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Environmental Statement

Interim Environmental Report (IER), Volume 1, Chapter 16: Water Environment

Document Reference

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16 Water Environment

16.1 Introduction

16.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) of effects on the environment with respect to the water environment as a result of the Scheme.

16.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects on the environment with respect to the water environment during the construction, operation and maintenance, and decommissioning phases.

16.1.3 The information presented within this chapter has been informed by the Scheme information and description provided in Volume 1, Chapter 2 Scheme description.

16.2 Scope of the assessment

16.2.1 Section 5.7 of the Environmental Impact Assessment Scoping Report[1] addressed the potential for the Scheme to result in significant effects on the water environment for the construction, operational and decommissioning phases and consequently whether a standalone topic chapter was required in the ES.

Whilst the Scoping Report proposed that effects on the environment with respect to the water environment were able to be scoped out, through the adoption of the Scoping Opinion[2] , the Secretary of State has confirmed that the water environment assessment should be included in the ES and must assess the scope set out in Table 16-1.

[1] Arrow Valley Solar Limited (2026) Arrow Valley Solar. Environmental Impact Assessment Scoping Report. Volume I: Main Report (Document Reference AVS-ATR-GEN-AA-DOC-ENV-000001, Rev. A). Planning Inspectorate Reference EN0110033.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000002-20260327%20Arrow%20Valley%20EIA%20Scoping%20Report%20Volume%201%20Main%20Report%20Rev.%20A.pdf

[2] Planning Inspectorate (2026) Scoping Opinion: Proposed Arrow Valley Solar (Case Reference EN0110033). Adopted on behalf of the Secretary of State pursuant to Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, 7 May 2026.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000010-Arrow%20Valley%20Solar%20Scoping%20Opinion.pdf

Table 16-1 Summary of the scoping decision for the water environment assessment

Topic	Scoped in/out			Justification
	Construction phase and panel/battery replacement	Operational phase (routine maintenance)	Decommissioning phase	
Surface water (quality, quantity and hydromorphology)	Scoped in	Scoped in	Scoped in	Construction - Main Rivers and Ordinary Watercourses intersect the Order Limits and cabling where construction works are required. Impacts will be mitigated through the implementation of a Construction Environmental Management Plan (CEMP) and compliance with best practice pollution prevention measures. Operation - Operational impacts are anticipated to be low once the Scheme is in place. Maintenance will be limited and any minor impacts will be mitigated through an Operational Environmental Management Plan (OEMP) and drainage strategy. Decommissioning - Similar to construction although works are likely to be less intrusive and there is less potential for effects to arise. Following receipt of the Scoping Opinion, the Planning Inspectorate (PINS) considered that there was too little information provided in the Scoping Report to scope this matter out, and consequently a full assessment has been provided in this chapter across all phases, including any impacts arising upon surface water abstractions and discharges and groundwater receptors within the study area, and as a result of dewatering and foul water.
Groundwater	Scoped in	Scoped in	Scoped in	Construction - Construction works will include directional drilling, which may expose the aquifer to drilling fluids, and dewatering activities may threaten groundwater abstractions. However, impacts should be mitigated through the implementation of a CEMP and compliance with the PPGs. No works will occur within 3 m of an aquifer and a horizontal directional drilling (HDD) breakout plan will ensure the HDD will not cause significant impacts to groundwater. Operation - Operational impacts are anticipated to be low. Maintenance will be limited and any minor impacts will be mitigated through an OEMP and drainage strategy. Decommissioning - Similar to construction although works are likely to be less intrusive and there is less potential for effects to arise, as activities will largely involve the removal of infrastructure with limited ground disturbance. Following receipt of the Scoping Opinion, PINS considered that there was too little information provided in the Scoping Report to scope this matter out, and consequently a full assessment has been provided in this chapter across all phases.

Topic	Scoped in/out			Justification
	Construction phase and panel/battery replacement	Operational phase (routine maintenance)	Decommissioning phase	
Flooding from rivers/sea	Scoped out	Scoped out	Scoped out	Construction - Parts of multiple Sites are located in Flood Zone 2/3 (sub-Sites 1(b), 1(c), 1(d), 2(b), 2(c), 2(d), 2(e), 3(b), 3(d), 3(e), 3(f), 3(g), and Site 4). Impacts will be mitigated through the implementation of embedded mitigation and a CEMP. A separate Flood Risk Assessment (FRA) will be submitted as part of the DCO application to demonstrate that there will be no significant effects. Operation - Parts of multiple Sites are located in Flood Zone 2/3 (sub-Sites 1(b), 1(c), 1(d), 2(b), 2(c), 2(d), 2(e), 3(b), 3(d), 3(e), 3(f), 3(g), and Site 4). Impacts will be mitigated through embedded mitigation measures. A standalone FRA will demonstrate that no adverse effects will arise. Decommissioning - Similar to construction although works are likely to be less intrusive and there is less potential for effects to arise, as activities will primarily comprise of the removal of infrastructure, with limited ground disturbance. No new structures will be introduced that could alter flow routes. Following receipt of the Scoping Opinion, flood risk remains scoped out of the ES and a standalone Level 1 FRA has been produced covering flooding from all sources barring sewers and canals. Following consultation with the Environment Agency (EA), the FRA will also demonstrate that cable crossings and any other construction works will not impact existing flood defences.
Flooding from surface water	Scoped out	Scoped out	Scoped out	Construction - Parts of all Sites are at risk of flooding from surface water. Impacts will be mitigated through the implementation of embedded mitigation and a CEMP. Operation - Parts of all Sites are at risk of flooding from surface water. Impacts will be mitigated through embedded mitigation measures. A standalone FRA will demonstrate that no adverse effects are expected to arise. Decommissioning - Similar to construction although works are likely to be less intrusive and there is less potential for effects to arise, as activities will primarily comprise of the removal of infrastructure, with limited ground disturbance. No new structures will be introduced that could alter flow routes. Following receipt of the Scoping Opinion, flood risk remains scoped out of the ES and a standalone Level 1 FRA has been produced covering flooding from all sources barring sewers and canals.
Flooding from groundwater	Scoped out	Scoped out	Scoped out	Construction - Areas at higher risk of groundwater flooding such as areas in close proximity to the River Arrow and River Avon may require trenchless cable installation. Impacts will be mitigated through the implementation of embedded mitigation and a CEMP. A standalone FRA will consider this in more detail. Operation - Groundwater impact unlikely to be significant. Decommissioning - Similar to construction although works are likely to be less intrusive and there is less potential for effects to arise. Following receipt of the Scoping Opinion, flood risk remains scoped out of the ES and a standalone Level 1 FRA has been produced covering flooding from all sources barring sewers and canals.

Topic	Scoped in/out			Justification
	Construction phase and panel/battery replacement	Operational phase (routine maintenance)	Decommissioning phase	
Flooding from reservoirs	Scoped out	Scoped out	Scoped out	Construction - While two Sites are at risk of flooding from reservoirs, this risk is associated with the unlikely failure or overtopping of a reservoir and as such significant effects are not anticipated. Operation - While two Sites are at risk of flooding from reservoirs, this risk is associated with the unlikely failure or overtopping of a reservoir and as such significant effects are not anticipated. Decommissioning - Similar to construction although works are likely to be less intrusive and there is less potential for effects to arise, as activities will primarily comprise of the removal of infrastructure, with limited ground disturbance. No new structures will be introduced that could alter flow routes. Following receipt of the Scoping Opinion, flood risk remains scoped out of the ES and a standalone Level 1 FRA has been produced covering flooding from all sources barring sewers and canals.
Flooding from canals	Scoped out	Scoped out	Scoped out	Construction - No nearby canals. Operation - No nearby canals. Decommissioning - No nearby canals. Following receipt of the Scoping Opinion, flooding from canals remains scoped out of the assessment.
Flooding from sewers	Scoped out	Scoped out	Scoped out	Construction - Sewer impact is unlikely to be significant due to the rural nature of the Scheme. Operation - Sewer impact is unlikely to be significant due to rural nature of the Scheme. Decommissioning - Sewer impact is unlikely to be significant due to the rural nature of the Scheme. Following receipt of the Scoping Opinion, flooding from sewers remains scoped out of the assessment.

16.3 Consultation

Consultation to date

16.3.1 Table 16-2 provides a summary of all the consultation and engagement undertaken to date relevant to this assessment.

Table 16-2 Summary of the consultation with stakeholders

Stakeholder	Date	Issue consulted on	Addressed in the ES
Environment Agency (EA)	16/04/2026	EIA scoping briefing	Initial project briefing regarding ES scoping position in relation to water environment. Initial EA feedback on flood risk approach has been incorporated into the wider FRA methodology.
EA	27/05/2026	Water supply strategy	The EA requested the inclusion of a water supply strategy in the ES impact assessment and in the CEMP. Full agreement on the inclusion and scope of any Water Supply Strategy is pending, and further discussions are to be held with the EA to confirm whether commitments can instead fall solely within control documents such as the CEMP.

Stakeholder	Date	Issue consulted on	Addressed in the ES
EA	27/05/2026	Water quality monitoring plan	The EA requested the inclusion of a water quality monitoring plan in the ES, to be secured in the CEMP. This would be high level and specify baseline monitoring for 6 to 12 months prior to the commencement of construction. Agreement on the inclusion and scope of any water quality monitoring plan is pending and further discussions are to be held with the EA, to confirm whether appropriate measures can instead be secured as part of the CEMP, without the preparation of a dedicated water quality monitoring plan.
EA	27/05/2026	Flood Risk Assessment methodology	The EA clarified that flood modelling should be proportionate and risk-based, rather than overly complex or exhaustive, and focused on demonstrating no increase in flood risk elsewhere. A risk based approach would be acceptable for the lower tier assets e.g. solar arrays, and high risk assets should be located sequentially, e.g. BESS and transformers to be located outside of areas at risk from flooding. Flood risk should be considered both to and from the proposed development, including any potential effects on flood storage, flow routes and nearby receptors. The EA confirmed that they would need to be reassured that there would be no increase in flood risk to 3rd party land from flood storage displacement and flow deflection. The EA set clear expectations that compounds must be outside Flood Zone 3B (mandatory expectation) and preferably outside the wider floodplain. The Applicant and the EA agreed to an iterative process to developing the FRA, which would be shared as design progresses for agreement on methodology and interpretation of assessment.

16.4 Legislation, policy and guidance

Legislation

16.4.1 The below listed legislation has been taken into account in the water environment assessment. Volume 3, Appendix 16.1 Legislation, policy and guidance relevant to the water environment assessment provides further detail on how the below listed legislation has informed the water environment assessment:

- Water Resources Act 1991 (as amended)[3];
- Land Drainage Act 1991 (as amended)[4];
- Flood and Water Management Act 2010[5];
- Water Act 2014[6];
- The Water Supply (Water Quality) Regulations 2016 (as amended)[7];
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017[8];
- The Environmental Permitting (England and Wales) Regulations 2016[9];
- Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015[10];
- Water Industry Act 1991[11]; and
- Environment Protection Act 1990[12].

Policy

16.4.2 The below listed policy has been taken into account in the water environment assessment. Volume 3, Appendix 16.1 Legislation, policy and guidance relevant to the water environment assessment provides further detail on how the below listed policy has informed the water environment assessment:

- Overarching National Policy Statement (NPS) for energy (EN-1)[13];

[3] Water Resources Act 1991. Available at: https://www.legislation.gov.uk/ukpga/1991/57/contents
[4] Land Drainage Act 1991. Available at: https://www.legislation.gov.uk/ukpga/1991/59/contents
[5] Flood and Water Management Act 2010. Available at: https://www.legislation.gov.uk/ukpga/2010/29/contents
[6] Water Act 2014. Available at: https://www.legislation.gov.uk/ukpga/2014/21/contents
[7] The Water Supply (Water Quality) Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/614/contents
[8] The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/407/contents
[9] The Environmental Permitting (England and Wales) Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents
[10] UK Government (2015) The Water Environment (Water Framework Directive (England and Wales) 2015. Available at: https://www.legislation.gov.uk/uksi/2015/1623/pdfs/uksiod_20151623_en_auto.pdf
[11] Water Industry Act 1991. Available at: https://www.legislation.gov.uk/ukpga/1991/56/contents
[12] Environmental Protection Act 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents
[13] Overarching NPS for Energy Infrastructure (EN1), 2025. Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025

- NPS for renewable energy infrastructure (EN-3)[14];
- NPS for electricity networks infrastructure (EN-5)[15];
- National Planning Policy Framework (NPPF) 2026[16];
- National Standards for Sustainable Drainage Systems (SuDS) 2025[17];
- Worcestershire County Council (WoCC) Surface Water Management Plan 2018[18];
- Redditch Borough Council (ReBC) Local Plan No4 (Jan 2017)[19];
- Bidford-on-Avon Neighbourhood Plan (2017)[20];
- Cleeve Prior Neighbourhood Plan (2018)[21];
- Pebworth Parish Neighbourhood Plan (2019)[22]; and
  Salford Seven Neighbourhood Development Plan (2015-2031)[23].

Guidance documents

16.4.3 The water environment assessment has been undertaken in accordance with the following guidance documents:

- Design Manual for Roads and Bridges (DMRB) LA 113[24]
- The Sustainable Drainage System (SuDS) Manual (CIRIA C753, 2015)[25];
- Environmental Good Practice on Site Guide (CIRIA C811, 2023)[26];
- PINS – Nationally Significant Infrastructure Projects (NSIP): Advice on the Water Framework Directive 2024 (updated 2026)[27];
- The Environment Agency's Approach to Groundwater Protection 2018, v1.2[28];
- Guidelines on for Pollution Prevention (Scotland)[29]. This has been referenced as former UK wide PPG guidance has been withdrawn and the GPP remains a recognised source of good practice for pollution prevention measures;
- Pollution Prevention for businesses (2026)[30]; and
- Design Manual for Roads and Bridges (DMRB) LA 113[24] & LA 104 (2020)[31].

16.5 Method of assessment

Introduction

16.5.1 This assessment has considered the guidance set out in DMRB LA 104: Environmental assessment and monitoring[31]. The methodology presented in DMRB LA 113[24] will be applied to assign both the value of the receptors and the impact of the Scheme. Although the DMRB is principally applicable to roads, the guidance provides a good basis for assessing effects of developments on the water environment. The DMRB promotes transferrable and standard elements of methodology that are followed throughout the EIA process including:

- Estimation of the value of the receptor;
- Estimation of the magnitude of impact; and
- The value and magnitude of impact combine to establish the significance of effect.

[14] NPS for renewable energy infrastructure (EN-3), 2025. Available at: https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025
[15] NPS for electrical networks infrastructure (EN-5), 2025. Available at: https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5-2025
[16] Ministry of Housing, Communities and Local Government (2026) National Planning Policy Framework. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2
[17] Department for Environment, Food & Rural Affairs (2025) National standards for sustainable drainage systems (SuDS). Available at: https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds
[18] Worcestershire County Council (2018) Worcestershire Surface Water Management Plan. Available at: https://www.worcestershire.gov.uk/sites/default/files/2022-10/surface_water_management_plan.pdf
[19] Borough of Redditch Local Plan No.4, January 2017. Available at: https://www.redditchbc.gov.uk/media/tbodcekr/adopted-borough-of-redditch-local-plan-no4-2011-2030.pdf
[20] Bidford-on-Avon Parish Council, Bidford-on-Avon Neighbourhood Development Plan, July 2017. Available at: https://www.stratford.gov.uk/planning-building/bidford-on-avon-neighbourhood-plan.cfm
[21] Cleeve Prior Parish Council, Cleeve Prior Neighbourhood Plan 2016-2031, Adopted 21 February 2018. Available at: https://www.wychavon.gov.uk/planning/planning-policy/neighbourhood-planning/cleeve-prior-neighbourhood-plan
[22] Pebworth Parish Council, Pebworth Parish Neighbourhood Plan, Adopted Version, September 2019. Available at: https://www.wychavon.gov.uk/planning/planning-policy/neighbourhood-planning/pebworth-parish-neighbourhood-plan
[23] Salford Priors Parish Council, Salford Seven Neighbourhood Development Plan 2015-2031, Made Version, July 2017. Available at: https://www.stratford.gov.uk/doc/208631/name/Made%20Version%20July%202017.pdf
[24] National Highways (2020) LA 113. Available at: https://www.standardsforhighways.co.uk/search/d6388f5f-2694-4986-ac46-b17b62c21727
[25] CIRIA (2015) The SuDS Manual (C753). Available at: https://www.ciria.org/CIRIA/Books/Free_publications/C753F.aspx
[26] CIRIA (2023) Environmental good practice on site guide (fifth edition) (C811). Available at: https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C811
[27] Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-the-water-framework-directive
[28] Environment Agency (2018) The Environment Agency's approach to groundwater protection. Available at: https://assets.publishing.service.gov.uk/media/5ab38864e5274a3dc898e29b/Envirnment-Agency-approach-to-groundwater-protection.pdf
[29] NetRegs (2026) Guidance for Pollution Prevention. Available At: https://www.netregs.org.uk/tools/guidance-for-pollution-prevention-gpp-documents/
[30] Defra (2026) Pollution Prevention for businesses. Available At: Pollution prevention for businesses - GOV.UK
[31] National Highways, 2020, Design Manual for Roads and Bridges, Sustainability and Environment Appraisal, LA 104 Environmental Assessment and Monitoring. Available at: https://www.standardsforhighways.co.uk/tses/attachments/by-attachment-id/c326ef05-0bda 4e02-9903-de8d02640cea?inline=true

16.5.2 As flood risk has been scoped out and is instead addressed via a standalone FRA, this chapter will only assess the potential impacts the Scheme may have on the surface water (water quality, quantity and hydromorphology) and groundwater sub-disciplines.

Establishing the baseline

Study area

16.5.3 The study area for surface water quality, hydromorphology and groundwater includes as a minimum features of the water environment within 1 km of the Order Limits. In certain circumstances professional judgement has been used to consider features outside of the 1 km study area, where a clear hydrological connection to the Scheme development exists or where there is potential for impacts to extend beyond the initial study area, as outlined in section 16.6. This distance was selected through professional judgement, taking account of watercourse connectivity and the anticipated extent of potential impacts. 1 km is considered sufficient to capture receptors that could reasonably be affected by the proposed works, beyond which any potential impacts that may arise would be expected to reduce naturally with increasing distance from the source as a result of dispersion and dilution processes within the receiving water environment.

Desk study

16.5.4 A high-level, desk-based assessment has been undertaken using publicly available spatial data under the Open Government Licence and from open sources including the EA. Data were accessed and downloaded in January 2026. The list of sources used is as follows:

- EA Catchment Data Explorer[32];
- Online Ordnance Survey (OS) maps[33];
- Defra MAGIC maps[34];
- British Geological Survey (BGS) Geology Map Viewer[35];
- BGS GeoIndex (onshore)[36];
- Envirocheck Groundsure Location Intelligence (Volume 3, Appendix 6.2 Ground conditions baseline data of this ES);
- EA Public Registers website – Environmental Permitting Regulations – Discharges to water and groundwater[37];
- Land Information System – Soilscapes soil types viewer[38];
- EA Statutory Main River Map[39]; and
- EA Water Quality Explorer[40].

Surveys

16.5.5 A site walkover survey was undertaken in June 2026 during fair, dry conditions to collect information on baseline environmental conditions and watercourse characteristics within the study area.

16.5.6 Additional site walkover and MorPH surveys are scheduled for September 2026 and will be used in future iterations of the ES to understand watercourse characteristics.

Determining value

16.5.7 The identified receptors have been assigned a value based on the methodology set out in the DMRB LA 113 Table 3.70. The criteria for assigning value to the receptors is shown in Table 16-3. Additional examples have been added where considered appropriate to aid the assignment of importance. Where the information in Table 16-3 is unavailable or unknown (e.g. Q95 river flow data), the desk-based assessment, survey data and professional judgement have been used to determine importance. In these instances, a precautionary approach has been adopted.

[32] Environment Agency (2025) Catchment Data Explorer. Available at: https://environment.data.gov.uk/catchment-planning/
[33] Ordnance Survey (2025) Open Data Downloads. Available at: https://osdatahub.os.uk/data/downloads/open
[34] Natural England (2026) MAGIC: Multi-Agency Geographic Information for the Countryside. Available at: https://magic.defra.gov.uk/home.htm
[35] British Geological Survey (2026) BGS Geology Viewer. Available at: https://geologyviewer.bgs.ac.uk/?_ga=2.98919197.222224049.1769759700-276765387.1769759700
[36] British Geological Survey (2026) GeoIndex. Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.248068295.1977737646.1770292455-2108948675.1770292455
[37] Environment Agency (2026) Water Discharge Consents Public Register. Available At: https://environment.data.gov.uk/public-register/view/search-water-discharge-consents
[38] Cranfield University (2020) Soilscapes Viewer. Available at: https://portal.landis.org.uk/
[39] Environment Agency (2025) Statutory Main River Map. Available at: https://www.data.gov.uk/dataset/4ae8ba46-f9a4-47d0-8d93-0f93eb494540/statutory-main-river-map
[40] Environment Agency (2026) Water Quality Explorer. Available at: https://environment.data.gov.uk/water-quality-beta

Table 16-3 Criteria for determining the value of water environment receptors[41]

Value	Receptor	Criteria
Very high	Surface water	Nationally significant attribute of high importance. Watercourse having a Water Framework Directive (WFD) classification shown in a river basin management plan (RBMP) and a Q95 ≥ 1.0 m^3 / s. Site protected / designated under European Commission (EC) or UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water) / Species designated by European Commission (EC) legislation.
	Groundwater	Principal aquifer providing a regionally important resource and / or supporting a site protected under EC and UK legislation LA108. Groundwater locally supports Groundwater Dependent Terrestrial Ecosystem (GWDTE.) Source Protection Zone (SPZ)1.
High	Surface water	Locally significant attribute of high importance. Watercourse / attribute of moderate to good quality or rarity. Watercourse having a WFD classification shown in an RBMP and a Q95 < 1.0 m3 / s. Species protected under EC or UK legislation LA 108.
	Groundwater	Principal aquifer providing a locally important resource or supporting a river ecosystem. Groundwater locally supports a GWDTE. SPZ2.
Medium	Surface water	Watercourse / attribute of moderate quality or rarity. Watercourse is assumed to be natural with ecosystem value. Watercourse not having a WFD classification shown in a RBMP.
	Groundwater	Aquifer providing water for agricultural or industrial use with limited connection to surface water. SPZ3.
Low	Surface water	Watercourse with a lower quality. Watercourse is assumed to be modified/artificial e.g., via straight ditches. Watercourse not having a WFD classification shown in a RBMP.
	Groundwater	Unproductive groundwater.

[41] DMRB (2020) LA 108 – Biodiversity. Available at: https://www.standardsforhighways.co.uk/search/af0517ba-14d2-4a52-aa6d-1b21ba05b465

Impact assessment

Determining impact magnitude

16.5.8 Impacts have been identified by considering the potential interaction of activities, plant, and infrastructure with surface water and groundwater receptors during construction, operation, and decommissioning of the Scheme. Where a potential impact is identified, the ability to mitigate the impact through the embedded mitigation is considered and the identified mitigation measures stated.

16.5.9 The mitigated impact is then assigned a magnitude based on the criteria in Table 16-4. It should be noted that for both surface water and groundwater the criteria have been adapted to suit the development purposes and capacity of assessment at this stage. As such, the guidance and other criteria such as an assessment of available EA water quality data will be applied. Magnitude of impact can be both positive (beneficial) and negative (adverse).

Table 16-4 Criteria for determining magnitude of impact on a receptor

Impact magnitude*	Receptor	Criteria
Major	Results in loss of attribute and / or quality and integrity of the attribute.	
	Surface Water	▪ Extensive change to a fishery. ▪ Loss of regionally important public water supply. ▪ Extensive change to a designated nature conservation site. ▪ Change in water body WFD classification.
	Groundwater	▪ Extensive change to an aquifer. ▪ Loss of regionally important water supply. ▪ Extensive change to GWDTE or baseflow. ▪ Change in water body WFD classification. ▪ Change to major structures through subsidence or similar effects.
Moderate	Results in effect on integrity of attribute or change of part of attribute.	
	Surface Water	▪ Partial change in productivity of a fishery. ▪ Change to regionally important public water supply or major commercial / industrial / agricultural supplies. ▪ Impact to the watercourse at a reach scale but unlikely to cause change in quality element at catchment scale.
	Groundwater	▪ Partial change to an aquifer. ▪ Change to regionally important public water supply or significant commercial/ industrial / agricultural supplies. ▪ Partial change to the integrity of GWDTE. ▪ Contribution to a change in water body WFD classification. ▪ Damage to major structures through subsidence or similar effects of minor structures.
Minor	Results in some measurable change in attributes, quality or vulnerability.	
	Surface Water	▪ Impact to WFD quality element which will not cause catchment scale change but will cause permanent impact on a localised scale. ▪ Minor effects on water supplies.
	Groundwater	Annually minor effects on an aquifer, GWDTEs, abstractions and structures.
Negligible	Results in effect on attribute, but of insufficient magnitude to affect the use or integrity.	
	Surface Water	Impact to WFD quality element expected at a localised and temporary scale.

Impact magnitude*	Receptor	Criteria
	Groundwater	Impact to WFD quality element expected at a localised and temporary scale.
No change	Surface Water and groundwater	No alteration of characteristics, features or elements; no observable impact in either direction.

Determining effect significance

16.5.10 The assessment of the likely significant effects is qualitative, and will consider the construction, operational and decommissioning phases, as well as cumulative effects with other developments. Using the receptor value and magnitude of impact categories outlined above, Table 16-5 sets out the matrix used to determine the significance of effect. Significant effects typically comprise residual effects that are within the moderate, large or very large categories.

16.5.11 As per the guidance in DMRB LA 104, where two significance categories are included in the matrix below, a single significance category will be selected using professional judgement and supported by evidence.

Table 16-5 Significance of effect

Receptor value	Impact magnitude: Major	Moderate	Minor	Negligible	No change
Very High	Very Large	Very Large or Large	Large or Moderate	Slight	Neutral
High	Very Large or Large	Large or Moderate	Moderate or slight	Slight	Neutral
Medium	Large or Moderate	Moderate or Slight	Slight	Slight or Neutral	Neutral
Low	Moderate or Slight	Slight	Slight or Neutral	Slight or Neutral	Neutral
Negligible	Slight	Slight or Neutral	Slight or Neutral	Neutral	Neutral

16.6 Baseline conditions

Surface water (quality, quantity and hydromorphology)

16.6.1 The study area sits within the Severn River Basin District and falls within six WFD river water body catchments as shown in Volume 2, Figure 16.2 Waterbodies and watercourses of this ES. The WFD river water bodies are listed below, with their relation to the study area, as well as the operational catchment they sit within:

- Avon - Midlands West Operational Catchment:

16.6.2 Littleton Brook (Bk) – Source to confluence (conf) Bretforton Bk Water Body: The catchment sits in the southwest of the study area with only a small portion overlapping. The WFD river water body flows from south to north in a small section of the study area.

16.6.3 Piddle Bk – Source to conf Whitsun Bk Water Body: The catchment is located in the northwest, with the river water body running mostly east to west across the study area.

16.6.4 Bow Bk – Source to Lett's Mill Water Body: The catchment is located in the north of the study area. The WFD river water body runs west to east across a small section the study area.

- Avon Rural Rivers and Lakes Operational Catchment:

16.6.5 Avon – Tramway Bridge (Br) Stratford to Workman Br Evesham Water Body: The study area is split by the river water body, which flows from Stratford-upon-Avon to Evesham, in a northeast to southwest direction.

16.6.6 Noleham Bk – Source to conf River (R) Avon Water Body: The catchment is located in the southeast of the study area and joins the River Avon from the south.

- Avon Urban Rivers and Lakes Operational Catchment:

16.6.7 Arrow – conf R Alne to conf R Avon Water Body: The catchment sits within the centre of the study area and runs south from Alcester to join Avon – Tramway Br Stratford to Workman Br Evesham Water Body.

16.6.8 Volume 2, Figure 16.1 Discharges and abstractions shows the 1 km study area in relation to the WFD river water body catchments.

16.6.9 These WFD designated reaches, defined as the main reach within each water body catchment (as shown in Volume 2, Figure 16.2 Waterbodies and watercourses) are all deemed Main Rivers, which fall under the legal powers of the Environment Agency39. These six WFD designated reaches have been named by their watercourse (Main River) titles and been given a unique watercourse ID, separate to the water body catchment ID32. This can be seen in Table 16-6 , which provides their current WFD status, their Reason for Not Achieving Good (RNAG) status and corresponding Objectives as shown in the Environment Agency Catchment Data Explorer32. It is noted that all six water bodies are not deemed artificial or heavily modified.

Table 16-6 Summary of surface water catchment WFD status, RNAG, and Objective

Water body ID	Watercourse name and ID	WFD Status	(Cycle 3*) Ecological	Chemical	RNAG	Objective
Bow Bk – source to Lett's Mill Water Body (GB109054043820)	Bow Brook (WC1000)	Moderate	Moderate	Fail	Macrophytes and Phytobenthos Combined	Good by 2015
					Phosphate	Good by 2027 (Disproportionate burdens)
					Mercury and Its Compounds	Good by 2040 (Chemical status recovery time)
					Polybrominated diphenyl ethers (PBDE)	Good by 2063 (Chemical status recovery time)
Piddle Bk – source to conf Whitsun Bk Water Body (GB109054043700)	Piddle Brook (WC2000)	Moderate	Moderate	Fail	Dissolved Oxygen	Good by 2015
					Phosphate	Good by 2027 (Disproportionate burdens)
					Perfluorooctane sulphonate (PFOS)	Good by 2039 (No known technical solution is available)
					Mercury and Its Compounds	Good by 2040 (Chemical status recovery time)
					PBDE	Good by 2063 (Chemical status recovery time)
Arrow – conf R Alne to conf R Avon Water Body (GB109054043680)	River Arrow (WC3000)	Moderate	Moderate	Fail	Phosphate	Good by 2027 (Disproportionate burdens)
					PFOS	Good by 2039 (No known technical solution is available)
					Mercury and Its Compounds	Good by 2040 (Chemical status recovery time)
					PBDE	Good by 2063 (Chemical status recovery time)
Avon – Tramway Br Stratford to Workman Br Evesham Water Body (GB1090540444401)	River Avon (WC4000)	Moderate	Moderate	Fail	Phosphate	Good by 2027 (Disproportionate burdens)
					PFOS	Good by 2039 (No known technical solution is available)
					Mercury and Its Compounds	Good by 2040 (Chemical status recovery time)
					PBDE	Good by 2063 (Chemical status recovery time)
Noleham Bk – source to conf R Avon Water Body (GB109054039470)	Noleham Brook (WC5000)	Moderate	Poor	Fail	Invertebrates	Good by 2021 (Disproportionate burdens)
					Phosphate	Good by 2027 (Disproportionate burdens)
					PFOS	Good by 2039 (No known technical solution is available)
					Mercury and Its Compounds	Good by 2040 (Chemical status recovery time)

Water body ID	Watercourse name and ID	WFD Status	(Cycle 3*) Ecological	Chemical	RNAG	Objective
					PBDE	Good by 2063 (Chemical status recovery time)
Littleton Bk – source to conf Bretforton Bk Water Body (GB109054039430)	Littleton Brook (WC6000)	Moderate	Moderate	Fail	▪ Phosphate ▪ Dissolved oxygen ▪ Macrophytes and Phytobenthos Combined	Good by 2027 (Disproportionate Burdens)
					Mercury and Its Compounds	Good by 2040 (Chemical status recovery time)
					PBDE	Good by 2063 (Chemical status recovery time)
* The table includes 2022 Ecological Status, but the assessment uses the 2019 Overall and Chemical Status because no Overall Status was reported for 2022, and all water bodies were classified as 'Does not require assessment' for Chemical Status.						

16.6.10 In addition to the six Main Rivers, 106 Ordinary Watercourses have been identified through Ordnance Survey and background mapping within the 1 km study area. Ordinary Watercourses are defined as *"every river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows and which does not form part of a Main River"*[4]. Ordinary Watercourses come under the remit of Internal Drainage Boards (IDBs) or Lead Local Flood Authority (LLFA), in this case, Warwickshire Country LLFA and Worcestershire County LLFA[42]. There are no IDBs in the study area.

16.6.11 Of the 106 Ordinary Watercourses, seven are named, as follows (with their watercourse ID in brackets):

- Hay Brook (WC3510);
- Whitsun Brook (WC2100);
- Brandon Brook (WC1200);
- Small Brook (WC4300);
- Gate Inn Brook (WC6400);
- Honey Brook (WC6420); and
- Ban Brook (WC3900).

16.6.12 The Ordinary Watercourses can be seen in Volume 2, Figure 16.1 Discharges and abstractions, and the seven named Ordinary Watercourses are labelled within the study area.

Surface water quality monitoring

16.6.13 Environment Agency water quality data has been obtained from Water Quality Explorer40 for sampling locations within the study area, as shown in Volume 2, Figure 16.1 Discharges and abstractions. The sampling locations represent the water quality of the watercourses within the study area, with monitoring sites in each of the six Main Rivers, as well as three of the named Ordinary Watercourses.

16.6.14 Sampling locations have been included where data for some parameters, but not all, is available from the last 10 years. Where a sampling location has no data from the last 10 years, these sites have not been included in the data analysis. Analysis of data outside of this time period may not be relevant due to localised changes. Furthermore, water quality data has only been included where it is from a surface water body; any other monitoring site (e.g., Treatment Works) has been removed. It is to note that whilst the baseline conditions assessment focuses on watercourses within the study area (1 km), professional judgement has been used to include some sampling locations that were located marginally outside the study area. This was to give the best representation of the baseline water quality conditions.

16.6.15 The monitoring points included for assessment are summarised in Table 16-7.

[42] UK Government (2025) IBD and LLFA Map. Available at: https://assets.publishing.service.gov.uk/media/60ca0e26e90e0743ae8c2997/Groundwater_flood_risk_management_in_England_-_appendix_D.pdf

Table 16-7 EA water quality monitoring sites located on key surface water receptors

Site	Watercourse name	Watercourse ID	EA Descriptor
MD-04782020	River Avon	WC4000	RIVER AVON LOWER BIDFORD
MD-06114820	Bow Brook	WC1000	BOW BROOK BUNKERS HOLE
MD-07716050	Littleton Brook	WC6000	LITTLETON BROOK DS BLACKMINSTER
MD-08017220	River Arrow	WC3000	ARROW RIVER SALFORD PRIORS
MD-08017430	River Arrow	WC3000	ARROW RIVER WIXFORD
MD-09253100	Noleham Brook	WC5000	NOLEHAM BROOK WELFORD PASTURES
MD-08036030	Ban Brook	WC3900	BAN BROOK A435 BR SALFORD PRIORS
MD-SSN1311	Small Brook	WC4300	SSN1311 SMALL BROOK, BIDFORD-ON-AVON
MD-06363050	Brandon Brook	WC1200	BRANDON BROOK US CONF BOW BROOK

16.6.16 Summarised EA water quality data relating the physico-chemical elements are presented in Table 16-8. These data are put into context using WFD standards; these standards do not aim to assess the overall status of the watercourse, rather provide an indication of the water quality of the watercourse.

16.6.17 The data presented are the percentiles respective to that element's WFD standard. This shows that Ammoniacal Nitrogen, Temperature and pH generally meet Good status or above, whilst Dissolved Oxygen is less than Good status at Littleton Brook, Noleham Brook and Small Brook. Orthophosphate is only Good status at Ban Brook, with the remaining eight locations less than Good. It is to note that the monitoring data are indicative and are used to assist in defining receptor value, rather than define absolute water quality in each watercourse. As such, comparison to WFD standards should be used as a guide only.

Table 16-8 EA water quality data – physico-chemical

Percentile*		90th	10th	Average	98th	5th – 95th
Site	Watercourse	Ammoniacal Nitrogen as N (mg/l)	Dissolved Oxygen (% saturation)	Orthophosphate (reactive as P µg/l)	Temperature (C)	pH
MD-04782020	River Avon	0.17	87.72	192.37	20.80	7.74 - 8.27
MD-06114820	Bow Brook	0.08	87.75	159.02	17.22	7.78 - 8.37
MD-07716050	Littleton Brook	0.52	40.00	259.75	18.39	7.47 - 8.15
MD-08017220	River Arrow	0.20	84.40	431.36	22.44	7.86 - 8.35
MD-08017430	River Arrow	0.24	92.15	394.47	18.96	7.80 - 8.28
MD-09253100	Noleham Brook	0.22	59.80	261.43	17.30	7.69 - 8.13
MD-08036030	Ban Brook	0.08	85.46	78.24	17.21	7.92 - 8.32
MD-SSN1311	Small Brook	0.04	80.63	240.00	16.97	7.69 - 8.13
MD-06363050	Brandon Brook	0.07	75.93	702.94	14.60	7.54 - 8.05
	*Percentile of data to which the respective elements' WFD is based on. Key: High | Good | Moderate | Poor | Bad					

Surface water abstractions and discharges

16.6.18 National Grid References (NGR) have been used to establish the location of discharges. Where the grid reference is directly on, or next to, a watercourse, it is assumed that this watercourse is the receptor. Where it is unclear, it is assumed the discharge is to ground. There are 10 active discharge permits, assumed to be to surface water, within the study area. These can be seen in Volume 3, Appendix 16.2 Surface water discharge consents and abstractions.

16.6.19 Based on Volume 3 Appendix 6.2 Ground conditions baseline data[43], there are 17 surface water abstraction licenses within the study area. Details of these permits' NGR and associated watercourse can be seen in Volume 3, Appendix 16.2 Surface water discharge and abstractions consents.

Ponds, lakes and other surface water features

16.6.20 Lakes are defined as man-made or natural standing water bodies greater than 2 ha with ponds being less than 2 ha[44]. There are no WFD designated lakes within the 1 km study area.

16.6.21 There are over 50 ponds located throughout the study area, as shown in Volume 2, figure 8.2 Priority Habitats and veteran trees. The exact number and connectivity of the ponds will be confirmed following site walkovers and quoted in the final version of the ES. Two of note are in the centre of Site 2 associated, with the sub-Site 2(d)'s former use as a quarry. These ponds are disconnected from any surface watercourses and have also been discussed in Volume 1, Chapter 8 Ecology and biodiversity.

Designated sites

16.6.22 No Special Area of Conservation (SAC), Special Protection Areas (SPA) or Ramsar sites are located within the study area.

16.6.23 There are two Sites of Special Specific Interest (SSSI) in the study area, one of which is Broom Railway Cutting, which is located 500 m south of Broom. This is in favourable condition and has no water pressures or dependencies.

[43] Groundsure Location Intelligence British Geological Survey and Environment Agency Data. 2025

[44] Williams et al. (2023) The Pond Book: A Guide to Management and Creation of Ponds. 2nd Edition. Freshwater Habitats Trust. Available at: https://www.nhbs.com/the-pond-book-book

16.6.24 The other is Wylde Moor, Feckenham SSSI which is located 900m south of Feckenham. This has numerous features with condition statuses from Unfavourable – declining to Favourable. However, it too has no water pressures or dependencies.

16.6.25 The study area is located within the impact zone of multiple SSSIs, including Long Meadow, Thorn, Stock Wood Meadows, Windmill Hill and Rockery Cottage Meadows. Stock Wood Meadows is cited as having two streams running through the SSSI, though these are not hydrologically connected to the study area. The remaining SSSIs do not have water pressures or dependencies and as such are not considered further within this chapter.

16.6.26 There are no National Nature Reserves (NNRs) within the study area. Cleeve Prior Bank Local Nature Reserve (LNR) is located within the study area near North Littleton. It has no water pressures or dependencies.

16.6.27 The River Avon and its tributaries are designated as a Local Wildlife Site (LWS), as well as the River Arrow within the study area.

16.6.28 There are no Drinking Water Protected Areas within the study area.

16.6.29 The only designated sites within the study area have no water pressures or dependencies, nor are they hydrologically connected to any of the watercourses within the study area. Therefore they have not been assessed any further in this chapter as the impact of the Scheme is unlikely to change these sites' condition, based on their water aspects.

16.6.30 More detail on these sites can be found in Volume 1, Chapter 8 Ecology and biodiversity.

Groundwater

16.6.31 According to the BGS 1:625,000 mapped geology36 there is moderate superficial deposit coverage present within the central part of the study area. The superficial deposits comprise Alluvium consisting of clay, silt, sand and gravel. In addition, River Terrace Deposits, comprising sand and gravel with localised lenses of silt, clay, or peat, are also present within the area. No superficial deposits are recorded in the northern or southern parts of the study area. With respect to the bedrock geology, the southern part of the study area is underlain by the Lias Group, comprising mudstone, siltstone, limestone and sandstone. The northern section is underlain by Triassic Rocks (Undifferentiated), comprising mudstone, siltstone and sandstone.

16.6.32 The study area is underlain by areas of Secondary A superficial aquifer associated with the Alluvium deposits. Secondary A aquifers are defined as "*permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers*"36. A smaller area of Secondary (undifferentiated) aquifer is also present within the northern section of the study area. This is described as "*aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value*."

16.6.33 The study area is predominantly underlain by Secondary B and Secondary (Undifferentiated) bedrock aquifers, with a smaller area of Secondary A bedrock aquifer present in the northern part of the study area. Secondary B aquifers are defined as "*predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering*".

16.6.34 Further detail, particularly regarding local geology, can be found in Volume 1, Chapter 6 Ground conditions and contamination.

16.6.35 The superficial and bedrock geology underlying the study area can be seen in Volume 2, Figure 6.2 Geology – superficial deposits and Volume 2, Figure 6.3 Geology – bedrock respectively.

16.6.36 The Warwickshire Avon – Secondary Mudrocks groundwater catchment (GB40902G990900)32 covers the entirety of the study area, as shown in Volume 2, Figure 6.3 Geology – bedrock. The details of the status of this groundwater body are set out in Volume 3, Appendix 16.3 Ground water abstractions and lithological descriptions, Table 3-1. For the catchment identified, the overall status is Good.

16.6.37 There is a single site with groundwater dependent terrestrial ecosystems (GWDTE) within the study area: Wylde Moor, Feckenham SSSI.

16.6.38 Based on the desk-based sources of information outlined in section 16.5.4 above, there is no site-specific information on groundwater levels and flow direction within the study area.

16.6.39 In the absence of site-specific groundwater level and flow data, a precautionary approach has been adopted for the purposes of the assessment. At this stage, a potential connectivity with the SSSI is assumed. This represents a worst-case scenario and ensures that potential effects are considered. As further information becomes available through ground investigation and design development, the understanding of groundwater connectivity will be refined and the assessment updated as necessary.

Groundwater abstractions and discharges

16.6.40 As mentioned above for surface water abstractions and discharges, if discharge grid references are not on or next to a watercourse, it is assumed the discharge is to groundwater. Under this premise, there are 13 groundwater discharge permits in the study area. These can be seen in Volume 3, Appendix 16.3 Ground water abstractions and lithological descriptions.

16.6.41 Based on Volume 3 Appendix 6.2 Ground conditions baseline data, there are 11 groundwater abstraction licences within the study area. Details of permits, NGR and associated watercourse can be seen in Volume 3, Appendix 16.3 Ground water abstractions and lithological descriptions.

16.6.42 The dataset presented includes only current licences/permits. Duplicates and revoked licences/permits are excluded on the assumption that they are no longer relevant/active. The collation of private water supply information is ongoing and will be completed prior to finalisation of the ES. As the assessment process is iterative, any private water supplies identified will be included within the baseline and assessed as appropriate.

16.6.43 There is currently no available site-specific information on groundwater levels and flow directions in the study area, as ground investigation has not yet been undertaken. For the purpose of this preliminary assessment, publicly available data have been used to identify potential groundwater receptors and impact pathways. Ground investigation data will be incorporated into the assessment when it becomes available, with the assessment refined where necessary. This approach is considered proportionate at the current stage of design.

16.6.44 There are no SPZ within the study area[34]. There are no Drinking Water Safeguard Zones within the study area.

Embedded mitigation

16.6.45 The development of the water environment assessment for the Scheme has taken into consideration the embedded mitigation as defined in Volume 1, Chapter 2 Scheme description, Section 2.7 of this ES and design evolution outlined in Volume 1, Chapter 4 Consideration of alternatives of this ES. For water environment this includes:

- E-LV.5 - Aligning the cable route away from sensitive features;
- E-B.2 - Minimisation of the creation of new watercourse or ditch crossings;
- E-B.4 - Buffer zones between sensitive environmental features and the developable area;
- E-WE.1 - Trenchless cable installation (HDD) for Cable Route Corridor (CRC) installation;
- E-WE.3 - Sediment retention mechanisms/ Energy dissipation measures;
- E-WE.4 - Softer bioengineered solutions for bed/bank protection; and
- E-WE.5 - Avoidance of permanent watercourse realignment/ diversions

Receptor value

16.6.46 Table 16-9 provides a summary of the receptors assessed within the water environment chapter.

Table 16-9 Receptor value

Receptor	Description	Sensitivity
Bow Brook (WC1000)	Main River which is WFD designated. It is not nationally significant, nor does it hydrologically connect to any sites under UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water). EA water quality data shows physico-chemical elements mostly achieve Good or High status, with only Orthophosphate failing to achieve Good.	High
Piddle Brook (WC2000)	Main River which is WFD designated. It is not nationally significant, nor does it hydrologically connect to any sites under UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water). There is no EA water quality data available for this watercourse and thus, it has been assigned a value based on its WFD status.	High
River Arrow (WC3000)	Main River which is WFD designated. It is not nationally significant, nor does it hydrologically connect to any sites under UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water). EA water quality data shows physico-chemical elements mostly achieve Good or High status, with only Orthophosphate failing to achieve Good.	High
River Avon (WC4000)	Main River which is WFD designated. It is not nationally significant, nor does it hydrologically connect to any sites under UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water). EA water quality data shows physico-chemical elements mostly achieve Good or High status, with only Orthophosphate failing to achieve Good.	High

Receptor	Description	Sensitivity
Noleham Brook (WC5000)	Main River which is WFD designated. It is not nationally significant, nor does it hydrologically connect to any sites under UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water). EA water quality data shows physico-chemical elements mostly achieve Good or High status, with Dissolved Oxygen and Orthophosphate failing to achieve Good.	High
Littleton Brook (WC6000)	Main River which is WFD designated. It is not nationally significant, nor does it hydrologically connect to any sites under UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water). EA water quality data shows some physico-chemical elements achieve Good or High status such as Ammoniacal Nitrogen, however it is only 0.08mg/l off the Moderate Ammoniacal Nitrogen threshold. Dissolved Oxygen and Orthophosphate fail to achieve Good.	High
Brandon Brook (WC1200)	Ordinary Watercourse that is assumed to be natural with ecosystem value however it is not WFD designated. EA water quality data shows Orthophosphate is failing to achieve Good. It is assumed that flow is greater than 0.001 m^3/s.	Medium
Whitsun Brook (WC2100)	Ordinary Watercourse that is assumed to be natural with ecosystem value however it is not WFD designated. There is no EA water quality data available for this watercourse. It is assumed that flow is greater than 0.001 m^3/s.	Medium
Hay Brook (WC3510)	Ordinary Watercourse that is assumed to be natural with ecosystem value however it is not WFD designated. There is no EA water quality data available for this watercourse. It is assumed that flow is greater than 0.001 m^3/s.	Medium
Ban Brook (WC3900)	Ordinary Watercourse that is assumed to be natural with ecosystem value however it is not WFD designated. EA water quality data shows all available physico-chemical elements have achieved Good status or higher. It is assumed that flow is greater than 0.001 m^3/s.	Medium
Small Brook (WC4300)	Ordinary Watercourse that is assumed to be natural with ecosystem value however it is not WFD designated. EA water quality data shows physico-chemical elements mostly achieve Good or High status with only Orthophosphate failing to achieve Good. It is assumed that flow is greater than 0.001 m^3/s.	Medium
Gate Inn Brook (WC6400)	Ordinary Watercourse that is assumed to be natural with ecosystem value however it is not WFD designated. There is no EA water quality data available for this watercourse. It is assumed that flow is greater than 0.001 m^3/s.	Medium
Honey Brook (WC6420)	Ordinary Watercourse that is assumed to be natural with ecosystem value however it is not WFD designated. There is no EA water quality data available for this watercourse. It is assumed that flow is greater than 0.001 m^3/s.	Medium
Unnamed Ordinary Watercourses	Ordinary Watercourses that are assumed to be natural with ecosystem value however not WFD designated. There is no EA water quality data available for these watercourses. As a precautionary approach, it is assumed that flow is greater than 0.001 m^3/s.	Medium
Ponds	The ponds located within the study area are assumed to be natural, however they are not WFD designated.	Medium
Groundwater within bedrock geology	Secondary A, Secondary B and Secondary (Undifferentiated) bedrock aquifers are located within the study area and are considered to be of local hydrogeological significance.	High
Groundwater within superficial geology	Secondary A and Secondary (undifferentiated) superficial aquifers are located within the study area and are considered to be of local hydrogeological significance.	High

Arrow Valley Solar