

5 Next Steps

The preliminary assessment has been undertaken on the 27 unconstrained options using a RAG approach. Following the preliminary assessment and workshop, the nine options which were initially included in the draft Drought Plan have been confirmed as appropriate to take through into the constrained list. The following constrained options will now be subject to a full SEA assessment as part of Phase Two of the project:

- THUN
- PICC
- AMER
- FULL
- WHIH
- RUNGS
- SLYE
- SDRE
- SBUC

Affinity Water are currently developing their WRMP24 and are also undertaking SEA as part of that process. A SEA Scoping Report (Mott MacDonald, 2021) was prepared to satisfy the requirements of the Scoping Stage and has been consulted on and fully agreed with the Statutory Consultees (Natural England, Environment Agency and Historic England). It has been agreed with the Statutory Consultees that the WRMP24 Scoping Report can be used to inform the full SEA for the draft Drought Plan. As such, a separate SEA Scoping Report is not required for the draft Drought Plan SEA.

The full SEA assessment will be undertaken in line with the SEA Framework and methodology set out in the Affinity Water WRMP24 Scoping Report as agreed with the Statutory Consultees. SEA will also be required for any other options included within the draft Drought Plan, such as temporary use bans and non-essential use bans for example. Several of these other options have already been assessed through the WRSE regional plan SEA and therefore, the results will be used and reported for the draft Drought Plan and updated if required. An SEA Environmental Report will be produced which will present the results of the SEA process including the Phase One preliminary assessment and Phase Two full SEA.

Following Phase Two, a workshop with Natural England, Environment and Historic England is proposed for the 17 March 2022 to discuss results of the SEA. It is also proposed that they are engaged throughout the process to ensure they are informed on what is being considered within the draft Drought Plan and SEA.

A. Preliminary Assessment Matrices

A.1 THUN

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: THUN
Waterbody / catchment: River Rib
Region: Central
Option notes: Abstraction increase above the Hands of Level (HoL) to a total of 14MI/d, relaxing licence flow constraint
Date Completed: 23/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR (none within 5km).
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Lea Valley SPA is within 5km, located downstream of THUN. HRA Stage 1 Screening (December, 2021) indicated potential for likely significant effects as a result of THUN on the Lee Valley SPA. Appropriate Assessment (December, 2021) was undertaken and no significant impacts on the Lee Valley SPA are anticipated based on previous drought scenarios, short overlapping timeframes with overwintering waterbirds, the intermittent nature of hydrological connectivity and the fact that groundwater levels will be below surface level.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option is over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features.
RAMSAR sites	GREEN	Lea Valley RAMSAR within 5km, located downstream of THUN. HRA Stage 1 Screening (December, 2021) indicated potential for likely significant effects as a result of THUN on the Lee Valley Ramsar. Appropriate Assessment (December, 2021) was undertaken and no significant impacts on the Lee Valley Ramsar are anticipated based on previous drought scenarios, short overlapping timeframes with overwintering waterbirds, the intermittent nature of hydrological connectivity and the fact that groundwater levels will be below surface level.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Amwell Quarry SSSI is within 5km, located downstream of THUN (as part of the Lee Valley SPA and Ramsar designated sites). THUN is within SSSI IRZ. Rye Meads SSSI is also a GWDTE and is part of the Lee Valley designated sites. The HRA Appropriate Assessment (December, 2021) considers impacts on SSSI alongside the Natura 2000 sites. It indicates no significant impacts on SSSIs are anticipated as there intermittent hydrological connectivity between the SSSI and groundwater levels, groundwater levels are mostly below surface level and there is limited drawdown, therefore impacts on supporting habitat will not be significant. Furthermore, groundwater levels and hydrology are expected to recover quickly once the drought permit and drought have ended and so the drought permit impact is predicted to extend for the duration of drought permit implementation and short recovery to baseline period (1-3 months) only.

Feature(s)	Screening Outcome (RAG)	Comment
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	GREEN	Option is within 200m of priority habitat including deciduous woodland. However, impacts on priority habitat are considered to be unlikely as a result of this option.
Historic Environment		
Listed Buildings and Structures	GREEN	Option within 500m from Listed Structures. However, no impacts are anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within grade 3 agricultural land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option does not overlap any historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option within NVZ.
Water (Surface)		
Flood Risk Zones	GREEN	Option within Flood Risk Zone 1.
Water quality and flows	AMBER	Potential deterioration in water quality and/or flows as a result of the option. However, justification states that there is minimal environmental impacts therefore suggesting water environment has capacity to cope. The Draft THUN EAR (2021) identified potential for effects on flows and water quality. Further investigation required.
Operational considerations	GREEN	The option will not require a significant of work or time to commission given this is an existing abstraction location.

A.2 HADH – BH2

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: HADH - BH2
Waterbody / catchment: River Ash
Region: Central
Option notes: Commission the disused BH2 and increase site total abstraction
Date Completed: 26/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMAs)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR (none within 5km).
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	AMBER	Option over 5km from SPAs. However, Lee Valley SPA is located approximately 5.5km downstream of the option and therefore there are potential linkages between the option and the SPA. HRA Stage 1 Screening and Appropriate Assessment not available for the option therefore full effects are not understood at this stage. HRA Appropriate Assessment undertaken as part of THUN, which is for a higher abstraction amount, concluded no likely significant effects therefore effects on Lee Valley SPA as a result of HADH-BH2 is unlikely but not confirmed at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	AMBER	Option over 5km from a RAMSAR site. However, Lee Valley RAMSAR is located approximately 5km downstream of the option and therefore there are potential linkages between the option and the SPA. HRA Stage 1 Screening and Appropriate Assessment not available for the option therefore full effects are not understood at this stage. HRA Appropriate Assessment undertaken as part of THUN, which is for a higher abstraction amount, concluded no likely significant effects therefore effects on Lee Valley RAMSAR as a result of HADH-BH2 is unlikely but not confirmed at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option over 5km from a SSSI. However, within SSSI IRZ and Amwell Quarry SSSI is located approximately 5.5km downstream of the option, and Rye Meads SSSI and GWDTE is approximately 6.5km downstream, and therefore potential for linkages with the option which could have detrimental effects. The two SSSIs are part of the Lee Valley designated sites. Further information is not available at this stage.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option is within 200m of priority habitat including coastal and floodplain grazing marsh and deciduous woodland.
Historic Environment		

Feature(s)	Screening Outcome (RAG)	Comment
Listed Buildings and Structures	AMBER	Option within 500m of Grade II listed buildings. No direct impacts likely but could impact setting of the heritage assets given there may be construction work associated with the commissioning of the disused borehole. There is a large fence which would likely screen work, however potential for effects remain.
Scheduled monuments	AMBER	Option within 500m of Scheduled Monument (Barrow Hill: a motte castle 250m south of Barrow Farm). No direct impacts likely but could impact setting of the heritage assets given there may be construction work associated with the commissioning of the disused borehole. There is a large fence which would likely screen work, however potential for effects remain.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within AGL grade 3. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option is within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option within Flood Zone 2.
Water quality and flows	RED	The source is located in the Ash catchment which is failing WFD. Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Further investigation required.
Operational considerations	AMBER	The option involves the commissioning of a disused borehole therefore significant amount of work required.

A.3 HUNT

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: HUNT

Waterbody / catchment: River Gade

Region: Central

Option notes: Abstraction increase, relaxing licence flow constraint

Date Completed: 26/01/2022

Completed By: Jennifer Fookes

Checked: Sophie Robinson

Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. Four LNRs between 2km and 5km from HUNT. Of these four, Cassiobury Park LNR is downstream and part of the river is within the LNR. It is not groundwater dependant. Croxley Common Moor LNR and GWDTE is approximately 5.5km downstream from HUNT. Effects uncertain.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option within 5km of Whippendell Wood SSSI and Bricket Wood Common SSSI. No effects anticipated. HUNT within SSSI IRZ and the Croxley Common Moor SSSI which is a GWDTE is located approximately 5.5km downstream of the option therefore potential for linkages with the option which could have detrimental effects. The Draft HUNT EAR (2018) suggests negligible effects on SSSIs.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including coastal and floodplain grazing marsh and deciduous woodland.
Historic Environment		
Listed Buildings and Structures	AMBER	There are several Grade II and II* listed buildings within 500m of option. No direct impacts likely but could impact setting of the heritage assets given the option is anticipated to result in construction works associated with treatment plant.

Feature(s)	Screening Outcome (RAG)	Comment
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within AGL grade 3 and urban land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option is not within NVZ.
Water (Surface)		
Flood Zones	AMBER	One of the proposed abstraction sites (Borehole 3) is Flood Zone 2.
Water quality and flows	GREEN	The source is located in the mid-Gade catchment. There are water quality concerns associated with higher pumping which will need to be addressed given historic contamination on site. However, the Draft HUNT EAR (2018) identifies negligible effects on water quality and flows.
Operational considerations	RED	The option would take over nine months to commission.

A.4 HUGH

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: HUGH

Waterbody / catchment: Hughenden Stream

Region: Central

Option notes: Sustainability reduction site

Date Completed: 26/01/2022

Completed By: Jennifer Fookes

Checked: Sophie Robinson

Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. There are four LNRS within 2km to 5km but no effects are anticipated. The draft HUGH EAR (2019) identifies no effects on LNRs.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	AMBER	Option with 5km (approx. 1.8km) of Chilterns Beechwoods SAC which is partly a GWDTE. The draft HUGH EAR (2019) identifies that given the site is located reasonably far from the site and within a different groundwater catchment, no effects are anticipated. However, HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option with 5km of Millford Wood SSSI and Naphill Common SSSI which is a GWDTE. The draft HUGH EAR identifies that effects on these SSSI are unlikely. The option is within a SSSI IRZ.
Ancient Woodland	AMBER	Option is within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 200m of priority habitat including deciduous woodland.
Historic Environment		
Listed Buildings and Structures	GREEN	There are no listed buildings within 500m of option. No impacts anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	AMBER	Option is within the Chilterns AONBs. Potential impacts on visual amenity within an area of ANOB.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within AGL grade 3 land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option is not within NVZ.
Water (Surface)		
Flood Zones	GREEN	The proposed abstraction site is within Flood Zone 1. No impacts anticipated.
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. There is potential to impact on downstream reaches as a result of the option. The draft HUGH (EAR) identifies potential effects on water quality and flows. Further investigation required.
Operational considerations	RED	The source is not operational and would take over nine months to return the source to service if required.

A.5 PICC

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: PICC
Waterbody / catchment: River Gade
Region: Central
Option notes: Sustainability reduction site
Date Completed: 26/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMAS)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. Shrubhill Common LNR is 1km and Howe Grove Wood LNR is 2.2km from PICC. The Draft PICC EAR (2021) identifies potential for minor effects on Cassiobury Park LNR, Croxley Common Moor LNR, Stocker's Lake LNR and Rickmansworth Aquadrome LNR.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. The HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option within 5km from Chilterns Beechwoods SAC. However, the HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. The HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within SSSI IRZ. There are two SSSIs within 5km, however no linkages anticipated at this stage. Draft PICC EAR (2021) identified potential for minor effects on Croxley Common Moor SSSI and GWDTE which is located approximately 14km downstream of the option where the River Gade meets the River Colne.
Ancient Woodland	GREEN	There is no Ancient Woodland within 500m of option. No impacts anticipated.
Priority Habitats	AMBER	Option within 500m of priority habitat including coastal and floodplain grazing marsh and traditional orchard. Potential impacts as a result of the operation of the option.
Historic Environment		
Listed Buildings and Structures	GREEN	There are several listed buildings within 500m of option. However, no impacts anticipated.
Scheduled monuments	GREEN	Option is within 500m of Gadebridge Roman villa Scheduled Monument. However, no impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONB. No impacts anticipated
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within AGL grade 3 land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option is not within NVZ.
Water (Surface)		
Flood Zones	GREEN	The proposed abstraction site is within Flood Zone 1. No impacts anticipated.
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option.. The drought permit will allow an additional 6.4 MI/d to be abstracted for six months, increasing the combined PICC & MARL limit. This equates to the abstraction rates prior to Sustainability Reductions during AMP6. The Draft PICC EAR (2021) identifies potential for effects on water quality and flows.
Operational considerations	GREEN	The option is not anticipated to require a significant of work or time to commission given it is an existing abstraction point.

A.6 FRIA

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: FRIA
Waterbody / catchment: River Ver
Region: Central
Option notes: Abstraction increase
Date Completed: 26/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMAs)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR (none within 5km).
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. There are no SSSIs within 5km.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	GREEN	Option is within 500m of priority habitats (deciduous woodland). However, no impacts anticipated given no construction works are anticipated.
Historic Environment		
Listed Buildings and Structures	GREEN	Option within 500m of Grade II listed building. However, no impacts anticipated given no construction works are anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		

Feature(s)	Screening Outcome (RAG)	Comment
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within AGL grade 3. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option is not within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option within Flood Zone 2.
Water quality and flows	RED	The current operation of the site involves as low abstraction as possible to keep the site operational. There is not enough information at this stage, however it is anticipated that there would be potential deterioration in water quality and flows as a result of the option, particularly as required during emergency use. Further investigation is required.
Operational considerations	GREEN	It is not anticipated that this option would take a significant amount of time or work to commission given it is an existing abstraction site.

A.7 AMER

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: AMER

Waterbody / catchment: River Misbourne

Region: Central

Option notes: Sustainability reduction site

Date Completed: 27/01/2022

Completed By: Jennifer Fookes

Checked: Sophie Robinson

Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. Denham Country Park LNR is located approximately 13km downstream of the option on the River Misbourne and the Draft AMER EAR (2021) identifies potential for minor (uncertain) effects.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. Hodgemoor Wood is within 5km, however no effects anticipated. The Draft AMER EAR (2021) identifies minor effects on Sarratt Bottom SSSI and Frogmore Meadows SSSI (both GWDTE) located over 5km from the option on the River Chess.
Ancient Woodland	GREEN	Option within 500m of Ancient Woodland. However, no impacts anticipated given no construction works are anticipated.
Priority Habitats	GREEN	Option is within of 500m of priority habitat (deciduous woodland). However, no impacts anticipated given this is an existing site and construction work is not anticipated.
Historic Environment		
Listed Buildings and Structures	GREEN	Option within 500m of grade II listed building. However, no impacts anticipated given this is an existing site and construction work is not anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	AMBER	Option within 200m of Chilterns AONBs. No direct impacts, however potential for negative effects on visual amenity resulting from increased abstraction during period of drought.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within urban land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option is not within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option within Flood Zone 2.
Water quality and flows	RED	There is potential for negative effects on water quality and flows given increased abstraction to be implemented during a period of drought where flows may already be vulnerable. There is reduction in flows to River Misbourne downstream of Amersham due to changing geology and other external factors therefore potential for deterioration in water quality / flows. The Draft AMER EAR (2021) identified potential effects on water quality and flows.
Operational considerations	GREEN	This is an existing source therefore no significant work or time anticipated to commission this option.

A.8 WELL

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: WELL

Waterbody / catchment: Charlton Mill Pond River Hiz

Region: Central

Option notes: Cessation of augmentation

Date Completed: 27/01/2022

Completed By: Jennifer Fookes

Checked: Sophie Robinson

Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Oughtonhead Common LNR and Purwell Meadows LNR within 2km to 5km from the option.
National Nature Reserves	GREEN	No direct encroachment on NNR.
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. . HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. Wain Wood SSSI is within 5km. Knebworth Woods SSSI and GWDTE is approximately 6.5km south-east of the option. However, there is unlikely to be impacts away from the River.
Ancient Woodland	GREEN	Option is not within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including good quality semi-improved grassland and deciduous woodland. Given the deciduous woodland is immediately adjacent to the Charlton Mill Pond and River Hiz, there may be some effects from the option.
Historic Environment		
Listed Buildings and Structures	GREEN	Option within 500m of grade II listed building. However, no impacts anticipated given no construction works are anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option is not within 200m of Chilterns AONBs.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within grade 2 ACL land, however the option is not likely to result in significant effects.
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option is within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	There is potential for negative effects on water quality and flows given the option will result in the cessation of augmentation. Charlton Mill Pond may have low levels and the River Hiz will not have the benefit of river augmentation during low flows. Further investigation required.
Operational considerations	GREEN	It is not anticipated that the option will not require a significant of work or time to commission given it is an existing site.

A.9 OFFS/OUGH

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: OFFS/OUGH
Waterbody / catchment: River Oughton
Region: Central
Option notes: Reduction or cessation of augmentation
Date Completed: 27/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. Oughtonhead Common LNR is within 1km from the option and part of the LNR is the River Oughton therefore potential for hydrological links and impacts when the drought permit is in operation.
National Nature Reserves	GREEN	No direct encroachment on NNR. Knocking Hoe NNR is approximately 2.7km from the option.
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. There are no SSSIs within 2km. Knocking Hoe SSSI and Deacon Hill SSSI are within 5km, however no adverse effects on linkages or their qualifying features identified at this stage.
Ancient Woodland	GREEN	Option is not within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including deciduous woodland and lowland meadows along the River Oughton. Potential effects resulting from reduction / cessation in augmentation during period of drought when the environment is likely to be under stress.
Historic Environment		
Listed Buildings and Structures	GREEN	Option over 500m away from any listed buildings and structures. No impacts anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	AMBER	Offley Bottom Borehole is within Chilterns AONBs. No direct impacts, however there is potential for negative effects on visual amenity given changes to the river flow could affect the character of the AONB.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within grade 3 ACL land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option is within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option is within Flood Zone 3.
Water quality and flows	RED	There is potential for negative effects on water quality and flows given the reduction or cessation of augmentation may cause the Oughton Spring area to go dry, as well as cause low flows in the upper river reaches. Further investigation required.
Operational considerations	GREEN	The option will not require a significant of work or time to commission given it is an existing site.

A.10 UTTL

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: UTTL
Waterbody / catchment: River Cam
Region: Central
Option notes: Reduction or cessation in augmentation, which is a requirement of licence condition
Date Completed: 27/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR (none within 5km).
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. Debden Water SSSI and GWDTE is located approximately 2km upstream of the option. It is not expected that the option would have an effect given it is located upstream of the option.
Ancient Woodland	GREEN	Option is not within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including deciduous woodland. Potential effects on woodland from the option during operation given the priority habitat is located along the River Cam / River Granta banks.
Historic Environment		
Listed Buildings and Structures	GREEN	Option is within 200m of grade II listed buildings and structures. However, no direct impacts or indirect impacts identified given there is no construction involved.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	AMBER	Option is within 500m of Shortgrove Hall Registered Park and Garden. There is potential for option to impacts on historic setting given the River Granta passes through Shortgrove Hall Registered Park and Garden, however it is located upstream of the option so effects may not be significant.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option is not with 200m of AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within Grade 3 ACL land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option is within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option is within Flood Zone 3.
Water quality and flows	RED	There is potential for negative effects on water quality and flows given the option involves two parts whereby the requirement to stop abstracting when flows cannot be maintained would be suspended, and augmentation would be reduced or stopped. Further investigation required.
Operational considerations	GREEN	There is not anticipated to be a significant amount of time or work required for this option.

A.11 FULL

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: FULL
Waterbody / catchment: River Mimram
Region: Central
Option notes: Sustainability reduction site
Date Completed: 27/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMAS)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. However, Danesbury Park LNR and Singlers Marsh LNR are both adjacent to the River Mimram and the option, and therefore there is potential for hydrological linkages to the LNRs and increased abstraction may result in effects during option operation.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. Tewinbury SSSI which the River Mimram passes through, and is also a GWDTE, is located approximately 4km downstream of the option therefore potential for effects from increased abstraction and the Draft FULL EAR (2021) identifies potential for moderate effects. Negligible effects are identified for Rye Meads SSSI and Amwell Quarry SSSI in the Draft FULL EAR (2021).
Ancient Woodland	GREEN	Option is not within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including deciduous woodland and good quality semi-improved grassland located along the banks of the River Mimram. Potential effects on habitats resulting from increased abstraction during period of drought when the environment is likely to be under stress.
Historic Environment		
Listed Buildings and Structures	GREEN	Option is within 200m of grade II listed buildings and structures. However, no impacts identified given there is not construction associated with the option.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Garden. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option is not with 200m of AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within urban land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option within a historic landfill site. However, there is not anticipated to be any risk of contamination.
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option is within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option is within Flood Zone 3.
Water quality and flows	RED	There is potential for negative effects on water quality and flows given increased abstraction to be implemented during a period of drought where flows may already be vulnerable. However, there is potential with this option to offer augmentation. The Draft FULL EAR (2021) identifies potential for effects on water quality and flows.
Operational considerations	GREEN	The option will not require a significant amount of work or time to commission given it is an operational source.

A.12 BOWB

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: BOWB
Waterbody / catchment: River Ver
Region: Central
Option notes: Sustainability reduction site, would require bringing source back into production
Date Completed: 27/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. Watercress Wildlife Site LNR is approximately 4km downstream and the River Ver passes directly through the LNR. Given the potential for hydrological links, bringing the abstraction back into production could have effects on the LNR. The draft BOWB EAR (2019) identifies minor effects.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage. The draft BOWB EAR (2019) identifies no effects on designated sites.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage. The draft BOWB EAR (2019) identifies no effects on designated sites.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage. The draft BOWB EAR (2019) identifies no effects on designated sites.
Sites of Specific Scientific Interest (SSSIs)	GREEN	Option is not located within a SSSI IRZ. No SSSIs within 5km. Croxley Common Moor SSSI, located on the River Gade / River Colne, is a GWDTE and GWDTE located approximately 20km downstream, however given distance, no effects anticipated. The draft BOWB EAR (2019) identifies no effects on designated sites.
Ancient Woodland	GREEN	Option is not within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including deciduous woodland and coastal and floodplain grazing marsh. Potential effects on habitats resulting from increased abstraction during period of drought when the environment is likely to be under stress.
Historic Environment		

Feature(s)	Screening Outcome (RAG)	Comment
Listed Buildings and Structures	AMBER	Option is within 200m of grade II listed buildings and structures. There may be indirect effects on the setting of these assets as there is potential that temporary construction is required for treatment.
Scheduled monuments	AMBER	Option is within 200m of The Pondyards, Gorhambury Scheduled Monuments. There may be impacts on the setting of the monument given its proximity to the River Ver. Verulamium, site of Scheduled Monument is also located downstream of the option, and on the banks for the River Ver, and could be impacted by increased abstraction. There may be indirect effects on the setting of these assets as there is potential that temporary construction is required for treatment.
Registered Parks and Gardens	AMBER	Option is within 200m of Gorhambury Registered Parks and Garden. There may be impacts on the setting of the monument as a result of increased abstraction given it is located on the banks of the River Ver. There may be indirect effects on the setting of these assets as there is potential that temporary construction is required for treatment.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option is not with 200m of AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within Grade 3 ACL. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from Historic landfill site (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option is not within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option is within Flood Zone 1.
Water quality and flows	RED	There is potential for negative effects on water quality and flows given increased abstraction to be implemented during a period of drought where flows may already be vulnerable. The Draft BOWB EAR (2019) identified potential for effects on water quality and flows. BOWB source is mentioned in the Luton Water Order, including a requirement for river support to the Ver when flows through Verulamium Park fall below a certain level. It is believed that the clause is still effective, Clause 3 of the agreement states that 'the failure to provide river support during an extreme drought would not be treated as a breach of the agreement'. Given that the requirement for drought permits would be unprecedented, it is considered this is an extreme drought event and therefore do not believe that the river support clause applies.
Operational considerations	RED	The option would take over a year to commission

A.13 WHIH

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: WHIH

Waterbody / catchment: River Beane

Region: Central

Option notes: Partial sustainability reduction site

Date Completed: 27/01/2022

Completed By: Jennifer Fookes

Checked: Sophie Robinson

Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Nearest LNR is Mardley Heath approximately 5km away
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. Benington High Wood SSSI is within 2km upstream of the option therefore abstraction at the source is not anticipated to have a significant effect. Further investigation may be required. The Draft WHIH EAR (2021) identifies negligible effects on Amwell Quarry SSSI and Rye Meads Meadows SSSI and GWDTE.
Ancient Woodland	GREEN	Option is not within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including deciduous woodland and coastal and floodplain grazing marsh. Potential effects on habitats resulting from increased abstraction during period of drought when the environment is likely to be under stress.
Historic Environment		
Listed Buildings and Structures	GREEN	Option is within 200m of grade II listed buildings and structures. However, no effects anticipated given that there is no construction associated with the works.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option within 500m of Benington Lordship Registered Parks and Garden. However, no impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option is not with 200m of AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within grade 3 ACL and non-agricultural land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from Historic landfill site (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option is within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option is within Flood Zone 3.
Water quality and flows	RED	There is potential for negative effects on water quality and flows given increased abstraction to be implemented during a period of drought where flows may already be vulnerable. The Draft WHIH EAR (2021) identified potential for effects on flows and water quality
Operational considerations	GREEN	The option will not require a significant of work or time to commission.

A.14 BATC

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: BATC
Waterbody / catchment: River Colne
Region: Central
Option notes: Potential new DP source
Date Completed: 27/01/2022
Completed By: Jennifer Fookes
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. Rickmansworth Aquadrome LNR is within 500m downstream of the option. Increased abstraction could therefore have an effect on the LNR given the hydrological connections. The Withey Beds LNR and Croxley Common Moor LNR (also a GWDTE) are both within 2km upstream.
National Nature Reserves	GREEN	No direct encroachment on NNR. Ruislip Woods NNR and GWDTE is approximately 3.7km south of the option.
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken for the option therefore potential for pathway effects not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option is within a SSSI IRZ. Mid Colne Valley SSSI and GWDTE is located approximately 4km downstream of the option therefore potential for effects during option operation. Frey's Farm Meadows SSSI and GWDTE is approximately 7.5km downstream of the option along the river. Old Park Wood SSSI and GWDTE is located approximately 2.8km southwest of the option. Croxley Common Moor SSSI and GWDTE located 2km upstream of option. Ruislip Woods SSSI and GWDTE is approximately 3.7km south of the option.
Ancient Woodland	GREEN	Option is not within 500m of Ancient Woodland.
Priority Habitats	AMBER	Option is within 500m of priority habitat including deciduous woodland, lowland fens, and coastal and floodplain grazing marsh. Potential effects on habitats resulting from increased abstraction during period of drought when the environment is likely to be under stress.
Historic Environment		

Feature(s)	Screening Outcome (RAG)	Comment
Listed Buildings and Structures	GREEN	Option is within 200m of grade II listed buildings and structures. There is no construction associated with this option therefore effects are unlikely.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option is within 200m of Moor Park Registered Parks and Garden. There is no construction associated with this option therefore effects are unlikely.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option is not with 200m of AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within urban land. (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from Historic landfill site (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option is not within NVZ.
Water (Surface)		
Flood Zones	AMBER	Option is within Flood Zone 3.
Water quality and flows	AMBER	There is potential for negative effects on water quality and flows given increased abstraction to be implemented during a period of drought where flows may already be vulnerable. However, source is downstream of a number of catchments that feed into the main River Colne and so the impact is likely to be fairly minimal as proven during the tests. As such, it is anticipated that the water environment has the capacity to cope with the option. Further investigation may be required.
Operational considerations	RED	Option cannot be put forward as a DP source until HS2 activities have been completed.

A.15 RUNGS

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: RUNGS
Waterbody / catchment: Lower Greensand/Broughton Brook - Upper Lea Catchment
Region: Central
Option notes: Potential new DP source
Date Completed: 26/01/2022
Completed By: Ellen Brown
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMAS)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Cottage Bottom Fields LNR is approximately 2.5km west and Galley and Warden Hills LNR and GWDTE is approximately 4.3km northeast of the option.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option is over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option is over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
RAMSAR sites	GREEN	Option is over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Galley and Warden Hills SSSI and Blow's Down SSSI, which are both GWDTE, are within 5km therefore potential for effects during operation. However, the Draft RUNGS EAR (2021) did not consider these sites. It considered impacts on Flitwick Moor SSSI but did not identify any effects as a result of the option. Option within a SSSI IRZ.
Ancient Woodland	GREEN	Option within 500m of Badgerdell Wood Ancient Woodland. However, this option is associated with the Lower Greensand aquifer and is not a chalk source therefore no effects anticipated.
Priority Habitats	GREEN	Option is within 200m of priority habitat including deciduous woodland. However, this option is associated with the Lower Greensand aquifer and is not a chalk source therefore no effects anticipated.
Historic Environment		
Listed Buildings and Structures	GREEN	Option is over 500m from any Listed Structures. No impacts anticipated.
Scheduled monuments	GREEN	Option is over 500m from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option is over 500m from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option is over 500m from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option is over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option is over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within urban land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option within 200m of Chalk Lagoons historic landfill site. However, no effects are anticipated.
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	GREEN	It is identified that the Lower Greensand Groundwater Body which the option will be abstracting from has high storativity and the option would not be affecting chalk streams. It is therefore anticipated that the water environment has the capacity to cope with the option. The Draft RUNGS EAR (2021) identified negligible effects on flow and no impacts on water quality as a result of the option.
Operational considerations	AMBER	The option is anticipated to require around six to nine months to commission. Upgrades required for the treatment plant to accommodate additional volume.

A.16 DIGS

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: DIGS

Waterbody / catchment: River Mimram

Region: Central

Option notes: Potential new DP source following the AMP7 sustainability reductions.

Date Completed: 26/01/2022

Completed By: Ellen Brown

Checked: N Levy

Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA.
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Nearest LNRs are Sherrardspark LNR approximately 900m south-west of the DP site, Singlers Marsh LNR approximately 1,400m north-west of the DP site, and Danesbury Park LNR approximately 1,400, north-west of the DP site. Singlers Marsh and Danesbury Park LNRs are situated next to the river but are upstream of the DP site.
National Nature Reserves	GREEN	No direct encroachment on NNR. No NNRs within 5km of the site or that appear to be hydrologically connected.
SPAs / potential SPAs (pSPA)	AMBER	Option over 5km from SPAs. Lee Valley SPA is approximately 15km downstream of the DP site situated along the river and is a GWDTE. Potential for effects. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. Wormley-Hoddesdonpark Woods SAC is approximately 25km downstream of the DP site. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	AMBER	Option over 5km from a RAMSAR site. Lee Valley Ramsar site is approximately 15km downstream of the DP site situated along the river and is a GWDTE. Potential for effects. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Sherrardspark Wood SSSI within 2km and Tewinbury SSSI within 5km. Tewinbury SSSI is situated along the river, downstream of the DP site and is a GWDTE. Option also within a SSSI IRZ. Amwell Quarry SSSI and Rye Meads SSSI are part of the Lee Valley designated sites and GWDTEs. They are approximately 15km downstream of the DP site. Potential for negative effects from increased abstraction during drought conditions.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option is within 200m of priority habitat including coastal and floodplain grazing marsh along the river and deciduous woodland.
Historic Environment		

Feature(s)	Screening Outcome (RAG)	Comment
Listed Buildings and Structures	GREEN	Option within 500m of Grade II listed Bailiff's Cottage and Grade II listed Digswell Park Lodge. There is not anticipated to be construction associated with this option therefore no construction related effects are likely.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. Nearest SM is Dicket Mead Roman Villa, approximately 700m north-west from the DP site, situated next to the river (upstream). No impacts anticipated.
Registered Parks and Gardens	AMBER	Option over 500m away from any Registered Parks and Gardens. Nearest Registered Park and Garden is Tewin Water situated approximately 900m downstream of the DP site along the river. If river levels change then there is potential for effects, however abstraction is not anticipated to be higher than present. There is not anticipated to be construction associated with this option therefore no construction related effects are likely.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within urban classified land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option does not overlap any historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	The source is planned to have sustainability reductions in 2024, which constitutes a reduction by 5.7Ml/d on an annual average basis. Post-2024 this volume may be available as a DP. Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Further investigation required.
Operational considerations	RED	The source is planned to have sustainability reductions in 2024, which constitutes a reduction by 5.7Ml/d. Post-2024 this volume may be available as a DP but is not available currently as a DP volume and would need to be investigated post-2024. It is anticipated that it will take over nine months to commission the option.

A.17 HOLY & MUDL

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: HOLY & MUDL
Waterbody / catchment: River Ver
Region: Central
Option notes: Potential new DP source post AMP7 sustainability reductions.
Date Completed: 26/01/2022
Completed By: Ellen Brown
Checked: N Levy
Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	AMBER	Option within 500m of St Albans AQMA No. 1.
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Watercress Wildlife Site LNR is approximately 550m downstream of the DP site along the river.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Bricket Wood Common SSSI within 5km. Option within a SSSI IRZ. Potential for negative effects from increased abstraction. Croxley Common Moor SSSI, located on the River Gade / River Colne, is a GWDTE located approximately 17km downstream, however given distance, no effects anticipated.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option within 500m (adjacent to) of priority habitat including deciduous woodland and traditional orchard.
Historic Environment		
Listed Buildings and Structures	GREEN	Option within 500m of 47 Grade II listed buildings and four Grade II* listed buildings. This includes five Grade II listed buildings within 200m of the option: Abbey Mill House, Phoenix Cottage, Number 47 Gateposts and Wall, Torrington House, and War Memorial Plaque. However, no effects are identified given there is not anticipated to be construction associated with the option.
Scheduled monuments	GREEN	Option within 500m of St Albans Abbey Scheduled Monument and The Benedictine Priory of St Mary (Sopwell Priory) Scheduled Monument.

Feature(s)	Screening Outcome (RAG)	Comment
		However, no effects are identified given there is not anticipated to be construction associated with the option.
Registered Parks and Gardens	GREEN	Option over 500m from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within grade 3 agricultural land and urban classified land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from a historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option outside NVZ.
Water (Surface)		
Flood Zones	AMBER	Option within Flood Zone 2 and 3.
Water quality and flows	RED	The sources are planned to have sustainability reductions in 2024, which constitutes a reduction by approx. 9Ml/d on an annual average basis. Post 2024 this volume may be available as a DP. Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Further investigation required.
Operational considerations	RED	The sources are planned to have sustainability reductions in 2024, which constitutes a reduction by approx. 9Ml/d. Post 2024 this volume may be available as a DP but is not currently available and would need to be further investigated post-2024. It is anticipated that it would take over nine months to commission this option.

A.18 THEG

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: THEG
Waterbody / catchment: River Gade
Region: Central
Option notes: Potential new DP source.
Date Completed: 27/01/2022
Completed By: Ellen Brown
Checked: N Levy
Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	AMBER	No direct encroachment on LNR. Cassiobury Park LNR is located approximately 1km downstream of the DP site along the river (the site includes part of the river). Croxley Common Moor LNR is located approximately 4km downstream of the DP site along the river (the site includes part of the river) and is a GWDTE.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km)
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Whippendell Wood SSSI within 2km of option. Bricket Wood Common SSSI and Croxley Common Moor SSSI within 5km of option. Croxley Common Moor SSSI is downstream along the river and is a GWDTE. Option also within SSSI IRZ. Potential for negative effects from increased abstraction.
Ancient Woodland	AMBER	Option within 500m of Health Wood Ancient Woodland (approx. 480m). No direct impact likely, but potential for indirect impact.
Priority Habitats	AMBER	Option within 500m of priority habitat including deciduous woodland (approx. 50m).
Historic Environment		
Listed Buildings and Structures	GREEN	Option within 200m of Grade II listed 'Bridge number 163 50 metres southwest of Grove Wharf', within 400m of four Grade II listed buildings, and within 500m of a further three Grade II listed buildings. However, no effects are identified given there is not anticipated to be construction associated with the option.

Feature(s)	Screening Outcome (RAG)	Comment
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	AMBER	Option within 500m of Cassiobury Park (Grade II) Registered Park and Garden which is downstream of the DP site and includes part of the river.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within Grade 3 agricultural land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from a historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option outside NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Further investigation is required.
Operational considerations	RED	The volume is accounted for as part of HS2 mitigation, likely to be AMP8 onwards. It is therefore identified that the option will take over nine months to commission.

A.19 SLIP

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: SLIP

Waterbody / catchment: River Rhee

Region: Central

Option notes: Reduction or cessation of augmentation and waiver HoF constraint

Date Completed: 27/01/2022

Completed By: Ellen Brown

Checked: N Levy

Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Nearest LNR is 4km away and doesn't appear to be hydrologically linked.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites, or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites, or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites, or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Ashwell Springs SSSI is approximately 3km north of the DP site and is a GWDTE. Therfield Heath SSSI is approximately 4km north-east of the DP site. Blagrove Common SSSI is just over 5km south-east of the DP site and is a GWDTE. Option also within SSSI IRZ. Potential for negative effects from increased abstraction during drought conditions.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	GREEN	Option over 500m from priority habitats.
Historic Environment		
Listed Buildings and Structures	GREEN	Option over 500m from any Listed Structures. No impacts anticipated.
Scheduled monuments	GREEN	Option within 500m of 'Ring ditches and enclosure at Slip End' Scheduled monument. Option is approximately 80m from this SM across a road. However, no effects are identified given there is not anticipated to be construction associated with the option.
Registered Parks and Gardens	GREEN	Option over 500m from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within Grade 2 agricultural land, however no likely significant effect anticipated as a result of the option.
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from a historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Risk Zone 1 (approx. 60m from Flood Zone 2 and 3).
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Further investigation required.
Operational considerations	GREEN	No additional work is required to commission the option.

A.20 BROO

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: BROO

Waterbody / catchment: River Beane

Region: Central

Option notes: Potential new DP source.

Date Completed: 27/01/2022

Completed By: Ellen Brown

Checked: N Levy

Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR (none within 5km).
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SACs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Knebworth Woods SSSI within 2km of option (approx. 1km south of the DP site) and is also a GWDTE. Option also within SSSI IRZ. Potential for negative effects from increased abstraction.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	GREEN	Option within 500m from priority habitats (deciduous woodland). However, no effects are likely given the woodland is located approximately 470m away across an urban area.
Historic Environment		
Listed Buildings and Structures	AMBER	Option within 200m of Grade II listed Broomin Green Farmhouse and within 500m of Grade II listed John Lewis Warehouse. No direct impacts likely but could impact setting of the heritage assets given there is likely to be construction associated with the option.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within urban classified area (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from a historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Uncertainties with water quality from historic nearby contamination and environmental impacts given its upstream location. Further investigation is required.
Operational considerations	RED	It is an existing source, however minor treatment upgrades may be required. It is likely that the option would take over nine months to commission.

A.21 ROYD

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: ROYD
Waterbody / catchment: River Stort
Region: Central
Option notes: Potential new DP source.
Date Completed: 27/01/2022
Completed By: Ellen Brown
Checked: N Levy
Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMAS)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Harlow Marsh LNR and Hawkenbury Meadow LNR are approximately 3km upstream of the DP site along the river.
National Nature Reserves	GREEN	No direct encroachment on NNR. Broxbourne Woods NNR is approximately 6km downstream adjacent to the river.
SPAs / potential SPAs (pSPA)	AMBER	A section of the Lee Valley SPA and GWDTE is approximately 2km from the DP site but appears to be slightly upstream from where the watercourses join. A separate section of the Lee Valley SPA is approximately 7km downstream of the DP site and includes the river. Potential for negative effects from increased abstraction. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	AMBER	Option over 5km from SACs. Wormley-Hoddesdonpark Woods SAC is approximately 7km downstream of the DP site along the river (river runs along SAC site boundary). HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	AMBER	A section of the Lee Valley Ramsar site and GWDTE is approximately 2km from the DP site but appears to be slightly upstream from where the watercourses join. A separate section of the Lee Valley Ramsar site is approximately 7km downstream of the DP site and includes the river. Potential for negative effects from increased abstraction. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Hunsdon Mead SSSI and GWDTE is approximately 400m from the DP site, however no impacts have been identified in previous investigations. Rye Meads SSSI and GWDTE is approximately 1.8km from the DP site. The following SSSIs are downstream of the DP site along the river: Turnford and Cheshunt Pits SSSI (7km), Waltham Abbey SSSI and GWDTE (9km), Cornmill Stream and Old River Lea SSSI and GWDTE (9.5km). Option also within SSSI IRZ. Potential for negative effects from increased abstraction.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option within 500m of priority habitats (coastal and floodplain grazing marsh and deciduous woodland) (approx. 200m away).

Feature(s)	Screening Outcome (RAG)	Comment
Historic Environment		
Listed Buildings and Structures	AMBER	Option within 500m of 29 Grade II listed buildings, and within 400m of Grade I listed Church of St Peter. No direct impacts likely but could impact setting of the heritage assets as a result of construction works associated with the treatment upgrades required for the option.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m from any Registered Parks and Gardens. Briggens Registered Park and Garden is approximately 600m to the north-west of the DP site and a small section is adjacent to the river.
Registered Battlefields	GREEN	Option over 500m from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within grade 3 agricultural land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from a historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1 (but adjacent to Flood Zone 2 and 3).
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Potential water quality issues linked to iron and manganese and waste management from the treatment process. Further investigation is required.
Operational considerations	RED	The source used to have a higher time limited licensed volume (12MI/d) which expired in 2009-10 (defaulted to 9.09MI/d average). The source can achieve higher flows, but there are water quality issues linked to iron and manganese and waste management from the treatment process. It is an existing source, however minor treatment upgrades may be required. It is likely that the option would take over nine months to commission.

A.22 CHEH & CHAR

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: CHEH & CHAR
Waterbody / catchment: River Chess
Region: Central
Option notes: Potential new DP sources - sustainability reductions.
Date Completed: 27/01/2022
Completed By: Ellen Brown
Checked: N Levy
Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	AMBER	Option within 500m of Chesham AQMA.
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Captain's Wood LNR is approximately 500m from the CHEH & CHAR option, however it does not appear to be hydrologically linked.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SCAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option over 5km from a SSSI but within a SSSI IRZ. Potential for negative effects from increased abstraction. Nearest GWDTE SSSI is approximately 6.5km (Frogmore Meadows).
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option is within 400m of priority habitat (good quality semi-improved grassland and traditional orchard). CHEH & CHAR is just within 500m of deciduous woodland priority habitat.
Historic Environment		
Listed Buildings and Structures	AMBER	Option is within 500m of six Grade II listed buildings. No direct impacts likely but could impact setting of the heritage assets given potential for construction works associated with new source.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	AMBER	Option overlaps with the Chilterns AONB. Potential for direct impacts.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within grade 3 agricultural land and land classed as urban (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from a historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option outside NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Risk Zone 1.
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Further investigation is required.
Operational considerations	RED	Option is within environmentally and politically sensitive areas. Both sources were switched off in 2020 following the AMP6 investigations. It is anticipated that the option will take over nine months to commission.

A.23 STAN

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: STAN
Waterbody / catchment: River Stort
Region: Central
Option notes: Potential new DP source.
Date Completed: 27/01/2022
Completed By: Ellen Brown
Checked: N Levy
Approved: Sophie Robinson

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR (none within 5km).
National Nature Reserves	GREEN	No direct encroachment on NNR. Hatfield Forest NNR is approximately 4km from the DP site and is a GWDTE.
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option over 5km from SCAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option within 5km of Halls Quarry SSSI (3km), Quendon Wood SSSI (4.5km), Elsenham Woods SSSI (4.8km), and Hatfield Forest SSSI (4km) which is also a GWDTE. Option also within a SSSI IRZ. Potential for negative effects from increased abstraction.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option within 500m of priority habitat (traditional orchard and deciduous woodland).
Historic Environment		
Listed Buildings and Structures	AMBER	Option within 200m of 14 Grade II listed buildings, and a further 53 Grade II and one Grade II* listed buildings between 200-500m of option. No direct impacts likely but could impact setting of the heritage assets given there is potential for construction effects associated with new source.
Scheduled monuments	AMBER	Option within 500m of Stansted windmill scheduled monument and Stansted Castle scheduled monument. No direct impacts likely but could impact setting of the heritage assets. However, this is considered unlikely given the SM is approximately 480m away in a built up area.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No impacts anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within Grade 3 agricultural land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option does not overlap any historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	AMBER	Option within NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	Potential deterioration in water quality and/or flows as a result of the option. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. In the past using the two BHs on duty/assist mode has caused turbidity issues. Further investigation required.
Operational considerations	RED	Network upgrades required to free up the additional volume. The source is under investigation in AMP7 along with other sources in the upper catchment. It is anticipated it will take over nine months to commission the source.

A.24 SLYE

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: SLYE
Waterbody / catchment: River Dour
Region: Southeast
Option notes: Increased abstraction above the HoL
Date Completed: 27/01/2022
Completed By: Ellen Brown
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR (none within 5km).
National Nature Reserves	GREEN	No direct encroachment on NNR. Lydden Temple Ewell NNR approximately 1.7km northeast of the option.
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option with 2km of Lydden & Temple Ewell Downs SAC. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option direct encroaches upon Alkham, Lydden and Swingfield Woods SSSI and therefore has the potential to be impacted by the option. The site is not a GWDTE. However, the Draft SLYE EAR (2018) outlines that terrestrial vegetation at the site would mainly be dependent on local groundwater levels and these would likely be low during implementation of the drought permit. The additional impact of the drought permit on this designated site is not considered to be significant. Lydden and Temple Ewell Downs SSSI is within 2km and forms part of the Lydden & Temple Ewell Downs SAC, however no significant effects are identified. Option is within SSSI IRZ.
Ancient Woodland	AMBER	Option is within 500m of four Ancient Woodlands: Lyoak Wood, Cannon Woods, and two unnamed woodlands. No direct impact likely, but potential for indirect impact.
Priority Habitats	GREEN	Option overlaps lowland calcareous grassland and is within 200m of good quality semi-improved grassland and deciduous woodland. However, the Draft SLYE EAR (2018) identifies negligible effects on priority habitats.
Historic Environment		
Listed Buildings and Structures	GREEN	There are no listed buildings within 500m of option. No impacts anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Parks and Gardens	GREEN	Option over 500m away from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option overlaps with Kent Downs AONB. However, this is not considered a groundwater dependent site and any potential impacts are considered negligible as per the Draft SLYE EAR (2018).
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within Grade 3 agricultural land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option outside NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	There is potential for effects on groundwater quality and levels given the option involves increased groundwater abstraction overring the HoL constraint. The Draft SLYE EAR (2018) identifies potential for effects on water quality and flows.
Operational considerations	GREEN	The option will not require a significant of work or time to commission given it is an existing site.

A.25 SDRE

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: SDRE
Waterbody / catchment: Alkham Bourne/River Dour
Region: Southeast
Option notes: Increased abstraction above the HoL
Date Completed: 27/01/2022
Completed By: Sara Soerensen
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. Nearest LNR is Whinless Down LNR approximately 5km east of the option.
National Nature Reserves	GREEN	No direct encroachment on NNR (none within 5km).
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites, and/or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Folkestone to Etchinghill Escarpment SAC and GWDTE is approximately 3.5km southwest; and Lydden & Temple Ewell Downs SAC(s) is approximately 4.8km northeast of the option. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites, and/or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option within an SSSI IRZ. The option is located approximately 3.5km from Folkestone to Etchinghill Escarpment SSSI which is a GWDTE. Folkestone Warren SSSI, Alkham, Lydden and Swingfield Woods SSSI, and Lydden and Temple Ewell Downs SSSI are also within 5km. The Draft SDRE EAR (2018) identified that the option would not have an effect on these SSSIs.
Ancient Woodland	AMBER	Option within 500m of 'Drellingore Wood' Ancient Woodland. No direct impact likely, but potential for indirect impact.
Priority Habitats	GREEN	Option within 500m of priority habitat, including lowland calcareous grassland and deciduous woodland. However, the Draft SDRE EAR (2018) identifies negligible effects on priority habitats.
Historic Environment		
Listed Buildings and Structures	GREEN	Option over 500m from any Listed Structures. No impacts anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.
Registered Parks and Gardens	GREEN	Option over 500m from any Registered Parks and Gardens. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option overlaps Kent Downs AONB. However, this is not considered a groundwater dependent site and any potential impacts are considered negligible as per the Draft SDRE EAR (2018).
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated
Soils		
Agricultural Land	GREEN	Option within Grade 4 agricultural land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option outside NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Risk Zone 1.
Water quality and flows	RED	There is potential for effects on groundwater quality and levels given the option involves increased groundwater abstraction. The Draft SDRE EAR (2018) identifies potential for effects on water quality and flows.
Operational considerations	GREEN	No new infrastructure required, so the option is not anticipated to require a significant of work or time to commission.

A.26 SBUC

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: SBUC
Waterbody / catchment: River Dour
Region: Southeast
Option notes: Cessation of river augmentation
Date Completed: 27/01/2022
Completed By: Sara Soerensen
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. High Meadow LNR is approximately 1km south of the option.
National Nature Reserves	GREEN	No direct encroachment on NNR. Lydden Temple Ewell NNR is approximately 2km northwest of the option.
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites, and/or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
SACs/candidate SACs (cSAC) and SCIs	GREEN	Option approximately 3km from Dover to Kingsdown Cliffs SAC and approximately 2km from Lydden & Temple Ewell Downs SAC. No anticipated effects on linkages to designated sites and/or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites, and/or their qualifying features. HRA Stage 1 Screening (December, 2021) identified no likely significant effects.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option within an SSSI IRZ. Dover to Kingsdown Cliffs SSSI, Lydden and Temple Ewell Downs SSSI and Alkham, Lydden and Swingfield Woods SSSI all within 5000m. However, no adverse effects on linkages to designated sites, and/or their qualifying features.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	GREEN	Option within 500m of priority habitats, including deciduous woodland and Good quality semi-improved grassland. However, the Draft SBUC EAR (2018) identifies negligible effects on priority habitats.
Historic Environment		
Listed Buildings and Structures	GREEN	Option within 500m of Buckland House (Grade II) and Parish Church of St Andrew Buckland (Grade II*) listed structure(s). However, given there is no construction anticipated to be associated with this option, no effects are identified.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No effects anticipated.
Registered Parks and Gardens	GREEN	Option over 500m from any Registered Parks and Gardens. No effects anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No effects anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option over 200m from any AONBs. No effects anticipated.
National Parks	GREEN	Option over 200m from any National Parks. No effects anticipated.
Soils		
Agricultural Land	GREEN	The option is located on urban land and does not overlap any agricultural land. Low potential for significant effect.
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option over 200m from historic landfill sites (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option outside NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	The proposed restoration of restricted peak capacity would remove current requirement to reduce abstraction for water supply from 6Ml/d to 4Ml/d in order to release the remaining 2Ml/d into the River Dour whenever the flow of the River Dour falls below 0.209 cumecs. The removal of required augmentation would further reduce river flow in drought conditions, with the potential to detrimentally affect biodiversity and abiotic natural processes dependent on a certain river flow rate. The Draft SBUC EAR (2018) identifies potential for effects on water quality and flows.
Operational considerations	GREEN	Option uses existing abstraction point, therefore will not require a significant amount of work or time to commission.

A.27 SHOL

Affinity Water Drought Plan Preliminary Assessment: Option Proforma

Option Code: SHOL
Waterbody / catchment: River Dour
Region: Southeast
Option notes: Increased abstraction above the HoF
Date Completed: 27/01/2022
Completed By: Sara Soerensen
Checked: Sophie Robinson
Approved: N Levy

Feature(s)	Screening Outcome (RAG)	Comment
Air Quality		
Air quality management areas (AQMA)	GREEN	Option over 500m from an AQMA (low potential for significant effect).
Biodiversity, Flora and Fauna		
Local Nature Reserves	GREEN	No direct encroachment on LNR. High Meadow LNR is within 500m, however no effects anticipated.
National Nature Reserves	GREEN	No direct encroachment on NNR. Lydden Temple Ewell NNR is approximately 2.6km north of the option.
SPAs / potential SPAs (pSPA)	GREEN	Option over 5km from SPAs. No adverse effects on linkages to designated sites, and/or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
SACs/candidate SACs (cSAC) and SCIs	AMBER	Option is approximately 3.7km from Dover to Kingsdown Cliffs SAC and 2.7km from Lydden & Temple Ewell Downs SAC. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage. However, no effects are likely given HRA has been undertaken for similar options within close proximity and no significant effects identified.
RAMSAR sites	GREEN	Option over 5km from a RAMSAR site. No adverse effects on linkages to designated sites, and/or their qualifying features. HRA Stage 1 Screening has not been undertaken on this option therefore pathway effects are not fully understood at this stage.
Sites of Specific Scientific Interest (SSSIs)	AMBER	Option within an SSSI IRZ. Dover to Kingsdown Cliffs SSSI, Lydden and Temple Ewell Downs SSSI and Alkham, Lydden and Swingfield Woods SSSI all within 5000m. However, no adverse effects on linkages to designated sites, and/or their qualifying features anticipated but further investigation may be required.
Ancient Woodland	GREEN	Option is over 500m from Ancient Woodland.
Priority Habitats	AMBER	Option within 500m of priority habitats, including Lowland calcareous grassland, No main habitat but additional habitats present and Deciduous woodland. No adverse effects are anticipated, however further investigation may be required.
Historic Environment		
Listed Buildings and Structures	GREEN	Option over 500m from any Listed Structures. No impacts anticipated.
Scheduled monuments	GREEN	Option over 500m away from any Scheduled Monuments. No impacts anticipated.

Feature(s)	Screening Outcome (RAG)	Comment
Registered Parks and Gardens	GREEN	Option over 500m from any Registered Parks and Gardens. No impacts anticipated.
Registered Battlefields	GREEN	Option over 500m away from any Registered Battlefields. No impacts anticipated.
Landscape		
Areas of outstanding natural beauty (AONB)	GREEN	Option overlaps Kent Downs AONB. However, this is not considered a groundwater dependent site therefore potential effects are not considered to be significant.
National Parks	GREEN	Option over 200m from any National Parks. No impacts anticipated.
Soils		
Agricultural Land	GREEN	Option within Grade 4 agricultural land (low potential for significant effect).
Authorised Landfill Sites	GREEN	Option over 200m from an authorised landfill site (low potential for significant effect).
Historic Landfill Sites	GREEN	Option does not overlap any Historic Landfill Sites. However, it is within 200m of Barwick Road Historic Landfill Site (low potential for significant effect).
Water (Ground)		
Source protection zones	GREEN	Option is within SPZ 1, however the option will not result in any effects to the SPZ.
Nitrate Vulnerable Zone	GREEN	Option outside NVZ.
Water (Surface)		
Flood Zones	GREEN	Option within Flood Zone 1.
Water quality and flows	RED	Option would increase abstraction, potentially causing deterioration of flow in River Dour. Increased abstraction to be implemented during a period of drought when water levels are likely to be vulnerable. Further investigation is required.
Operational considerations	RED	It is likely that network constraints will mean that the option will take over nine months to commission.

