

Griffiths

Treborth WwTW

Preliminary Water Framework Directive Compliance Assessment

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1. Introduction

1.1 Project background

This report comprises a Preliminary Water Framework Directive (WFD) Compliance Assessment report prepared by Arup on behalf of Griffiths to support Dŵr Cymru Welsh Water on the Treborth WwTW Scheme.

The Treborth Menai Ville scheme involves remedial works to an existing Dŵr Cymru Welsh Water (DCWW) gravity sewer located near St George's Road, Menai Bridge, Anglesey (NGR 255907, 372286). The purpose of the project is to repair and extend the operational life of the sewer infrastructure by installing an internal liner within existing combined sewer pipes and addressing any structural defects identified during inspection. This will include the replacement of a non-return valve at a pumping station outfall, to prevent saline/tidal backflow into the pumping station and sewer network.

The works focus on a short section of sewer network between four existing manholes (MH1–MH4) and a downstream pumping station. The sewer sections include 375 mm diameter and 600 mm diameter pipes, which will be rehabilitated by inserting a liner inside the existing pipes rather than replacing them, thereby reducing excavation and disruption.

The project aims to:

- Repair defects in an existing combined sewer serving the Menai Bridge area.
- Improve the structural integrity and hydraulic performance of the pipework.
- Reduce the risk of leakage, infiltration or sewer failure.
- Extend the operational lifespan of the sewer network while minimising excavation works.

1.2 Purpose of this report

This assessment identifies the potential effects of the proposed scheme on the current status and status objectives of water bodies present at the Site. The key objectives of the assessment are to:

- identify the relevant water bodies that may be affected by the proposed scheme and collate the available baseline information.
- identify relevant scheme components with the potential to affect the water bodies at the Site, together with any embedded mitigation measures integrated into the current design.
- undertake a preliminary scoping assessment to identify the baseline condition at the Site and the likely impacts of the proposed scheme on the current status and status objectives of the relevant waterbodies (including identification of any additional mitigation requirements);
- identify any risks of non-compliance with waterbody objectives and associated requirements for further detailed impact assessment and/or mitigation design; and
- identify potential enhancement opportunities to support the delivery of waterbody objectives.

The report summarises the proposed scheme and the assessment methodology and results. The assessment has been undertaken in accordance with relevant guidance (see Appendix A) and has involved a desk-based study using readily available baseline information and existing available site information.

The WFD compliance assessment comprises a 'living document' and will be reviewed and updated as necessary in liaison with Natural Resources Wales (NRW) to support the consents and approvals process.

1.3 Other supporting environmental reports

Other relevant environmental baseline and impact assessment reports produced to date to support the optioneering for the proposed scheme are listed below and are cross-referenced as part of this assessment:

- Marine License (B17575-102503-ZZ-ZZ-LI-NA-EI1204);
- Habitats Regulations Assessment (HRA) Screening (B17575-102503-ZZ-ZZ-RP-NB-EI1200);
- Environmental Constraints Maps (B17575-102503-ZZ-ZZ-DR-NB-EI1203);
- Construction Environmental Management Plan (CEMP) (B17575-111813-ZZ-ZZ-RP-NA-EI1205); and
- Risk Assessment & Method Statement No. AGMS 001 (B17575-111813-ZZ-ZZ-FT-OC-CS1206) and SSOW 004.

2. Legislative context

The Water Environment (Water Framework Directive) (England and Wales) Regulations (amended 2017) (WER) is currently the largest and most influential piece of UK legislation for the water environment and transposes the European Commission WFD into English and Welsh law. NRW is the competent authority responsible for delivering the requirements of the WFD (as transposed) in Wales.

The legislation takes an integrated approach to the sustainable management of water by considering the interactions between surface water, groundwater and water-dependent ecosystems.

Under the WER, water bodies are the basic management units and are defined as all or part of a river system or aquifer. These water bodies form part of a larger River Basin District (RBD), for which River Basin Management Plans (RBMPs) are developed and environmental objectives are set. These RBMPs are produced every six years, in accordance with the river basin management planning cycle.

The WER requires classification of the current condition of water bodies. This is referred to as their ‘status’ or, for artificial or heavily modified water bodies, their ‘potential’. The WER also requires the setting of a series of objectives for maintaining or improving conditions so that water bodies reach and/or maintain at least ‘Good’ overall status or potential. These overall Environmental Objectives are to:

- Prevent the deterioration in the status of aquatic ecosystems, protect them and improve the ecological condition of waters.
- Aim to achieve at least ‘Good’ status for all water bodies by 2015. Where this has not been possible and is subject to the criteria set out in the Directive, aim to achieve Good status by 2021 or 2027.
- Meet the requirements of WFD Protected Areas.
- Promote sustainable use of water as a natural resource.
- Conserve habitats and species that depend directly on water.
- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment.
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants.
- Contribute to mitigating the effects of floods and droughts.

All new (and on-going) activities in the water environment need to be guided by the requirements of the WER. This includes ensuring that no changes occur that causes a deterioration of current status of a water body or prevents the achievement of the future status objectives of a water body.

Further details regarding the water body status classification process, the requirements of WER Compliance Assessments, and relevant guidance is provided in Appendix A of this report.

3. Assessment methodology

3.1 Scope of assessment

WFD Compliance Assessments typically comprise a stepped process undertaken in parallel with the design development for a proposed scheme. This includes the following key steps:

- Screening assessment;
- Scoping assessment;
- Detailed impact assessment (where required); and
- Application of Article 4.7 / Regulation 19 (where applicable).

These key process steps are described in Appendix A2 of this report.

This report comprises an updated screening and scoping assessment to support the outline design stage of the proposed scheme. The assessment is structured to align with NRW's OGN 72 guidance¹.

The spatial scope of the assessment includes all designated surface water and groundwater bodies potentially affected by the proposed scheme. The assessment considers the potential impacts of the proposed scheme on the relevant quality elements associated with the water bodies affected, at the water body scale.

The assessment focuses on the permanent impacts of the proposed scheme. Temporary impacts are not considered to result in a deterioration in WFD status and so have not been considered within the assessment in accordance with current guidance. In this sense, impacts are not considered to result in a deterioration of the status if the water body:

- is only impacted for a short time period;
- is likely to recover within a short time period;
- is likely to recover without the need for any restoration measures.

3.2 Data sources

The following datasets and resources are readily available online and have been collated to support this assessment:

- Datasets held on NRW's Water Watch Wales portal, principally Cycle 3 Rivers and Waterbodies Interim 2024 data and Protected Areas²;
- The British Geological Society (BGS) Geology Viewer³; and
- Designated Site information from Multi-Agency Geographic Information for the Countryside (MAGIC) maps⁴.

¹ Natural Resources Wales. 2020. OGN72: Complying with the Water Framework Directive: how to assess and appraise projects and activities.

² NRW (2024). Water Watch Wales. Water Watch Wales Map Gallery. Available at: <https://waterwatchwales-nrw.hub.arcgis.com/> (Accessed February 2026)

³ BGS (n.d.). BGS Geology Viewer. Available at: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/> (Accessed February 2026)

⁴ DEFRA (n.d.). MAGIC. Available at: <https://magic.defra.gov.uk/> (Accessed February 2026)

4. Study Site

4.1 Site location

The Site is located in Menai Ville, Bangor (National Grid Reference (NGR): SH 55917 72277). It is adjacent to the shoreline at the north-western corner of Menai Ville road, facing Ynys Tobig island.

4.2 Site description

4.2.1 Geology

The BGS 1:50,000 scale mapping indicates that the Site overlays metabasaltic rock, semipelite and psammite metamorphic rock from the Pen-y-Parc Formation. These were formed during the Ediacaran Period (Pre-Cambrian).

The superficial geology consists of intertidal deposits of clay, silt and sand. They are detrital, generally coarse-grained forming beaches and bars in a coastal setting. These were formed during the Quarternary Period.

4.2.2 Topography

The Site is located adjacent to the shoreline, with an approximate elevation range of 5m-10m Above Ordnance Datum (AOD).

4.2.3 Land use

The area surrounding the Site is partly intertidal and marine environment, and partly urban with predominately residential, along with mixed commercial and recreational land uses.

Gas Works Yard historic landfill site is located 0.6km southwest of Site.

4.2.4 Ecology and biodiversity

Information on ecology and biodiversity can be found on the Environmental Constraints Maps and in the HRA Screening which has been undertaken for the proposed scheme. The HRA Screening includes information about protected areas, sensitive habitats and sensitive species.

Table 1 presents the WFD Protected Areas that are within or hydrologically connected to the site.

Table 1 WFD Protected Areas

Protected Areas and Critical sensitive habitat/species	Applicable to the Proposed Development?	Further information
Protected Areas		
SACs	Yes	Refer to HRA Screening and Environmental Constraints Maps.
SPAs	Yes	Refer to HRA Screening and Environmental Constraints Maps.
RAMSAR	Yes	Refer to HRA Screening and Environmental Constraints Maps.
Bathing Waters	No	N/A
Shellfish Waters	Yes	Refer to HRA Screening and Environmental Constraints Maps.
Surface Water Drinking Water Protected Areas	No	N/A

Protected Areas and Critical sensitive habitat/species	Applicable to the Proposed Development?	Further information
Protected Areas		
Ground Water Drinking Water Protected Areas	Yes	Refer to HRA Screening.
Urban Waste Water Treatment Directive: designated Nutrient Sensitive Area	Yes	Refer to HRA Screening.
Nitrate Vulnerable Zones	No	N/A
Other Protected and Priority habitats and species		
Nationally or locally protected areas (e.g. SSSI, NNR)	Yes – SSSI within 2km	Refer to HRA Screening and Environmental Constraints Maps. A SSSI Assent will be produced by the Applicant as required.
Section 6 Environment (Wales) Act 2016 - Biodiversity and resilience of ecosystems duty		
Section 7 list of priority habitats (e.g. wetlands)	Yes	Refer to HRA Screening.
Section 7 list of priority species (e.g. water voles)	Yes	Refer to HRA Screening.

4.2.5 Watercourses

The “Menai Strait” catchment (GB681010120000) overlaps with the Site, it is designated as a natural coastal waterbody with Good overall status.

The “Ynys Mon Secondary” catchment (GB41002G204400) underlays the Site, it is designated as a natural groundwater waterbody with Poor overall status.

The “Cadnant” catchment (GB110102058760) is located 0.5km upstream of Site, it is designated as a natural river waterbody with Poor overall status.

The “Braint – upper” catchment (GB110102058690) is located 1.2km upstream of Site, it is designated as a natural river waterbody with Moderate overall status.

The Site is located in the Ynys Mon management catchment in the Western Wales RBD. It is located in the North West Wales NRW operational area.

In addition to WFD water bodies, the “Ynys Môn / Anglesey” opportunity catchment overlays the Site.

5. Proposed scheme

5.1 Project description

As described in Section 1.1, the purpose of the project is to repair and extend the operational life of the sewer infrastructure. The primary construction activity would be the installation of an internal liner within the existing sewer pipes, and the replacement of a non-return valve at a pumping station outfall, to prevent saline/tidal backflow into the pumping station and sewer network.

5.2 Construction phase mitigation

A Construction Environmental Management Plan (CEMP) and Method Statement has been prepared in advance of construction, outlining environmental risks and constraints within the site and will define best practice and mitigation measures required for inclusion within the construction phase work method statements, to ensure compliance with relevant environmental legislation, consents, and approvals.

These documents outline anticipated construction methods, sequencing and environmental risk management. The full construction method statements and risk assessments will be developed at a later stage once further design information is available.

For the basis of this assessment, it is assumed that relevant environmental good practice advice set out in the Pollution Prevention Guidelines (PPG) and its replacement Guidance for Pollution Prevention (GPP) document series will be implemented on site during the construction phase. Key aspects are summarised in the following sections.

5.2.1 Pollution Control

It is assumed that best practice will be adopted in line with GPP 5 to minimise the risk of pollution to nearby water bodies during construction activities.

5.2.2 Spillages

A pollution risk assessment should be carried out for the proposed Site ahead of construction, considering both the storage and transportation of materials used. This would identify potentially hazardous materials or activities and assess the probability and magnitude of potentially harmful effects. From this, a pollution incident response plan (see GPP 21) would be compiled to identify the specific measures needed to reduce the likelihood of a spillage happening, and to minimise the impact of any spills that may occur.

5.2.3 Minimising Disturbance

Appropriate measures should be included within the work method statements to reduce potential environmental impacts of construction activities. This includes measures to:

- minimise the footprint of any in channel works as far as reasonable possible to reduce the degree of physical disturbance of the existing riverbed and banks;
- reinstate any impacted benthic or marginal habitats where necessary; and
- reduce associated noise, vibration, and any artificial lighting impacts where possible.

5.2.4 Biosecurity

Good biosecurity practices are vital for preventing the spread of invasive non-native species (INNS) and pathogens such as waterborne fish diseases. Measures should be adopted to minimise the risk of construction activities leading to the spread of invasive non-native species or pathogens.

To avoid the spread of invasive species the following measures should be adhered to, and detailed within the method statement during construction:

- Contractor's Ecologist to undertake toolbox talks for any INNS prior to works starting. Toolbox talks are to be signed by Contractor on site;
- ensure all site teams are briefed in Check, Clean Dry procedure and will be made aware of any areas on site where INNS are known to be present; and
- avoid working in areas where INNS are present. Where this is not possible, appropriate biosecurity measures are to be adopted.

Any potential additional measures will be specified during the detailed design phase.

6. Baseline

6.1 Overview

A baseline assessment has been undertaken to identify the relevant WFD water bodies affected by the proposed scheme and to collate latest available WFD baseline data, in order to inform a screening and scoping assessment of the likely effects of the scheme on WFD status and objectives.

6.2 Relevant WFD water bodies

The proposed scheme is located in or near the following WFD waterbodies:

- The “Menai Strait” coastal water body (GB681010120000);
- The “Ynys Mon Secondary” groundwater body (GB41002G204400);
- The “Cadnant” river water body (GB110102058760); and
- The “Braint – upper” river water body (GB110102058690).

The WFD status, status objectives and programme of measures derived by NRW for water bodies located within this RBD are outlined within the current Cycle 3 Western Wales RBMP.

6.3 “Menai Strait” coastal water body

The “Menai Strait” coastal catchment is designated as a natural water body. It has an area of 72.1km².

Table 2: Summary of “Menai Strait” water body

Water body ⁵	Description, notes or more information
WFD waterbody name	Menai Strait
Waterbody ID	GB681010120000
Waterbody catchment area (km ²)	72.1
Overall status	Good
Ecological status	Good
Biological quality elements	High
Invertebrates	High
Infaunal Quality Index	High
Phytoplankton	High
Dissolved Inorganic Nitrogen	High
Physico-chemical quality	High
Un-ionised ammonia	High
Dissolved oxygen	High
Hydromorphological supporting elements	Not assessed
Chemical status	High
Specific pollutants	High
Arsenic	High

⁵ NRW (2024). Water Watch Wales Map Gallery. Available at: <https://waterwatchwales-nrw.hub.arcgis.com/> (Accessed February 2026)

Water body ⁵	Description, notes or more information
Copper	High
Iron	High
Phenol	High
Zinc	High
Cadmium	High
Noyphenol	High
Lead	High
Nickel	High
Trichlorobenzenes	High
Chemical priority substances	High
Chemical priority hazardous substances	High
Reason for not achieving Good (RNAG)	N/A

6.4 “Ynys Mon Secondary” groundwater body

The “Ynys Mon Secondary” groundwater body is designated as a natural water body. It underlies the Site with a catchment area of 1741.1km².

Table 3: Summary of “Ynys Mon Secondary” groundwater body

Water body ⁶	Description, notes or more information
WFD waterbody name	Ynys Mon Secondary
Waterbody ID	GB41002G204400
Waterbody catchment area (km ²)	1741.1
Overall water body status	Poor
Quantitative status	
Quantitative status element	Good
Quantitative dependent surface water body status	Good
Quantitative groundwater dependent terrestrial ecosystems (GWDTEs) test	Good
Quantitative saline intrusion	Good
Quantitative water balance	Good
Chemical Status	Poor
Chemical status element	Poor
Chemical dependent surface water body status	Poor
Chemical drinking water protected area	Good
Chemical GWDTEs test	Poor
Chemical saline intrusion	Good

⁶ NRW (2024). Water Watch Wales Map Gallery. Available at: <https://waterwatchwales-nrw.hub.arcgis.com/> (Accessed February 2026)

Water body ⁶	Description, notes or more information
RNAG	Diffuse source of non-coal abandoned mine contamination from mining and quarrying. Major diffuse source of groundwater contamination from agriculture and rural land management.

6.5 “Cadnant” river water body

The “Cadnant” water body is designated as a natural river. It has a length of 3.2km and an area of 12.0km².

Table 4: Summary of “Cadnant” water body

Water body ⁷	Description, notes or more information
WFD waterbody name	Cadnant
Waterbody ID	GB110102058760
Waterbody catchment area (km ²)	12.0
Overall status	Poor
Ecological status	Poor
Biological quality elements	Poor
Fish	Poor – failing for Trout
Invertebrates	Good
Macrophytes and Phytobenthos Combined	Good
Macrophytes sub-element	Good
Diatoms sub-element	Good
Acid Neutralising Capacity	High
Physico-chemical quality	Good
Ammonia	High
Dissolved oxygen	High
pH	High
Phosphate	Good
Temperature	Good
Hydromorphological supporting elements	Not high
Hydrological regime	High
Morphology	Not high
Chemical status	High
Specific pollutants	Not assessed
Chemical priority substances	Not assessed
Chemical priority hazardous substances	Not assessed
RNAG	Not reported

⁷ NRW (2024). Water Watch Wales Map Gallery. Available at: <https://waterwatchwales-nrw.hub.arcgis.com/> (Accessed February 2026)

6.6 “Braint – upper” river water body

The “Braint – upper” is designated as a natural river. It has a length of 11.4km and an area of 29.5km².

Table 5: Summary of “Braint – upper” water body

Water body ⁸	Description, notes or more information
WFD waterbody name	Braint – upper
Waterbody ID	GB110102058690
Waterbody catchment area (km ²)	29.5
Overall status	Moderate
Ecological status	Moderate
Biological quality elements	Moderate
Fish	Moderate – failing for Trout
Invertebrates	Good
Macrophytes and Phytobenthos Combined	High
Diatom sub-element	High
Acid Neutralising Capacity	High
Physico-chemical quality	Good
Ammonia	High
Dissolved oxygen	High
pH	High
Phosphate	Good
Temperature	High
Hydromorphological supporting elements	Not high
Hydrological regime	High
Morphology	Not high
Chemical status	High
Specific pollutants	Not assessed
Chemical priority substances	Not assessed
Chemical priority hazardous substances	Not assessed
RNAG	Not reported

6.7 WFD baseline summary

Table 6 **Error! Reference source not found.** collates the baseline information for each WFD water body, with a justification informed by the location and scale of the water body relative to the proposed works.

Table 6: WFD baseline summary – equivalent to OGN 72 Stage 1, Step 2.

Water body ID	Water body name	Water body type	HMWB	Overall water body status	Morphology status	Relevance to the proposal
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⁸ NRW (2024). Water Watch Wales Map Gallery. Available at: <https://waterwatchwales-nrw.hub.arcgis.com/> (Accessed February 2026)

GB681010120000	Menai Strait	River	No	Good	Not assessed – assumed Good	Hydrologically linked – potential risk
GB41002G204400	Ynys Mon Secondary	Groundwater	No	Poor	Not assessed – assumed Good	Hydrologically linked – potential risk
GB110102058760	Cadnant	River	No	Poor	Not high	Hydrologically linked – not at risk
GB11010205869	Braint – upper	River	No	Moderate	Not high	Hydrologically linked – not at risk

The potential for the proposal to affect the ‘Cadnant’ and ‘Braint – upper’ river water bodies was initially considered. Given the small scale of the works and their location on the coastline there is no pathway of potential impact and these water bodies have been ruled out of the assessment without further consideration.

7. Screening and scoping assessment

7.1 Screening

Table 7 and Table 8 presents risk screening for the waterbodies that are hydrologically linked to the Proposed development with a potential risk.

Table 7: Menai Strait (GB681010120000) risk screening

Question number	Risk screening questions	Name of activity	Screening decision
Q1.1	Is the proposal in a water body at high status or high status for morphology or hydromorphology?	N/A	No – go to Q1.2
Q1.2	Is the activity listed in Annex D as a green activity?	Sewer relining and replacement of a non-return valve at a pumping station outfall.	No – complete scoping assessment for each water body
Q1.3	Are there any potential cumulative/in combination impacts? Or is there Local Expert Override*?	No	No – go to Q1.4
Q1.4	Is the water body at Good overall status?	Yes	
Q1.5	Record best practice measures that the works include to help achieve the objectives of the water body.	Refer to CEMP and Method Statement.	

Table 8: Ynys Mon Secondary (GB41002G204400) risk screening

Question number	Risk screening questions	Name of activity	Screening decision
Q1.1	Is the proposal in a water body at high status or high status for morphology or hydromorphology?	N/A	No – go to Q1.2
Q1.2	Is the activity listed in Annex D as a green activity?	Replacement of non-return valve at a pumping station outfall, and sewer relining.	Yes – complete detailed assessment for each water body
Q1.3	Are there any potential cumulative/in combination impacts? Or	No	No – go to Q1.4

	is there Local Expert Override*?		
Q1.4	Is the water body at Good overall status?	No	No – go to Q1.5
Q1.5	Record best practice measures that the works include to help achieve the objectives of the water body.	Refer to CEMP and Method Statement.	

7.2 Scoping Assessment

7.3 Scoping for “Menai Strait” coastal water body

Table 9 relates the Proposed Development activity to water quality elements for Menai Strait (GB681010120000) coastal water body.

Table 9: Scoping table for “Menai Strait” coastal water body

Elements	Applicable	Potential Impact (direct and indirect)	Avoidance measures included in the proposal
Hydromorphology			
Could the proposal lead to changes in: <ul style="list-style-type: none"> • morphological conditions, for example depth variation, the seabed and intertidal zone structure • tidal patterns, for example, dominant currents • freshwater flow • wave exposure 	Direct	Construction activities are likely to occur within this waterbody.	The works will not alter hydromorphology in any way. Construction impacts avoided by good practice measures included in the CEMP and Method Statement. Scoped Out.
Is the proposal in a HMWB?	No		
Water quality			
Include water quality in the detailed assessment if the activity could affect: <ul style="list-style-type: none"> • water clarity (turbidity or suspended particulate matter concentration) • thermal conditions (including shading) • oxygen levels – dissolved oxygen conditions • nutrients - dissolved inorganic nitrogen • microbial patterns • salinity/conductivity • is in a water body with a phytoplankton or opportunistic macroalgae status of moderate, poor or bad • is in a water body with a history of harmful algae (where there is an existing designation for the area, information should be available; however, local water quality officers will be able to help). 	Direct	Construction activities are likely to occur within this waterbody.	The works are required to maintain the integrity of the wastewater system. No change in the discharge of water to the wider environment would occur during operation. Construction impacts avoided by pollution control measures included in the CEMP and Method Statement. Scoped Out.
Chemicals			

<p>A detailed assessment will also be required if the activity uses or releases chemicals, for example, through sediment disturbance or building works. This is necessary when either the:</p> <ul style="list-style-type: none"> chemicals are on the Environmental Quality Standards Directive (EQSD) list activity disturbs sediment with contaminants (for estuarine and coastal above Cefas Action Level 1). or, if the activity releases chemicals on the EQSD list and has a mixing zone, like a discharge pipeline or outfall, follow the Environment Agency's surface water pollution risk assessment guidance. This is part of the Environmental Permitting Regulations guidance. 	Direct	Construction activities are likely to occur within this waterbody.	<p>The works are required to maintain the integrity of the wastewater system. No change in the release of chemicals would occur during operation.</p> <p>Impacts during construction avoided by good practice measures in the CEMP and Method Statement. Scoped Out.</p>
Biology			
<p>Could the proposal lead to:</p> <ul style="list-style-type: none"> changes to the composition and abundance of aquatic flora changes to the composition and abundance of benthic invertebrate fauna 	Direct	Construction and operation activities are likely to occur within this waterbody.	Impacts avoided by good practice construction measure included in the CEMP and Method Statement. Scoped Out.
Coastal footprint			
<p>Scope in if the footprint (where footprint can be direct or a plume i.e. chemical or thermal; for dredging multiply the area by 1.5x) of your activity is:</p> <ul style="list-style-type: none"> 0.5km² or larger 1% or more of the water body's area Within 500m of any higher sensitivity habitat (see table below) 1% or more of any lower sensitivity habitat (see table below) 	N/A	Construction and operation activities are small in scale.	<p>Good practice construction measure included in the CEMP and Method Statement.</p> <p>Scoped Out.</p>
Fish fauna			
<p>Could the proposal lead to:</p> <ul style="list-style-type: none"> changes to the composition, abundance and age structure of fish fauna an impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow) entrainment or impingement of fish refuge/predation areas <p>Or, is the proposal in an estuary and could affect fish in the estuary; is it outside the estuary but could delay or prevent fish entering it; or, could affect fish migrating through the estuary</p>	Direct	Construction and operation activities are likely to occur within this waterbody.	<p>The works will not take place below water and are small in scale.</p> <p>Impacts avoided by good practice construction measure included in the CEMP and Method Statement. Scoped Out.</p>

7.4 Scoping for “Ynys Mon Secondary” groundwater body

Table 10 relates the Proposed Development activity to water quality elements for Ynys Mon Secondary (GB41002G204400) groundwater body

Table 10: Scoping table for Ynys Mon Secondary groundwater body

Elements	Applicable	Potential Impact (direct and indirect)	Avoidance measures included in the proposal
Hydrogeological regime			
Could the proposal lead to: <ul style="list-style-type: none"> • a significant change to groundwater flows, for example, below ground structures which restricts or alters baseflow to dependent surface water or wetlands • abstraction of groundwater in large volumes or near sensitive locations • a significant change to groundwater chemistry due to inputs of pollutants to the ground over a large area • potential impact on ground water dependant terrestrial ecosystems e.g. wetlands 	N/A – other	The proposed works are small in scale and nature and would not result in a significant change to groundwater flows, groundwater chemistry, or GWDTE.	Good practice construction measure included in the CEMP and Method Statement. Scoped Out.

7.5 Scoping summary

All potential impacts have been assessed considering the avoidance measures already included in the proposal and there are **no anticipated risks** to any water body quality element or risk of deterioration.

All potential impacts have been assessed considering the avoidance measures already included in the proposal and there is **no perceived risk** to any water body or protected area from achieving its objects in the future.

7.6 Potential in combination and/or cumulative impacts

There are no known activities or projects which may act in combination and/or cumulatively with the Proposed Development. Therefore, it can be concluded that potential deterioration or prevention of achieving water body objectives from in combination and/or cumulative effects **can be ruled out**.

7.7 Overall scoping decision

There is **no risk** of deterioration or prevention of the water body achieving its objectives as a result of the proposal, either alone or in combination/cumulative, and no further consideration under the WFD Regulations 2017 is required in order to determine the application.

8. Conclusion

WFD stage 2 scoping has been completed and the project is considered as having no risk of causing deterioration or preventing any water body or WFD Protected Area from reaching its objectives. The project is considered compliant with the Water Environment (Water Framework Directive) Regulations 2017.

9. Abbreviations

Abbreviation	Full name
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
BGS	British Geological Society
CEMP	Construction Environmental Management Plan
GPP	Guidance for Pollution Prevention
GWDTEs	Groundwater-dependent terrestrial ecosystems
HRA	Habitat Regulations Assessment
INNS	Invasive non-native species
MAGIC	Multi-Agency Geographic Information for the Countryside
NGR	National Grid Reference
NRW	Natural Resources Wales
PPG	Pollution Prevention Guidelines
RBD	River Basin District
RBMPs	River Basin Management Plans
RNAG	Reason for not achieving Good
SAC	Special Area of Conservation
SPA	Special Protection Area
SPS	Sewage Pumping Station
SSSI	Site of Special Scientific Interest
WER	Water Environment Regulations
WFD	Water Framework Directive

Appendix A

Water Environment Regulations Background Information

A.1 Water Environment Regulations Background

A.1.1 Determination of WFD Status

A.1.1.1 Introduction

Surface water bodies and groundwater bodies are defined within WFD legislation. There are three types of surface water body, as follows:

- natural water bodies;
- heavily modified water bodies (HMWBs);
- artificial water bodies (AWBs).

The Overall Status of natural surface water bodies is determined on the basis of their Ecological Status and Chemical Status. The overall status of heavily modified and artificial water bodies is classified based on their ecological potential and chemical status. The overall status of groundwater bodies is determined on the basis of their Quantitative Status and Chemical Status.

Groundwater bodies are defined within WFD legislation as Groundwater Management Units (GWMU) and Water Resource Management Units (WRMU), and their status is determined on the basis of quantitative and chemical sub-elements.

The means by which these determinations are made for both surface water and ground water bodies is described in this section.

A.1.1.2 Surface water bodies

A.1.1.2.1 Ecological status

Ecological Status is defined by the overall quality of the structure and functioning of aquatic ecosystems associated with surface waters, i.e. the condition of the watercourse. This is assigned on a scale of high, good, moderate, poor or bad, and on the basis of four classification elements or 'tests', as follows:

- Biological - this test is designed to assess the status indicated by a biological quality element such as fish, invertebrates, macrophytes or phytobenthos (diatoms). The biological quality elements can influence an overall water body status from bad through to high. It is also important to note that the presence of invasive species prevents a water body from achieving high status when all other elements attain high;
- Physicochemical - this test is designed to assess the status indicated by physicochemical quality elements such as dissolved oxygen, phosphorus and ammonia, against environmental standards. The physicochemical quality elements can only influence an overall water body status from moderate through to high;
- Specific pollutants - this test is designed to assess compliance with environmental standards for concentrations of specific pollutants, such as zinc, cypermethrin or arsenic. As with the physicochemical test, the specific pollutant assessment can only influence an overall water body status from moderate through to high; and
- Hydromorphology - for natural surface water bodies this test is undertaken by NRW during classification when the biological and physicochemical tests indicate that a water body may be of high Overall Status. It specifically assesses hydromorphological quality elements such as water flow, sediment composition and movement, continuity, and structure of the habitat against

reference or ‘largely undisturbed’ conditions. If the hydromorphological quality elements do not support high Ecological Status, then the status of the water body is limited to good Overall Status. Hydromorphological assessments are used to determine ‘high’ Overall Status only and are not used to drive a water body status class below good. The ‘does not support good’ classification should be reported for the purposes of identifying water bodies which fail the flow test.

The worst-case classification is assigned as the overall surface water body status, in a ‘one-out all-out’ system. This system is summarised below:

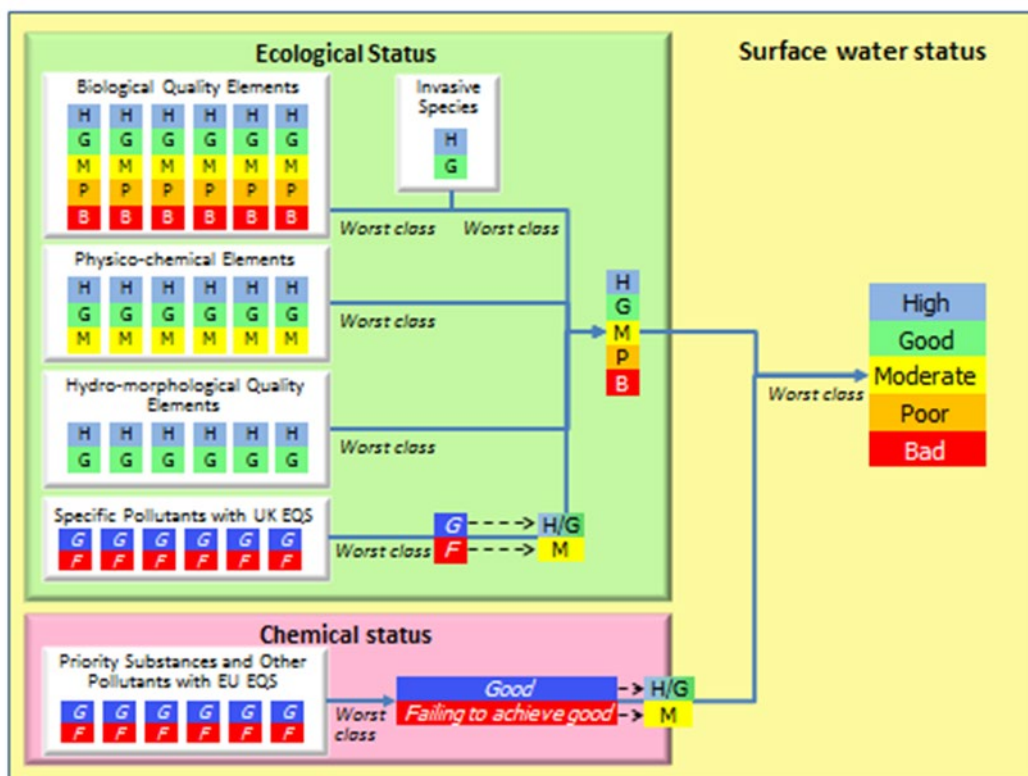


Figure 1: Ecological status classification process (Source: Environment Agency (2015))

A.1.1.2.2 Chemical status

Chemical Status is defined by compliance with environmental standards for chemicals that are priority substances and/or priority hazardous substances, in accordance with the Environmental Quality Standards Directive (2008/105/EC). This is assigned on a scale of good or fail.

Surface water bodies are only monitored for priority substances where there are known discharges of these pollutants; otherwise surface water bodies are reported as being of good Chemical Status.

A.1.1.2.3 Ecological potential for heavily modified (and artificial) water bodies

Ecological Potential is assigned to AWB (such as reservoirs and canals), or natural water bodies which, as a result of physical alterations by human activity, are substantially changed in character. The latter are termed HMWB. The term ‘ecological potential’ is used to classify AWBs and HMWBs as it may be impossible for these water bodies to achieve good Ecological Status (GES) because of their creation or modification for a specific use, such as navigation, water supply or flood protection. The Ecological Potential of an AWB or HMWB represents the degree to which the quality of the water body approaches the optimum condition it could achieve given its artificial or heavily modified state.

AWB and HMWB are subject to an additional set of rules that need to be implemented prior to running the one-out-all-out process. These rules determine which biological quality elements should be used in the water body Ecological Potential classification. Under normal circumstances, AWB and HMWB are classified according to an assessment of mitigation measures, which defines good Ecological Potential (GEP) in water bodies where all applicable mitigation is in place, and moderate ecological potential in water bodies where some or all relevant mitigation is missing. However, to prevent AWB and HMWB being incorrectly classified as good potential in situations where all mitigation is in place, but other pressures are causing an impact (e.g. nutrient enrichment or pollution from toxic substances), the methodology adopted in the UK additionally considers biological indicators providing they are not sensitive to the heavily modified nature of the water body.

AWB and HMWB hydromorphological elements are assessed using a three-stage process, firstly looking at flow, then mitigation measures and biological quality elements.

Flow conditions are assessed initially on a fail or pass basis to determine which of the biological and physicochemical quality elements should be used in the classification of Ecological Potential.

Where the flow conditions are unaffected by the physical modification (flow conditions pass), the water body Ecological Potential is determined by the worst of either the mitigation measures assessment, or any element that is not sensitive to the modified nature of the water body.

Where the flow conditions are significantly impacted by the physical modification (flow conditions fail), the water body Ecological Potential is determined by the worst of any of the mitigation measures assessments or the assessment of biological quality elements, physicochemical quality elements or specific pollutants.

Where a water body is designated as artificial or heavily modified for water resources usage, either solely or jointly with other uses, the flow condition is assumed to be good (pass).

A.1.1.3 Groundwater bodies

Under the WFD, groundwater body Overall Status is classified on the basis of Quantitative Status and Chemical Status. The groundwater bodies are separated into GWMU and WRMU. GWMU are sub-divisions of the groundwater to aid the resource assessment process. WRMU are sub-divisions according to the water resource availability and the management of water.

The worst-case classification dictates the Overall Status, via a 'one-out all-out' system. This system is summarised below:

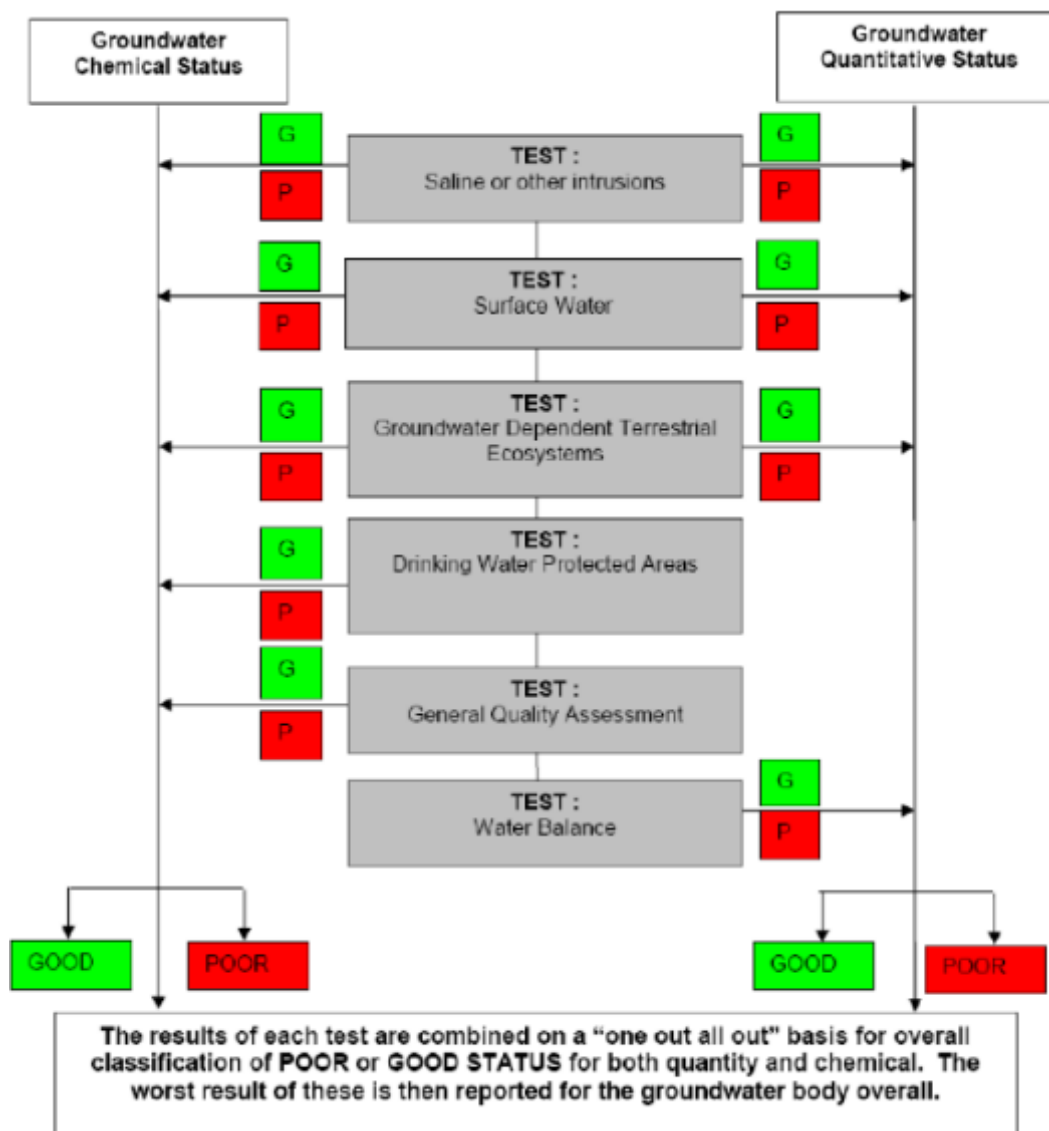


Figure 2: Groundwater body status classification (Source: UKTAG (2012))

A.1.1.3.1 Quantitative status

Quantitative Status is defined by the quantity of groundwater available as base flow to watercourses and water-dependent ecosystems and as 'resource' available for use as drinking water and other consumptive purposes. It is assigned on a scale of good or poor, and on the basis of four classification elements or 'tests' as follows:

- saline or other intrusions - this test is designed to identify groundwater bodies where the intrusion of poor quality water, such as saline water or water of different chemical composition, as a result of groundwater abstraction is leading to sustained upward trends in pollutant concentrations or significant impact on one or more groundwater abstractions;
- surface water - this test is designed to identify groundwater bodies where groundwater abstraction is leading to a significant diminution of the Ecological Status of associated surface water bodies;

- Groundwater Dependent Terrestrial Ecosystems (GWDTE) - this test is designed to identify groundwater bodies where groundwater abstraction is leading to significant damage to associated GWDTE; and
- water balance - this test is designed to identify groundwater bodies where groundwater abstraction exceeds the ‘available groundwater resource’, defined as the rate of overall recharge to the groundwater body itself less the rate of flow required to meet the ecological needs of associated surface water bodies and GWDTE.

A.1.1.3.2 Chemical status

Chemical Status is defined by the concentrations of a range of key pollutants, by the quality of groundwater feeding into watercourses and water-dependent ecosystems and by the quality of groundwater available for drinking water purposes. This is assigned on a scale of good or poor, and on the basis of five classifications elements or ‘tests’, as follows:

- saline or other intrusions - this test is designed to identify groundwater bodies where the intrusion of poor quality water, such as saline water or water of different chemical composition, as a result of groundwater abstraction is leading to sustained upward trends in pollutant concentrations or significant impact on one or more groundwater abstractions;
- surface water - this test is designed to identify groundwater bodies where groundwater is leading to a significant diminution of the Chemical Status of associated surface water bodies;
- GWDTE - this test is designed to identify groundwater bodies where groundwater is leading to significant damage to associated GWDTE;
- Drinking Water Protected Areas (DrWPA) - this test is designed to identify groundwater bodies failing to meet the DrWPA objectives defined in Article 7 of the WFD or at risk of failing in the future. The aim is no deterioration in quality of waters for human consumption, and
- general quality assessment - this test is designed to identify groundwater bodies where widespread deterioration in quality has, or will, compromise the strategic use of groundwater. The aim is no significant impairment of human use of groundwater and no significant environmental risk from pollutants across a groundwater body. Status is assessed primarily using data collected from the NRW monitoring network; therefore, the scale of assessment means that groundwater status is mainly influenced by larger scale effects such as significant abstraction or widespread diffuse pollution.

A.1.1.4 Environmental standards

Under the WFD, a range of environmental standards and condition limits are applied in order to help the classification of water body status and the setting of status objectives via the RBMP process. These environmental standards define the range of environmental conditions that support “healthy” aquatic life. For instance, standards are set for the composition of biological communities, the physicochemical water quality parameters, the concentration of pollutants, and the level of flows in rivers (as described above).

These standards inform NRW on the implementation of the RBMP process, including the identification of measures required to support the achievement of the GES / GEP objectives, as well as underpinning efforts to protect the water environment by helping to regulate activities that could cause adverse impacts.

A.1.2 WFD Assessment requirements for new developments

To ensure compliance with the WFD, decision makers must consider whether proposals for new developments have the potential to:

- cause a deterioration of a water body from its current status or potential;
- prevent future attainment of good status or potential where not already achieved;
- impact on protected or priority species and habitats; and/or
- provide opportunities to improve the water environment.

A ruling by the European Union Court of Justice on 1 July 2015 has significant implications for projects that may impact water bodies, namely:

- consent for development must not be granted by an authorising authority – unless a derogation is granted - where the project may cause a deterioration in the status of a body of surface water or where it jeopardises the attainment of good Ecological Status or of good Ecological Potential and good Chemical Status by the date laid down in the Directive;
- that deterioration of the status of the relevant body of surface water includes a fall by one class of any element of the quality elements within the meaning of Annex V of the WFD even if the fall does not result in a fall of the classification of the body of surface water as a whole; and
- if the quality element is already in the lowest class, any deterioration of that element represents deterioration of status within the meaning of Article 4(1)(a)(i).

A.1.2.1 Guidance

Whilst there is no established methodology for assessing compliance with WER legislation, the WFD Compliance Assessment will be based upon expert judgement, established best practice and consultation with NRW and will be undertaken in accordance with relevant NRW guidance and the recent advisory guidance provided by The Planning Inspectorate.

A.2 WER Assessment Process

A.2.1 Overview

WFD Compliance Assessment is undertaken as an iterative, stepped process, which typically includes the following:

- Step 1: Screening assessment.
- Step 2: Scoping assessment.
- Step 3: Detailed impact assessment (where required); and
- Step 4: Application of Regulation 19 (where applicable).

These key process steps are described in further detail in the following sections. Consultation with regulatory authority should be undertaken to share the findings of each step, where necessary/applicable.

A.2.2 Screening assessment

The key objective of the initial baseline screening assessment is to identify the relevant WER surface water and groundwater bodies (including any undesignated tributary watercourses) potentially affected by the proposed development and to establish their baseline condition.

The water body baseline condition of relevant water bodies has been identified via desk-top assessment, utilising readily available information and environmental, asset and operations data obtained from relevant stakeholders.

WER baseline datasets have been obtained from NRW's Water Watch Wales Map Gallery. This includes:

- RBMP Cycle 3 Interim (2024) current status and status objectives data.
- WFD Protected Areas data.
- Reasons for to achieving good status (RNAG) data.
- Measures data.

The latest 2024 NRW WFD water body status data has been used to inform the assessment. These data are considered to provide the current best estimate of status and the formal baseline against which NRW will assess compliance with the 'no deterioration' objective. Where baseline data is limited, professional judgement has been used in the assessment and a precautionary approach taken with regard to screening.

The relevant WFD water bodies present within the potential zone of influence of the proposed development are taken through to the subsequent preliminary assessment (scoping) stage.

A.2.3 Scoping assessment

The objective of the scoping assessment is to establish the relevant likely effects of the proposed development on the WFD status elements of the relevant WFD surface water and groundwater bodies. This includes identification of potential impact types and any relevant mitigation measures embedded within the design of proposed development at this stage.

The scoping assessment considers both the beneficial and adverse effects of the relevant elements of the proposed development and applies a risk-based method in line with existing NRW guidance.

Effects are considered with regard to the risk of the proposed development causing a deterioration in current status and/or a failure to achieve status objectives. The assessment identifies those scheme components / impacts that pose a risk current status or status objectives and thus may require more detailed impact assessment.

The scoping assessment therefore comprises two parts, as follows:

- likely effects on current status or potential, involving:
 - identification of relevant scheme components with potential to impact upon water body status;
 - identification of likely potential impact and magnitude of effects of the relevant scheme components on the current status of the water body (taking account of any ‘embedded’ mitigation; and
 - identification of potential risks of deterioration in current status and associated requirements for additional mitigation and/or further detailed assessment.
- likely effects on status objectives, involving:
 - scoping of the relevant scheme components to identify where the proposed development may pose a risk of worsening existing pressures responsible for current status failures (RNAGs) and/or prevent the implementation of measures identified by NRW to address existing status failures; and
 - scoping of relevant scheme components against any available NRW HMWB/ AWB ‘mitigation measure assessment’ outputs, in order to identify where the proposed development may pose a potential risk of inhibiting the implementation of measures derived to mitigate the impacts of existing physical modifications and operational regimes to support the achievement of good Ecological Potential objectives.

A.2.4 Detailed impact assessment

Where deemed required, the objective of the detailed impact assessment is to establish the nature and anticipated magnitude of the effects of relevant elements of the proposed development on the WFD quality elements of the surface water and groundwater bodies affected. These effects are considered in terms of the potential for deterioration of current status and/or the prevention of status objectives. This detailed assessment may be based on targeted baseline surveys, monitoring or modelling assessments completed at the impact sites.

As with the scoping assessment stage, the detailed impact assessment is therefore comprised of two key parts, as follows:

- assessment of effects on current status of quality element; and
- assessment of effects on status objectives, with regards to any water body RNAG or measures/actions identified as potentially being at risk from the proposed development under the preceding preliminary (scoping) assessment. This is done via expert judgement and consultation with NRW, based on the currently available information.

Where significant effects are identified with regard to the risk of status deterioration and/or the prevention of status objectives, the assessment should identify ‘further mitigation’ required in order to avoid and/or minimise risks and the residual effects on quality elements at the water body scale.

The detailed impact assessment will also identify if Article 4.7 tests need to be prepared for affected water bodies, where a residual risk to status deterioration and/or prevention of future status objectives has been identified.

A detailed impact assessment has not been deemed required for the proposed development, based on the information available at this stage.

A.2.5 Regulation 19 assessment

Article 4.7 of the WFD states that Member States will not be in breach of the Directive when failure to meet its environmental objectives is the result of either new modifications to the physical characteristics of a water body or as a result of new human sustainable development, on the proviso that the modifications or new development proposed are compliant with the four key conditions listed below. In doing so, Article 4.7 (and Regulation 19 of the WFD Regulations in England and Wales) provides a means whereby a derogation for a proposed modification or sustainable development may be granted. Accordingly, where a residual risk to status deterioration and/or prevention of future status objectives is identified, a 'Regulation 19 assessment' (formally referred to as an 'Article 4.7 assessment') needs to be prepared for the affected water body or water bodies. To demonstrate that it meets the four following conditions:

1. all practicable steps have been taken to mitigate the adverse impact on the status of the water body;
2. the reasons for the modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development; and
3. the beneficial objectives served by the modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.
4. the reasons for the modifications or alterations are clearly identified to NRW, so that they can be specifically set out and explained in the relevant RBMP (as required under Article 13).

A Regulation 19 assessment is not deemed required for the proposed scheme as no risks of non-compliance with WFD objectives have been identified.