Afon Glaslyn: Marine Licence Application

Water Framework Directive Initial Assessment

CPF 8443

Document Control Sheet

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Document Author(s):	Beth Evans
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Project Manager:	Petra Urquhart Irvine

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Reviews

Name	Title	Date	Version
Rhys Meilyr Thomas	Senior Environment Officer	13/03/2023	V0.02

Approvals

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Petra U Irvine	Principal Engineer	13/03/2023	V0.02

Distribution

Name	Title	Date	Version
Peter Jones (Alun Griffiths Contractors Ltd)	Contract Co-ordinator	14/03/2023	V0.02

Table of Contents

Table of Figures

1. The Project

YGC have been commissioned By Alun Griffiths Contractors Ltd. to undertake a Water Framework Directive (WFD) Compliance Assessment in relation to works due to be undertaken in Penrhyndeudraeth located at SH 61820 38359 (See Appendix A for location plan) which involves work in Afon Glaslyn. This WFD Assessment is to be submitted as part of the Marine Licence to Natural Resources Wales (NRW) in line with the Water Framework Directive 2000 requirements.

1.1 Context

This WFD Assessment is required as per the EU Water Framework Directive 2000. The purpose of the Directive is to establish a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater. It aims to ensure that all aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands meet 'good status' by 2015.

The proposed works involve modifying an existing outfall pipe in marshland located in Penrhyndeudraeth. The works will shorten a damaged section of an exposed 450 mm Waste Water Treatment Works (WWTW) outfall pipe by approximately 5 m and construct a concrete headwall. To gain access to the outfall location the proposed route from the WWTW requires a 'seaward channel' to be temporarily filled in with a 3m length of 600mm diameter ductile Iron pipe and brought to the surface with suitable clean gravel.

The study area lies within the transitional waters of the Afon Glaslyn (see Appendix A for location plan). The Afon Glaslyn is designated a Main River and is therefore in NRW's jurisdiction.

This report will outline the works to be undertaken including background context of the area where the works are located, asses the WFD requirements based on the proposed works and will summarise the final findings and conclusions.

Watercourses

The Afon Glaslyn is to be considered in terms of water quality, habitats and its protected areas as part of this WFD assessment.

Following the WFD assessment, in 2015 Afon Glaslyn water quality status has been classed as overall 'Good'. Table 1-0 provides an overall summary of the Afon Glaslyn's WFD Status.

Table 1-0 Summary of WFD Afon Glaslyn Overall Classification (2015)

WFD River Catchments C2 2015	
WBID	GB511006507300
Name	Glaslyn
Country	Wales
RBD_ID	10.0
RBDDesc	Western Wales
HMWB	No
OverallSta	Good
ChemStatus	Good
EcoPotent	Status
EcoStatus	Good
EcoCert	Not Applicable
DrivEcoQE	Hydrological Regime, Morphology
Area of Watercourse	15.67 km^2

Designated Areas

Within 2.5km of the works the following designated sites have been identified (See Appendix B):

- SAC:
  - Pen Llyn a'r Sarnau/ Lleyn Peninsula and the Sarnau
- SSSI:
  - Morfa Harlech
- Saltmarsh

Estuarine and Coastal Environments

The works are located within the Pen Llyn a'r Sarnau SAC and Morfa Harlech SSSI (Appendix B). The Morfa Harlech SSSI is not designated in relation to the water environment; it is therefore considered that they could not be detrimentally impacted as a result of the works. It will be essential to ensure that there are no adverse effects to the quality of these waters as a result of the works.

The works are situated outside of the Mean High-Water Line (Appendix C).

Due to the sensitivity of these receptors it is essential that the transitional waters are given the same consideration as the fluvial waters. As the Afon Glaslyn flows into the estuary where the work will be carried out, there will need to be a clear commitment to ensure that there are no elevated levels of pollutants or sediments that could have an adverse effect on any of the surface water quality or water ecosystems within the area.

The works are located within the tidal floodplain and within close proximity to the fluvial floodplain of the Afon Glaslyn. Appendix D and E illustrates the extent of these floodplains.

1.2 The Works to be undertaken

Table 1.2-1 highlights the works that are to be undertaken. These have been included within the main Method Statement of works.

Table 1.2-1 Works to be undertaken

Work type	Carried out:
The designated access route to the working area and to the banks of the river will be agreed with both the NRW and the landowners, who will have been consulted and have confirmed to have no objection to the works being carried out. The route will be marked out and explained to the workforce prior to commencement.	Spring
Erect temporary warning signs to pedestrians using the marsh area of the presence of heavy plant and equipment and brief all site personnel of the need for extra vigilance when travelling to the working area. Access to the working area will be via Penrhyndeudraeth Waste Water Treatment Works, LL48 6LT.	Spring
Ensure Network Rail Instructions are followed at all times prior to opening the gates and travelling over the railway crossing and along the access road to the WWTW and complete a Certificate of Isolation for flows through the outfall pipe (Isolation by DCWW Operators).	Spring
To gain access to the Outfall location the proposed route from the WWTW requires a 'seaward channel' to be temporarily filled in with a 3m length of a Perforated 600mm dia. Twin Wall Drainage pipe and brought to the surface with suitable clean gravel, with a Bog Mat placed over the surface of the gravel. The pipe and gravel to be laid on a suitable geotextile membrane.	
All known services to be located. Excavate and expose the damaged and collapsed section of pipe and determine where a neat saw cut for the end of the pipe can be carried out, casting the excavated material to one side prior to re using as re fill around the pipe and new concrete headwall once constructed. A banksman will constantly monitor the excavation whether by hand or by mechanical excavator.	Spring
Suitable timbers to be used for preparing and shuttering around the end of the pipe for the headwall construction. The excavation below the pipe at this point to be to be lined with 'visqueen' and filled with lean mix concrete (concrete to contain an additive of silica fume type).	Spring
Dry concrete mixture to be collected and delivered to site with a 'pick up type' lorry, and transported to the working area with a dumper. A concrete aggregate mixture of low water / cement ratio (Blue Circle Sulfa crete cement) to be mixed on site with a suitable additive (Silica) added for rapid setting and prevent any tidal washout, and utilising the excavator's bucket placed carefully into the temporary timber shuttered construction to the required level. Ensure volume of concrete is suitable to prevent any spillages. (It is anticipated that this operation can be carried out during one shift).	Spring

The new headwall construction is to be allowed to 'cure' for two days prior to removal of the temporary shuttering.	Spring
Large diameter (300mm to 500mm) clean stone to be placed on a geotextile liner in front of the new headwall to act as a flow diffuser to aid dispersal and around the sides of the headwall for protection.	Spring
The damaged length of pipe to be removed and transported to the WWTW.	Spring
Remove all the Temporary shuttering timbers and backfill up against its sides by means of previously excavated material.	Spring
Make good and reinstate the surrounding ground and disturbed areas, remove the temporary gravel and DI pipe, remove all plant, equipment and tidy up.	Spring

1.2.1 Work to be carried out prior to main works:

- Review information relating to any environmental requirement, or restriction identified within the information provided by the Client.
- Review information on any existing statutory undertaker's apparatus which may be present within the confines of the site. CAT scan the area of excavation and clearly mark out all existing services, (above and below ground) where there is a possibility of interface, these services shall be protected if necessary.
- Carry out risk assessments of all identified work activities.
- Use risk assessments to produce written safe methods of working.
- Site induction of all personnel employed in the construction of the works.
- Give a method statement explanation to all employees associated with the work.
- Assess the area of work and where access may pose a risk to the work force, working adjacent to the sea which is tidal and time constraints minimal, animals or the public, temporary fencing of an appropriate type will need to be erected.
- Obtain a permit to excavate from the Works Manager.
- Ensure any consents and Licences required from NRW are obtained and current before work proceeds, and ensure a copy of the SSSI Assent is to hand at all times.
- Ensure that the necessary land entry permissions are in place with the landowners.
- Programme work for suitable tidal conditions – the plan will set out how the works will be carried out around high tide and will identify the critical working time windows, processes to safely remove workers and vehicles from the site and how the working area will be stabilised between each high tide.
- Monitor weather conditions and Tidal influences for the next few days following the proposed start to ensure that tides are suitable and a dry weather period is forecast. The NTSLF's surge forecast for Holyhead (the nearest station with such data) will be monitored to check whether a storm surge to result in higher than anticipated tide levels (https://ntslf.org/storm-surges/latest-surge-forecast?port=Holyhead&chrt=1).
- Confirm tidal conditions are suitable prior to any excavation.

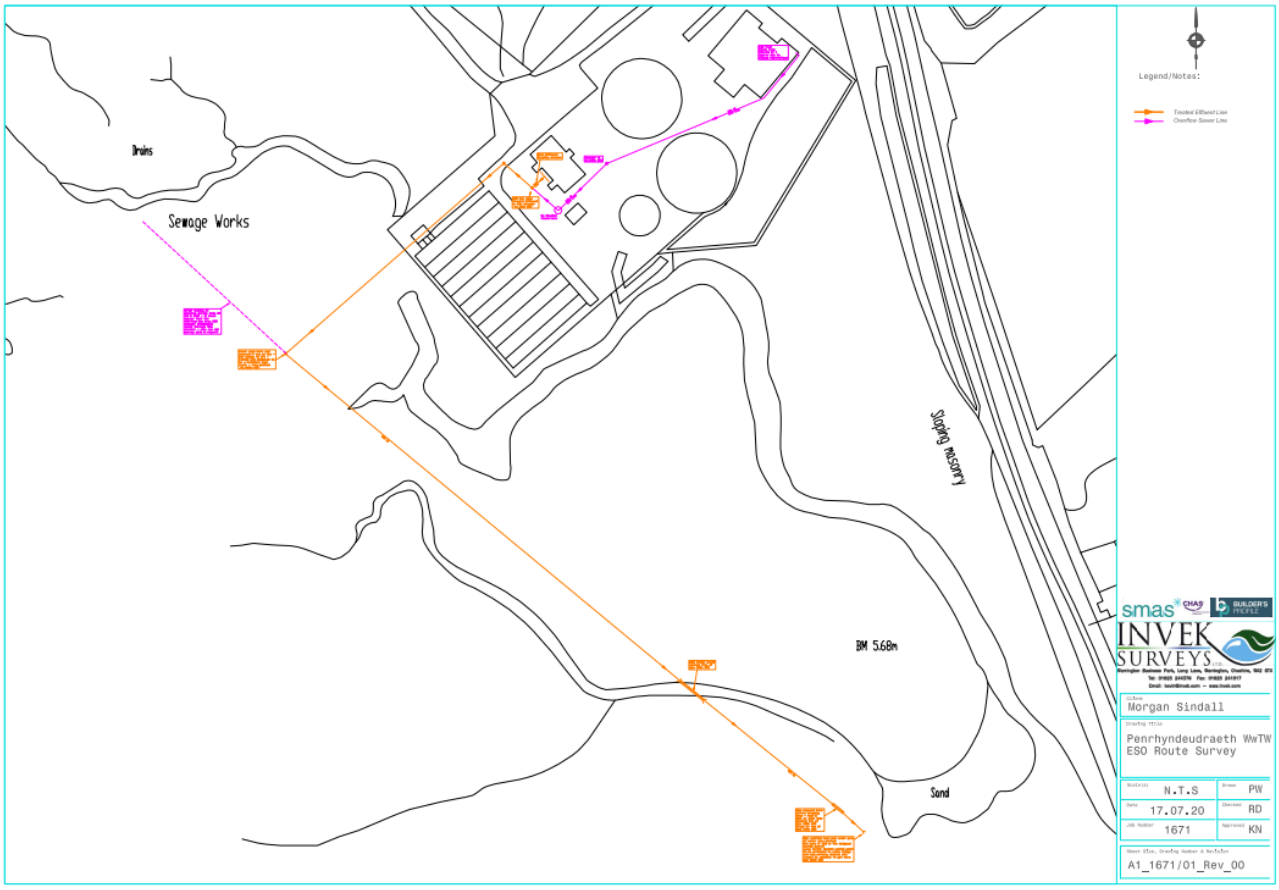


Figure 1-0 – General site layout

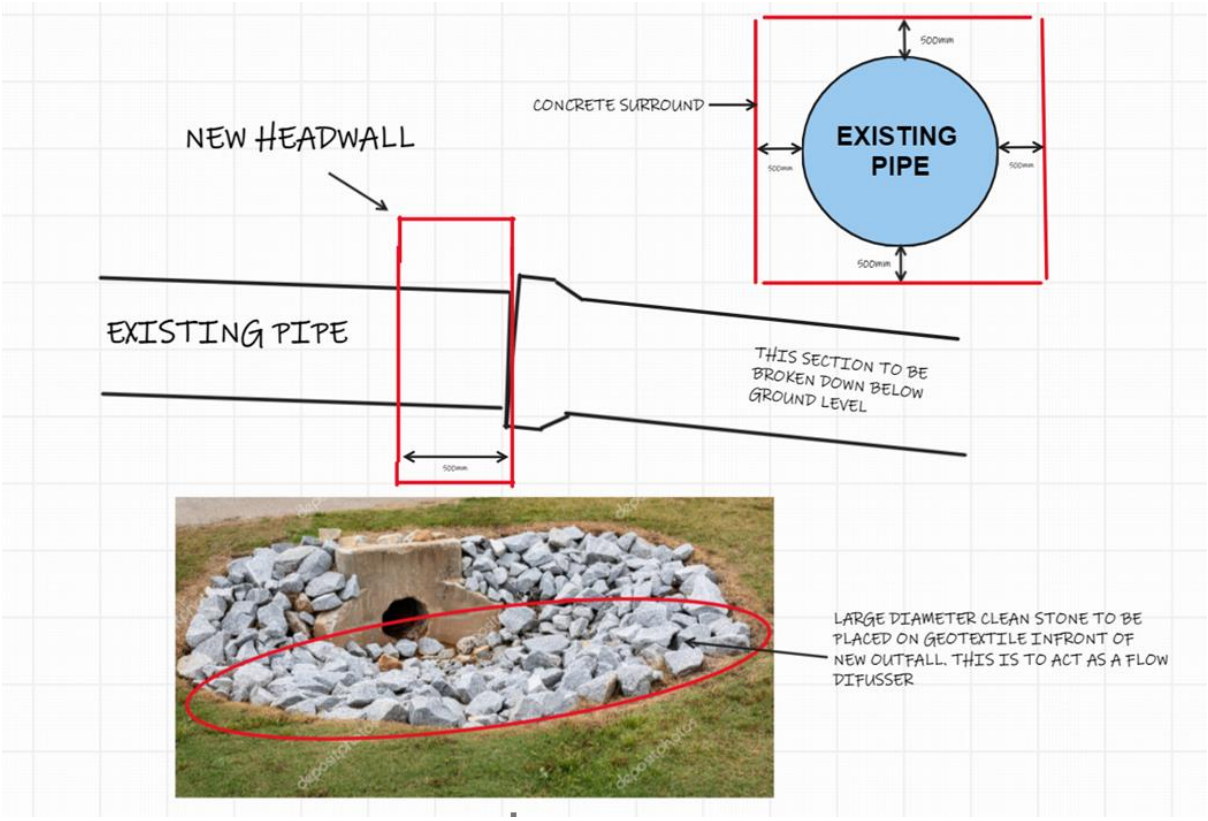


Figure 2-0 – Scope for outfall

1.2.2 Main works

Main Works will be of approximately 2 weeks duration

Once all known services have been located, the excavation to locate the end of the damaged section of outfall pipe will be carried out.
The designated access route to the working area will have been agreed with NRW and the landowners, who will have been consulted and have confirmed to have no objection to the works being carried out. The route will be marked out and explained to the workforce prior to commencement.
Access to the working area will be via Penrhyndeudraeth Waste Water Treatment Works, LL48 6LT, along a 'seaward channel', temporarily filled in with a 3m length of 600mm diameter, ductile Iron pipe and brought to the surface with suitable clean gravel.

2. Legislative background

2.1 Introduction to the Water Framework Directive

The Water Framework Directive (WFD) 2001 requires all-natural waterbodies to achieve both Good Chemical Status (GCS) and Good Ecological Status (GES). The River Basin Management Plans (RBMPs) outline the actions required to enable natural waterbodies to achieve GES. Artificial and Heavily Modified Water Bodies (A/HMWBs) may be prevented from reaching GES due to the modifications

necessary to maintain their function. They are, however, required to achieve Good Ecological Potential (GEP), through the implementation of a series of mitigation measures outlined in the applicable RBMP.

New activities and schemes that affect the water environment may adversely impact biological, hydromorphological and physico-chemical and/ or chemical quality elements (WFD quality elements), leading to a deterioration in water body status. They may also render proposed improvement measures ineffective, leading to the water body failing to meet its water body status or prevent a water body from meeting GES/ GEP by invalidating improvement measures.

Hydromorphology is a term used in the WFD to describe the physical form of a water body and the physical processes operating there. Hydromorphology encompasses both hydrological and geomorphological characteristics that, in combination, help support a healthy ecology within these freshwater and marine environments.

The overall ecological status of a water body is primarily based on consideration of its biological quality elements and determined by the lowest scoring of these elements. These biological elements are, however, in turn supported by the physico- chemical and hydromorphological quality elements. Assessment of hydromorphological quality is not explicitly required for a water body to achieve Moderate Ecological Status or lower. However, to achieve the overall WFD aim of GES or higher, hydromorphological quality must be considered within the classification assessment.

In addition, to achieve the overall WFD aim of GES, a water body must pass a separate chemical status assessment, relating to pass/fail checks on the concentrations of various identified priority/ dangerous substances.

2.2 Temporary Impacts

WFD does make allowances for temporary deterioration caused by natural causes that are exceptional or could not reasonably have been foreseen, for example, extreme floods or prolonged droughts.

The main objectives of the WFD are to:

- Prevent 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 waters by 2015 (2021 or 2027 where fully justified within an extended deadline under Article 4.4);
- Promote sustainable use of water;
- 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; and
- Help reduce the effects of floods and droughts.

2.3 Purpose of the report and WFD compliance assessment approach

This document sets out the initial WFD screening assessment and comprises a summary overview, quality element assessment, results and recommendations. The assessment considers water quality, habitats and the protected areas of Afon Glaslyn. This assessment has been based on general arrangement drawings for the proposed scheme and detailed discussions with the project engineers.

NRW do not currently have guidance for the WFD compliance assessment, therefore this assessment is based on Environment Agency (EA) guidance. The EA WFD guidance suggests that temporary impacts, such as those resulting from construction works can normally be screened out during the initial WFD compliance assessment – provided that any impacts will be short in nature and the site will recover quickly.

Figure 3-0 illustrates the three sequential stages of WFD assessments. This will be utilised through this assessment to establish the appropriate stage of assessment for the proposed works.

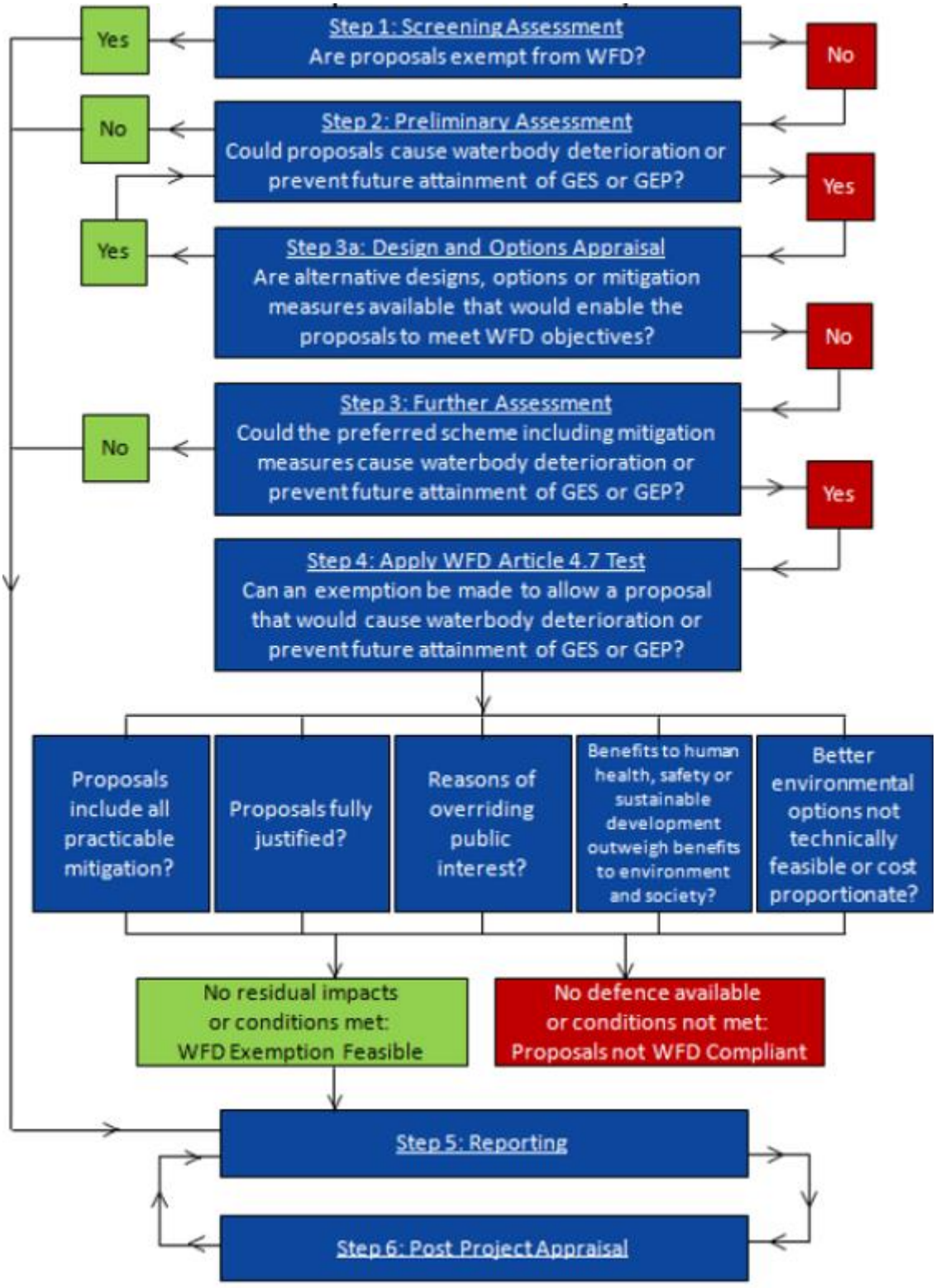


Figure 3-0 – WFD Assessment Process

2.4 Environmental objectives

The following environmental objectives (based on Articles 4.1, 4.8 and 4.9 of the WFD) were used to make recommendations on WFD compliance in relation to the works.

The Objectives have been devised specifically for the works:

- Objective 1: The works will not cause deterioration in any element of water body classification.
- Objective 2: The works will not prevent the WFD status objectives from being reached within the water body or other downstream water bodies.
- Objective 3: The works will not negatively impact critical or sensitive habitats within the scheme area.
- Objective 4: The works will ensure that an increased level of hydrocarbons into watercourse does not occur.
- Objective 5: The works will not impact upon any European designated sites within the area of the works.

2.5 WFD Classification

The WFD classification for a defined water body is produced by assessment of a wide variety of different 'elements' which includes:

- 'biological elements' such as fish, invertebrates, phytobenthos (which includes plants, macro-algae and phytoplankton);
- 'supporting elements' that include chemical measurements such as ammonia, dissolved oxygen, pH, phosphate, copper, zinc and temperature; and
- 'supporting conditions' (sometimes referred to as hydromorphology), that assess the physical attributes of the water body such as 'quality and dynamics of flow' and 'morphology'.

The assessment given for each element is also accompanied by a measure of certainty in the result. The stats classification is published in the River Basin Management Plan (RBMP) and provides a baseline condition against which compliance and future improvements can be measured.

2.6 WFD Compliance

The first two WFD Objectives listed in section 2.4 above, must be met to avoid infraction of the overarching aims of the WFD. The delivery of the third objective is central to the overall WFD purpose, where practical and feasible the proposed works will work towards improving water quality status in line with the WFD. At the very minimum, it will ensure that no adverse changes to water quality will occur during the works.

If it is considered that the works are likely to cause deterioration in water body status or prevent a water body from meeting its ecological objectives then an assessment would be made against the conditions listed in Article 4.7 of the WFD. Article 4.7 can be invoked if; 'new modifications' are of overriding public interest and/ or the environmental and social benefits of achieving the WFD are outweighed by the benefits of the new modifications to human health, safety and sustainable

development; there are no significantly better environmental options that are technically feasible or not disproportionately costly; and all practicable steps for mitigation have been taken.

3. WFD screening assessment

3.1 Screening of temporary works

The works have been identified and discussed in detail in section 1.2 above. In summary the works will NOT:

- Permanently alter the riverbed
- Permanently alter the river channel
- Alter the conveyance of flow
- Have a detrimental impact on downstream receptors
- Increase flood risk
- Reduce the water quality of the waterbody
- Change the hydrogeomorphology of the waterbody
- Permanently increase sedimentation or pollution within the waterbody

The works are temporary in nature and the repair works will result in no change to the route of the pipeline.

3.2 Initial Conclusion of the WFD screening assessment

The works to be undertaken on the existing outfall involves repairing the collapsed section of a partly exposed 450 mm outfall pipe and the construction of a concrete headwall. The works are temporary, only lasting approximately 3 weeks and would not result in any permanent changes to the channel banks and bed, nor would they restrict the flow of the river. Stated in the works risk assessment, work will be completed during extreme low tide as dictated by Met Office's local tide forecast. A plan will be in place to ensure that the all workers and equipment is removed in sufficient time before the working area becomes submerged. All site pumping and refuelling equipment will be set away from the edge of the watercourse and shall be located on a drip tray / apron. Additionally, daily checks on plant, hoses and pumping equipment for leaks and seepages will be undertaken and recorded.

Tidal influences to be monitored at all times, prior to commencement and during excavations and pipe repair. The NTSLF's surge forecast for Holyhead (the nearest station with such data) will be monitored to check whether a storm surge to result in higher than anticipated tide levels (https://ntslf.org/storm-surges/latest-surge-forecast?port=Holyhead&chrt=1). Additionally, weather forecasts will be monitored to anticipate periods of discharge from the existing outfall pipe and ensure tides are suitable with sufficient time scale to carry out the repairs.

A concrete aggregate mixture of low water / cement ratio (Blue Circle Sulfa crete cement) will be mixed on site with a suitable additive (Silica) added for rapid setting and prevent any tidal washout, and utilising the excavator's bucket placed carefully into the temporary timber shuttered construction to the required level. The volume of concrete will be suitable to prevent any spillages.

The works carried out abide by the EA Standard rules for constructing an outfall pipe through a headwall as shown in Figure 4-0.

The WFD Screening assessment process has been utilised to assess the required stages of WFD assessment based on the works to be undertaken (see Figure 5-0 & 6-0) and has concluded that no further detailed assessment is required.

Table 2.1 Activities	
Description of activities	Limits of activities
Constructing an outfall that discharges into a main river with a diameter of up to 500 millimetres, and through an associated headwall	The activity shall be commenced within three years of the date of the grant of the permit and completed within 3 months of commencement. The diameter of the outfall pipe shall be 500 millimetres or less. The width of the watercourse at the location where the outfall is to be installed shall be equal to or greater than 10 metres from bank top to bank top. The total length of bank affected during construction of the outfall and headwall shall not be more than 3 metres. The height of the headwall shall be no more than 75% of the height of the bank or 1.5 metres, whichever is less. The gradient of the outfall pipe through the headwall should be less than 1:50 (fall in elevation:length). The outfall pipe shall be aligned to an angle of between 30° and 60° to the direction of flow in the watercourse. The outfall pipe route shall not pass through or under any remote defence, river control work, sea defence, raised embankment or wall forming part of the bank of the main river. The activity shall not be carried out within a culvert or bridge. The outfall shall not be pumped. The headwall, wing walls and apron shall not project beyond the existing line of the bank prior to the activity being carried out.

Figure 4-0 - EA Standard rules for constructing an outfall pipe through a headwall

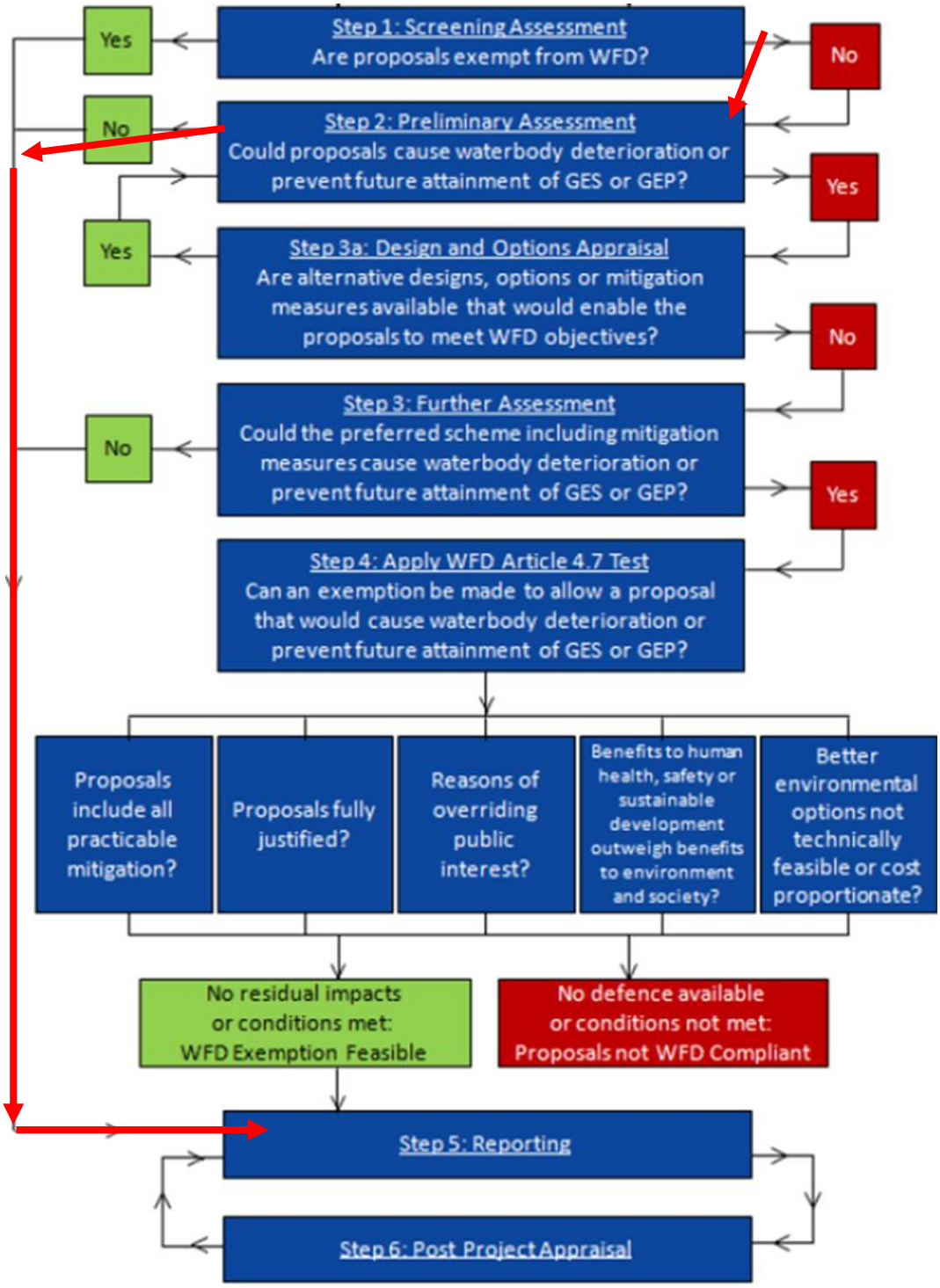


Figure 5-0 – Determine if detailed WFD is required

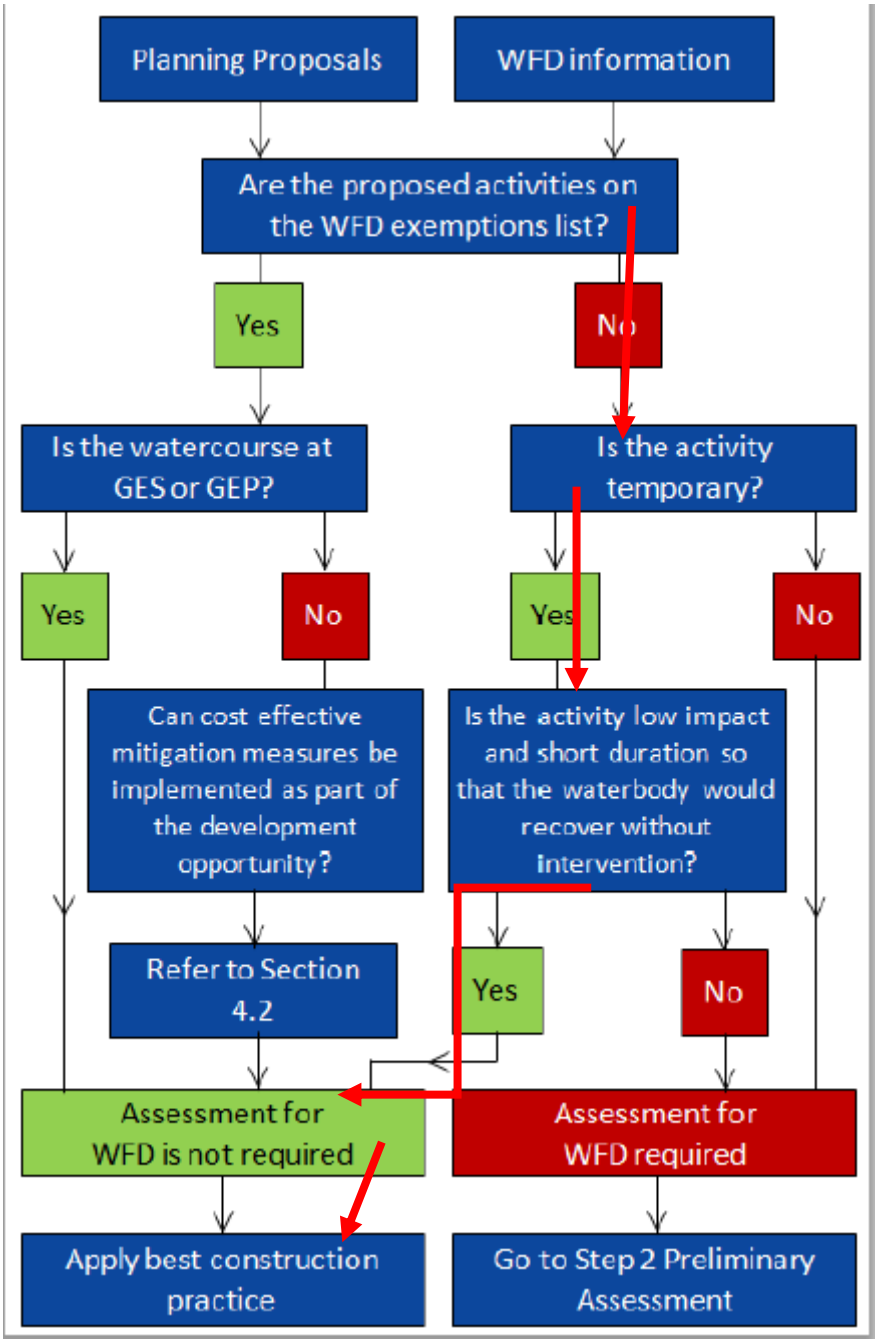


Figure 6-0 - Determine if detailed WFD is required

3.3 Further mitigation measures & Construction Best Practice

The overall risk to the coastal watercourse is seen to be LOW.

No further detailed WFD Compliance assessment is required for the works in Afon Glaslyn. However, the following best practice and guidance should be consulted prior to the works and adhered to at all times during the works.

- GPP 5: Works and maintenance in or near water
- PPG 7: Safe storage - The safe operation of refuelling facilities
- GPP 13 Vehicle washing and cleaning
- GPP 22: Dealing with spills

Where works are carried out over water, methods to ensure that debris is not dropped into the water should be in place.

Where there is a risk of an inadvertent spillage to the watercourse, an Emergency Procedure should be in place which may be followed during a pollution incident.

If during the works should a storm event or water levels rise, all materials or machinery within the area should be swiftly removed from the area to reduce the risk of pollution.

Gaining access to the outfall location requires the temporary alteration of a watercourse by temporarily filling a 'seaward channel'. This will require an Ordinary Watercourse consent from the lead local flood authority. Any alterations to the watercourse and surrounding areas should be removed and the area reinstated to its original form following the completion of the headwall.

It is recommended to include a detailed plan for each working day within the method statement outlining precisely how the works will managed around high tide. The plan should identify the critical stop and start working times, the processes to safely remove workers and vehicles from the site and how the working area will be stabilised between each high tide. The plans should reflect any adverse changes in weather/tide times that may alter the work schedule.

4. Conclusions

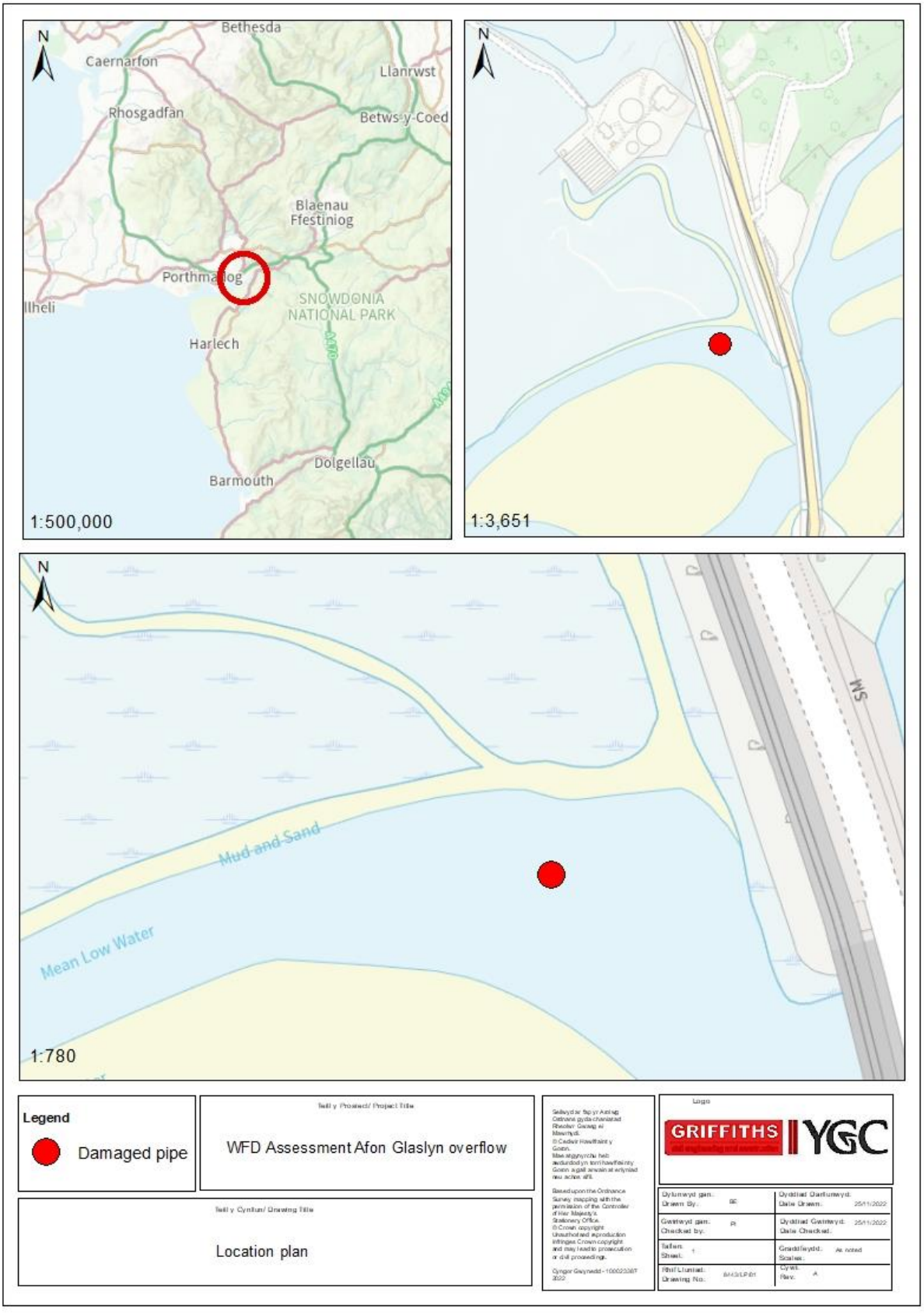
The proposed works are temporary in nature. In view of the temporary nature of the work, the proposed work has been screened as not having a detrimental impact on the status of the waterbody. There is therefore no requirement for further detailed WFD assessment.

To minimise short-term impacts, best practice and good working practices should be implemented on site and any changes to the working method statement should be agreed with the approving body (NRW) before the works are undertaking to ensure that changes do not have a negative impact.

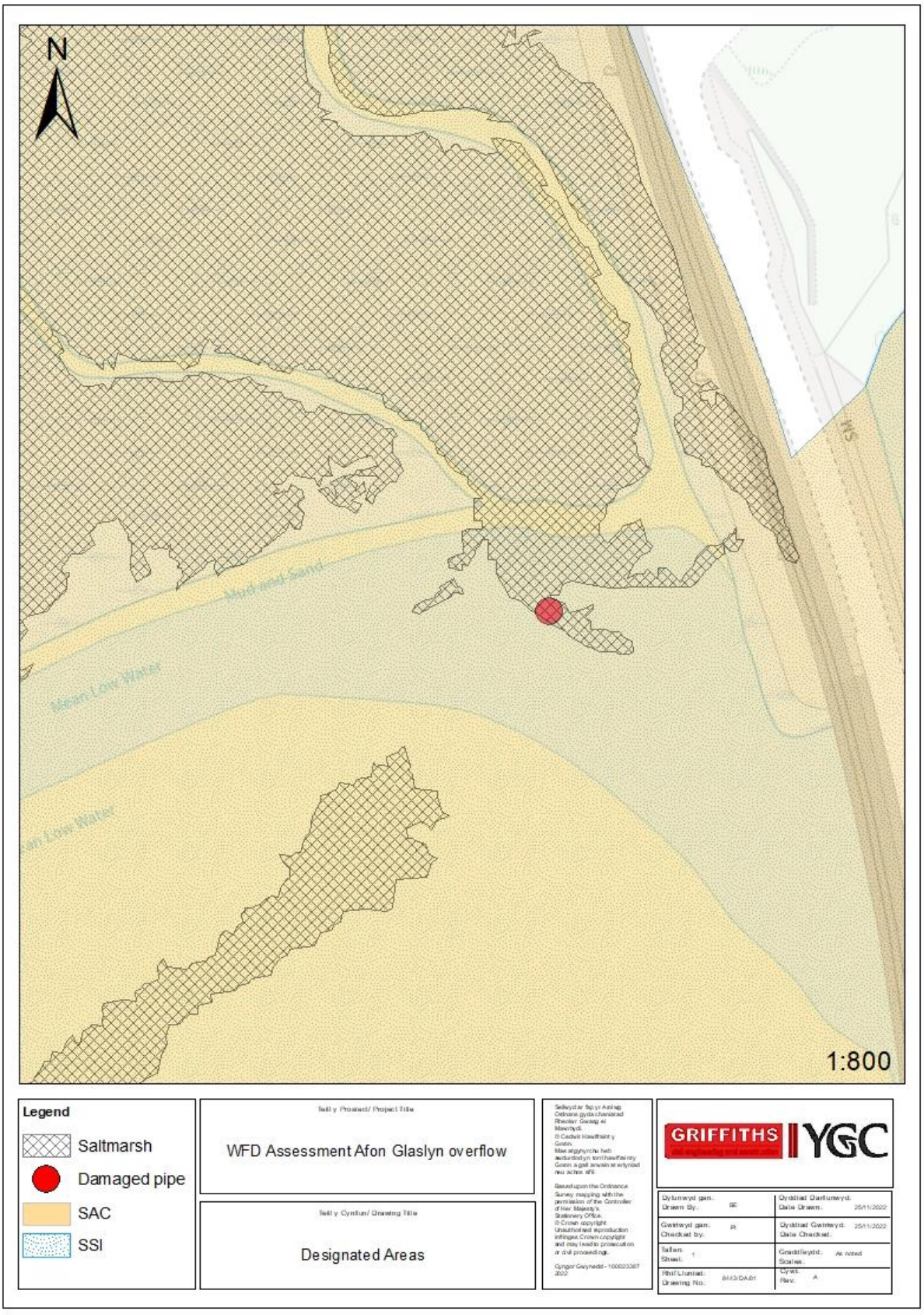
Appendices

Appendix A- Location Plan
Appendix B- Designated sites location
Appendix C- Mean High-Water Line
Appendix D- Location of tidal flooding in relation to the proposed works
Appendix E- Location of fluvial flooding in relation to the proposed work
Appendix F- WFD Scoping Template for activities in estuarine and coastal waters

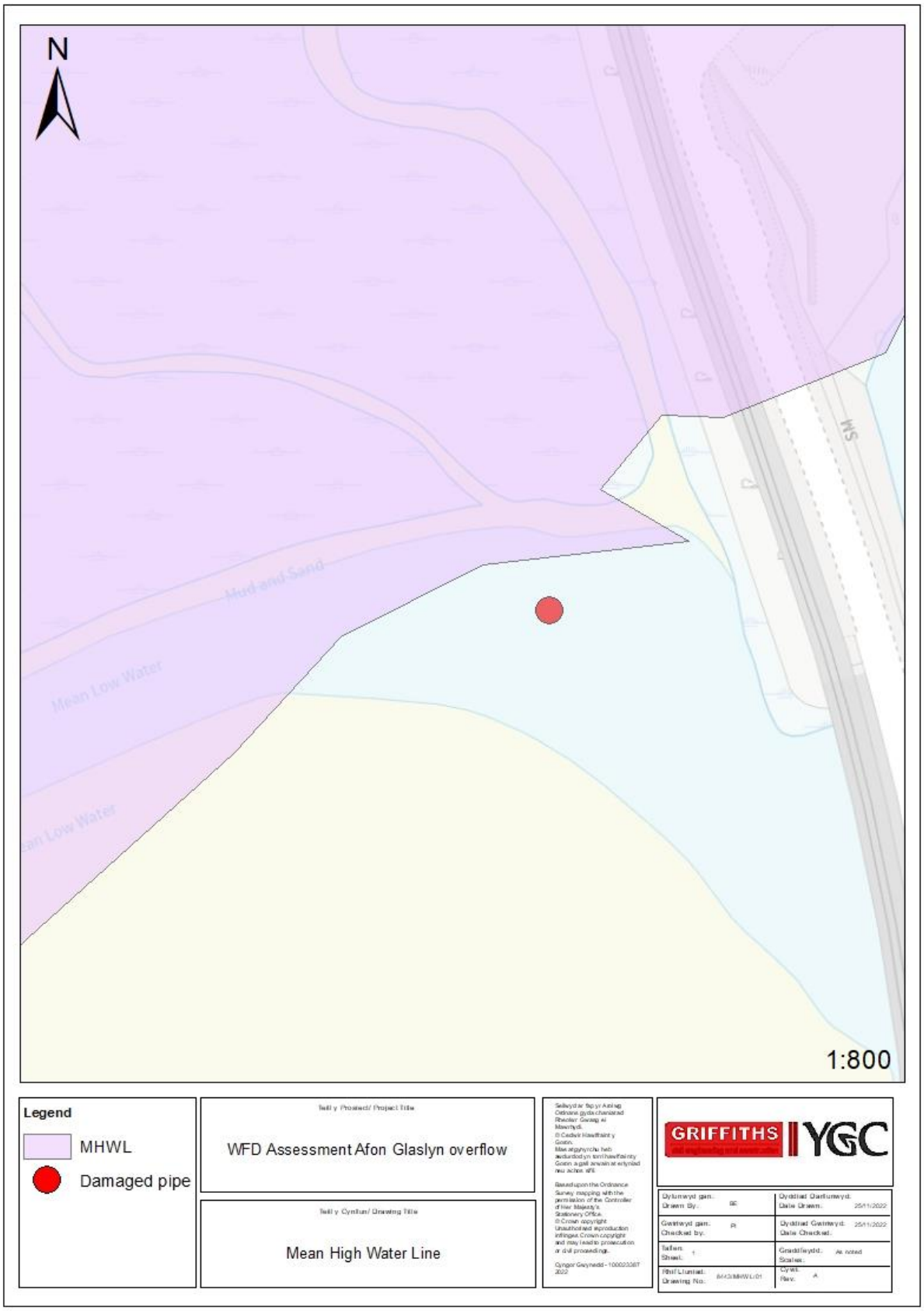
Appendix A- Location Plan



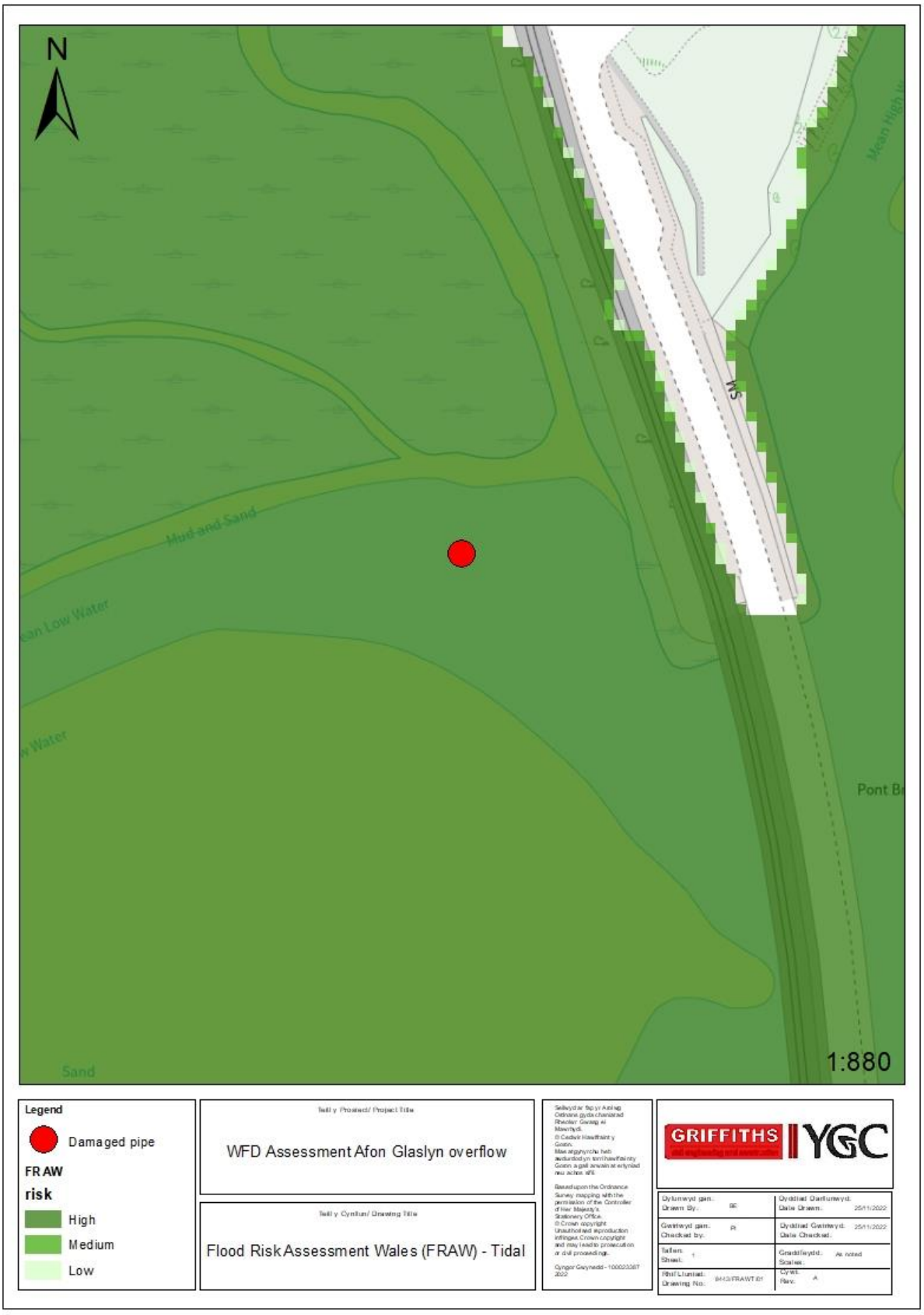
Appendix B- Designated sites location



Appendix C- Mean High-Water Line



Appendix D - Location of tidal flooding in relation to the proposed works



Appendix E - Location of fluvial flooding in relation to the proposed work

Appendix F - WFD Scoping Template for activities in estuarine and coastal waters

Water Framework Directive assessment: scoping template for activities in estuarine and coastal waters

Use this template to record the findings of the scoping stage of your Water Framework Directive (WFD) assessment for an activity in an estuary or coastal water.

If your activity will:

- take place in or affect more than one water body, complete a template for each water body
- include several different activities or stages as part of a larger project, complete a template for each activity as part of your overall WFD assessment

The WFD assessment guidance for estuarine and coastal waters will help you complete the table.

Your activity	Description, notes or more information
Applicant name	Alun Griffiths Contractors Ltd. (Prepared by YGC on behalf of Alun Griffiths)
Application reference number (where applicable)	
Name of activity	Penrhyndeudraeth WWTW Outfall
Brief description of activity	The proposed works involve modifying an existing outfall pipe in marshland located in Penrhyndeudraeth. The works will shorten a damaged section of an exposed 450 mm Waste Water Treatment Works (WWTW) outfall pipe by approximately 5 m and construct a concrete headwall. To gain access to the Outfall location the proposed route from the WWTW requires a 'seaward channel' to be temporarily filled in with a 3m length of a Perforated 600mm diameter Twin Wall Drainage pipe and brought to the surface with suitable clean gravel, with a Bog Mat placed over the surface of the gravel. The pipe and gravel to be laid on a suitable geotextile membrane. This consent application is for the works associated with the temporary pipe installation within the unnamed watercourse to gain temporary access to the main work during

	construction. There will be no increase in flood risk associated with these works to properties due to the location and nature of the unnamed watercourse. The main works do not fall under the requirements for OWC (they are subject to Marine Licensing).
Location of activity (central point XY coordinates or national grid reference)	SH 61820 38359
Footprint of activity (ha)	<0.001ha
Timings of activity (including start and finish dates)	Start date between 01/08/2023 - 31/07/2024 to last approximately 2 weeks.
Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	The extent of the activity is within Afon Glaslyn Bay. Discharge rates are minimal and should only occur in emergency / severe rainfall situations
Use or release of chemicals (state which ones)	Potential for the **accidental** release of diesel, petrol, pipe grease, concrete, aggregate and sewage during construction

Water body[1]	**Description, notes or more information**
WFD water body name	Afon Glaslyn
Water body ID	GB511006507300
River basin district name	Western Wales
Water body type (estuarine or coastal)	Transitional
Water body total area (ha)	15.67 km2
Overall water body status (2015)	Good
Ecological status	Good
Chemical status	Good

Target water body status and deadline	Good status by 2015
Hydromorphology status of water body	*N/A*
Heavily modified water body and for what use	*N/A*
Higher sensitivity habitats present	*N/A*
Lower sensitivity habitats present	N/A
Phytoplankton status	N/A
History of harmful algae	N/A
WFD protected areas within 2km	• SAC: - Pen Llyn a'r Sarnau/ Lleyn Peninsula and the Sarnau • SSSI: - Morfa Harlech (not designated in relation to the water environment). • Salmarsh

[1] *Water body information for Welsh waters can be found in the 'Water Watch Wales' interactive map. Additional information on habitats and protected areas can be found on NRW's interactive 'protected areas of land and sea' map. Links to these information sources can be found in the WFD assessment guidance for estuarine and coastal waters.*

Specific risk information

Consider the potential risks of your activity to each of these receptors: hydromorphology, biology (habitats and fish), water quality and protected areas. Also consider invasive non-native species (INNS).

Section 1: Hydromorphology

Consider if hydromorphology is at risk from your activity.

Use the water body summary table to find out the hydromorphology status of the water body, if it is classed as heavily modified and for what use.

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status		Impact assessment not required	
Could significantly impact the hydromorphology of any water body		Impact assessment not required	
Is in a water body that is heavily modified for the same use as your activity		Impact assessment not required	

Record the findings for hydromorphology and go to section 2: biology.

Section 2: Biology

Habitats

Consider if habitats are at risk from your activity.

Use the water body summary table and Magic maps, or other sources of information if available, to find the location and size of these habitats.

Higher sensitivity habitats [2]	**Lower sensitivity habitats [3]**
chalk reef	cobbles, gravel and shingle
clam, cockle and oyster beds	intertidal soft sediments like sand and mud
intertidal seagrass	rocky shore
maerl	subtidal boulder fields
mussel beds, including blue and horse mussel	subtidal rocky reef
polychaete reef	subtidal soft sediments like sand and mud
saltmarsh	
subtidal kelp beds	
subtidal seagrass	

[2] Higher sensitivity habitats have a low resistance to, and recovery rate, from human pressures.

[3] Lower sensitivity habitats have a medium to high resistance to, and recovery rate from, human pressures.

Consider if the footprint[4] of your activity is:	Yes	No	Biology habitats risk issue(s)
0.5km^2 or larger	Yes	No to all – impact assessment not required	N/A
1% or more of the water body's area			N/A
Within 500m of any higher sensitivity habitat			Within 500m of the saltmarsh, assessment undertaken as part of the HRA. No further assessment under WFD required.
1% or more of any lower sensitivity habitat			N/A

[4] *Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.*

Fish

Consider if fish are at risk from your activity, but only if your activity is in an estuary or could affect fish in or entering an estuary.

Consider if your activity:	Yes	No	Biology fish risk issue(s)
Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary		Go to next section	
Could 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)		Impact assessment not required	
Could cause entrainment or impingement of fish		Impact assessment not required	

Record the findings for biology habitats and fish and go to section 3: water quality.

Section 3: Water quality

Consider if water quality is at risk from your activity.

Use the water body summary table to find information on phytoplankton status and harmful algae.

Consider if your activity:	**Yes**	**No**	**Water quality risk issue(s)**
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)		Impact assessment not required	
Is in a water body with a phytoplankton status of moderate, poor or bad		Impact assessment not required	
Is in a water body with a history of harmful algae		Impact assessment not required	

Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals.

If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:	**Yes**	**No**	**Water quality risk issue(s)**
The chemicals are on the Environmental Quality Standards Directive (EQSD) list		Impact assessment not required	
It disturbs sediment with contaminants above Cefas Action Level 1		Impact assessment not required	

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s)
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list		Impact assessment not required	

[5] *Carry out your impact assessment using the Environment Agency's surface water pollution risk assessment guidance, part of Environmental Permitting Regulations guidance.*

Record the findings for water quality go on to section 4: WFD protected areas.

Section 4: WFD protected areas

Consider if WFD protected areas are at risk from your activity. These include:

- special areas of conservation (SAC)
- special protection areas (SPA)
- shellfish waters
- bathing waters
- nutrient sensitive areas

Use Magic maps to find information on the location of protected areas in your water body (and adjacent water bodies) within 2km of your activity.

Consider if your activity is:	Yes	No	Protected areas risk issue(s)
Within 2km of any WFD protected area[6]		Scale and nature of the works are not considered to cause an impact or alter the status. Best practice and additional site measures to be implemented.	• SAC: - Pen Llyn a'r Sarnau/ Lleyn Peninsula and the Sarnau • SSSI: - Morfa Harlech • Saltmarsh

[6] *Note that a regulator can extend the 2km boundary if your activity has an especially high environmental risk.*

Record the findings for WFD protected areas and go to section 5: invasive non-native species.

Section 5: Invasive non-native species (INNS)

Consider if there is a risk your activity could introduce or spread INNS.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or other water bodies

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS		Impact assessment not required	

Record the findings for INNS and go to the summary section.

Summary

Summarise the results of scoping here.

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	NO	
Biology: habitats	NO	
Biology: fish	NO	
Water quality	NO	
Protected areas	YES	SAC: Pen Llyn a'r Sarnau/ Lleyn Peninsula and the Sarnau; SSSI: Morfa Harlech; Saltmarsh

Invasive non-native species	NO	

If you haven't identified any receptors at risk during scoping, you don't need to continue to the impact assessment stage and your WFD assessment is complete.

If you've identified one or more receptors at risk during scoping, you should continue to the impact assessment stage.

Include your scoping results in the WFD assessment document you send to your activity's regulator as part of your application for permission to carry out the activity.