

**Revetment Repair Works  
Outline Method Statement  
River Ebbw,  
Rogerstone Welfare Grounds,  
Tregwilym Road,  
Rogerstone,  
Newport  
NP10 9NH**

**Prepared for:  
Rogerstone Community Council  
Ref:17957  
October 2024-05**

Document Control

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## 1.0 PURPOSE

The purpose of this document is to provide an Outline Methodology Statement (OMS) for the construction of the new revetment works to restore the extensive riverbank erosion on the River Ebbw which has taken place along a 25-metre section of the footpath, immediately downstream of Rogerstone Welfare Ground on site at Jubilee Park, Rogerstone, Newport .NP12 9NH. NGR Grid Reference: ST 29396 88172.

**Definition: For the purpose of the OMS document “The Engineer “means Vale Consultancy Ltd**

The OMS will identify the following:

- Potential health, safety and environmental hazards and risks.
- Difficulties that may be encountered,
- Special plant or procedures,
- How work is to be carried out to remove or minimise hazards, risks and difficulties,
- Liaising with other external bodies where applicable
- Any necessary permits/licences required for the works,
- How site supervision will ensure works are carried out as intended.

The purpose of an Outline Method Statement is to provide a planned methodology of the works at the Planning Stage by Vale Consultancy, where at the time of planning it is proposed for these works to be carried out in a timely manner to meet the agreed Contract Programme.

What this document is not, is a final set of detailed RAMS for the following reasons:

- Some works have not been approved at this stage.
- Some further investigative works may be required before a final set of RAMS can be produced.
- Following approval of the works and due to unforeseen site specifics and under the direction of the Engineer (Vale Consultancy) some elements of design may need to be agreed on site.
- The works that are to be undertaken by the principal contractors who are to issue their own detailed RAMS as part of the complete package of works.
- All final RAMS are to be reviewed in conjunction with Simultaneous Operations (SIMOPS), that are to be undertaken on either the revetment works phase of the works or other Simultaneous elements of the project that will need to be reviewed alongside the revetment works at a later stage.

The purpose of the Outline Methodology is to ensure that early Planning for the safety of the activities, in line with Health and Safety legislation and in particular CDM Regs 2015, has been considered and that these activities will be continually reviewed in light of any new information until a final detailed set of RAMS are produced, thus a final safe system of works.

During the developing of the final RAMS Personnel and principal contractor appointed to these works will be provided and briefed on this Outline Methodology as the ‘baseline document’ to assist in their development of the final detailed RAMS and safe systems of work. Those developing the detailed RAMS, if they have any queries, should liaise with Vale Consultancy Project Team who will co-ordinate and develop, then approve the final package of RAMS for revetement works on the project. Once completed the contractor will in turn work under their own RAMS and when these are in place, should any personnel have any queries they will be able in turn to liaise with either their site supervisor or the site person in charge before commencing any works. In addition, where applicable to the process

Subcontractors will be coordinated to ensure safety in all SIMOPS around other contractors involved on the Project.

Under no circumstance should any operative or supervisor undertake work that are not covered by the final set of approved RAMS, in addition, where additional specialist RAMS are required beyond this Outline Method Statement then no works should take place until those RAMS have been produced by the Principal Contactor and then submitted, reviewed and commented on where necessary and finally approved in their final format before any works can be undertaken.

If site circumstances or conditions change to a point that works can no longer be carried out as per the agreed RAMS then work should stop and be reported to the supervisor and or line manager to arrange for the RAMS to be revised and the Project Team should then be advised and consulted to re-approve any changes where applicable and to ensure that any changes to RAMS either have no impact upon other operations, or where they do that the Project Team is able to safely co-ordinate them.

Addendums to this method statement will be submitted when/if required following review, change in design and/or materials as the works progress.

Records of the method statement briefings are to be kept in the site safety arrangements file.

## 2.0 INTRODUCTION

The work scope covered in this method statement is for the installation and reinstatement of a new 25 metre section of the footpath, immediately downstream of Rogerstone Welfare Ground located on the west bank of the River Ebbw footpath.

Once prepared and approved, copies of this Outline method statement will always be kept on site for reference. The document will be discussed with the principal contractors site manager/supervisor involved in the proposed works as part of the final development of the RAMS for the river wall works. **This Outline Method Statement is therefore not to be used as the final set of RAMS but one of reference for the future development for the safe installation of the new river wall.**

The area of riverbank collapse is at NP10 3EQ. NGR Grid Reference: ST 29396 88172. The restoration reach of the riverbank is approximately 25 linear metres and is shown on Drg No :17957-501-r07. Newport City Council formally closed the section of footpath until further notice as it represents a risk to life. The rate of erosion has been determined from photographic, site surveys and direct measurements and the approach and the use of non-engineering solution to control the identified problem is considered to be a unviable option and therefore for an engineering solution is necessary to correct and restore the collapsed revetment works to the river bank.

It is understood, in consultation with representative of Rogerstone community, that following recent winter storm events in the River Ebbw has resulted in a collapse of a 25-metre section of river embankment wall directly upstream of the footbridge link to Jubilee Park, and there has been further loss of the embankment following the storm in December 2024. A further possibility is that the trench excavation and backfill in the footpath for the HV electrical cables may have caused an instability of the riverbank by the vertical cut along the footpath. Since the collapse unrecovered sections of the embankment lie within the river channel. A site survey was carried out by Vale Consultancy in July 2023 to review the extent of the damage and assess the feasibility and potential of an appropriate technique for the remedial works to the collapsed section of embankment. The visual inspection carried out by Vale Consultancy determined that the probable cause of the embankment collapse was due to the hydraulic action against that section of riverbank and the resultant fluvial erosion, which undermined the bottom of the bank and created a steeper angle and bank overhang, resulting in a localised collapse or a further possibility is that the trench excavation and backfill in the footpath

for the HV electrical cables may have caused an instability of the riverbank by the vertical cut along the footpath.

At the location of the riverbank collapse the public footpath has been compromised and narrowed to approximate 600mm in the width making it unsafe for public use and Newport CC has closed off this section of the footpath, however, at the time of the inspection the public were still using the footpath, and underground electricity cables were exposed, and the exposed and redundant electric cable will be removed prior to the commencement of the works.

### 3.0 PROJECT ADDRESS

The project name and address are as follows:

|                               |                             |
|-------------------------------|-----------------------------|
| Project Name / Project Title: | Emergency Revetment Repairs |
| Site Address:                 | Jubilee Park                |
|                               | Rogerstone Welfare Ground   |
|                               | Tregwilym Road              |
|                               | Rogerstone                  |
|                               | Newport                     |
|                               | NP12 9NH                    |

### 4.0 RESPONSIBILITIES

#### 4.1 GENERAL

The responsibility for implementing the method statement lies with the company directors, site management, employees, sub-contractors, and consultants. All are expected to co-operate with the company in carrying out the works and must ensure that their own work is carried out without risk to themselves or others.

Working hours are:

|                  |                                 |
|------------------|---------------------------------|
| Monday to Friday | 07:30 – 17:30.                  |
| Saturday         | 07:00 – 13:00 (where required). |
| Sundays          | No Working                      |
| Bank Holidays    | No Working                      |

When attending site for the first time all operatives involved in the works will be required to produce a copy of the following information prior to commencing any works on site: -

- A certificate of competency for all plant operated (in accordance with CITB requirements).
- All operatives to hold a CSCS Card.
- National Insurance details.
- Proof of Right to Work in the UK.
- A copy of these certificates will be taken on site and retained in the Site Safety File.

In addition to the above operatives attending site for the first time will be given a ***Site-Specific safety induction*** by the principal contractors Responsible Supervisor. This briefing will be recorded on site and logged.

Once inducted, on a daily basis all site personnel will on arrival at the site report to the Site Supervisor and sign in. No personnel will be allowed to commence work until they have signed in. This working procedure will be followed on a daily basis.

Site supervisor(s) for this project will hold the **5day SMSTS and/or 2-day SSSTS certificate**.

Plant will be immobilised at the end of each working shift and left in a safe secure manner. Keys for any site machines will be removed each night, doors locked, buckets lowered and left on level ground. The speed for all plant working on site will be a maximum of **5 MPH**

Daily visual pre-work inspections and safety checks will be carried out by the operators on each item of plant at the start of each working shift. Any defects noted will be reported to the Site Foreman. All inspections will be logged / recorded in the site safety file, including whether the item of plant is suitable for use in the short term of it if it is to be placed out of service until repaired, or if appropriate, replaced.

Keys for plant will be attached to extendable fobs to ensure the operator switches off the machine and removes the key when leaving the cab.

Valid test certificates for all items of plant used will be provided and will be available on site for inspection. Copies of these test certificates will be located in the Site Safety File and are to be audited on a regularly basis as part of standard site safety reviews.

The appointed contractor will undertake Health and Safety toolbox talks relevant to the work at regular intervals to the personnel on site, and the ecologists will also undertake a toolbox talk and these toolbox talks will be given by the Ecologist, the Site Foreman, or their designated representative. On completion all attendees are to sign to say that they have attended the toolbox talk and in addition a register of which toolbox talks have been undertaken and who attended will be kept in the site safety file and will be available for inspection.

A Temporary Works Coordinator (TWC) shall be appointed to oversee the construction of all temporary works on site and their deconstruction on completion on site. In addition, the TWC shall appoint a Temporary Works Supervisor (TWS) to routinely inspect all Temporary Works (TW), particularly the daily inspection of trenches / excavations. Note that the TWC may also appoint several TWS's based upon their skill and competence to specific related works. (i.e., a groundworks TWS experienced in Groundworks, a TWS for scaffolding should be a scaffold inspector and a Joinery Supervisor may be appointed as TWS for all RC Formworks etc. The TWC is to appoint each TWS, in turn, in writing, outlining both the extent and limitation of their responsibilities. In return the TWS shall counter-sign to acknowledge their role and confirm their competences in the roles they have been appointed. Where a TWS does not feel competent to undertake a certain role, then they should either decline that aspect or not accept the appointment and alternative TWS may need to be sourced the specific responsibilities redistributed more adaptably to the projects' resources.

#### **4.1.1 CONTRACTS DIRECTOR / MANAGER**

Will be responsible for the overall supervision of the project, applying and monitoring safety, quality, technical and financial controls. He will liaise directly with the client.

He will be responsible for preparing and revising the method statements and co-ordinating the proposed works with the appropriate personnel / sub-contractors on site.

#### **4.1.2 PROJECT MANAGER**

Will provide site-based supervision for the contract, from commencement to completion, and ensure the satisfactory and smooth progress of the works in an efficient, economical, safe, and quality conscious manner.

#### **4.1.3 SITE SUPERVISOR**

The site supervisor(s) will ensure that the number of operatives, under their control, carrying out the works detailed in the method statement and are made aware of its contents and carry out the works in accordance with its requirements, ensuring the correct tools and equipment are available and used to carry out the works. They will ensure that the number of operatives do not take any unnecessary risks and will report any incident, however minor, to the Contracts Manager.

#### **4.1.4 THE PRINCIPAL DESIGNER**

Under the CDM Regs 2015 the Principal Designer must plan, manage, monitor, and coordinate health and safety in the pre-construction phase of a project.

This includes:

- Identifying, eliminating, or controlling foreseeable risks.
- Ensuring designers carry out their duties.
- Preparing and providing relevant information to other duty holders.
- Liaising with the Principal Contractor to help in the planning, management, monitoring and coordination of the Construction phase.

Compiling the Health & Safety file during the project delivery in preparation for handover

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### **5.0 SCOPE OF WORKS**

#### **5.1 SEQUENCE OF WORKS**

The proposed sequencing of the works under this method statement is as follows:

- Plant and Materials deliveries.
- Laydown /Storage area and site compound area
- Removal of concrete sections of collapsed riverbank from river channel and vegetation removal
- Preparation of the works area
- Reinstatement of the embankment
- Armouring of bridge abutment
- Placement and fixing of the reinforced turf
- Reinstatement of the footpath.

Note: The removal of the existing and redundant electric cable will be by others prior to the commencement of the works

#### **5.2 METHODOLOGY**

Access to the site area itself will be via Jubilee Park Walk or with limited access for plant via the welfare ground. All personnel are to be made aware of the Construction Logistics Plan and Traffic Management Plans for the project outlining the various methods of travel of vehicles and site personnel to and from the project.

Site Offices, Welfare and Laydown area will be established behind and the exiting flood defence wall as shown in the site layout plan Drg No 17957/100 -r06.

### 5.2.1 PLANT / MATERIALS DELIVERIES.

Prior to any works commencing all personnel, contractors and visitors to site should ensure they are familiar with the projects Construction Logistics Plan and Traffic Management Plans which includes for the traffic and pedestrian management on site.

Within work areas segregated walkways are to be provided by barriers to segregate operatives from plant movements.

All delivery vehicles are to be directed into the compound / laydown area by a banksman. Materials for the works will either be offloaded from the lorry by Hiab or excavator fitted with lifting equipment. Certification of all plant / Hiab operators will be checked before any lifting operations take place.

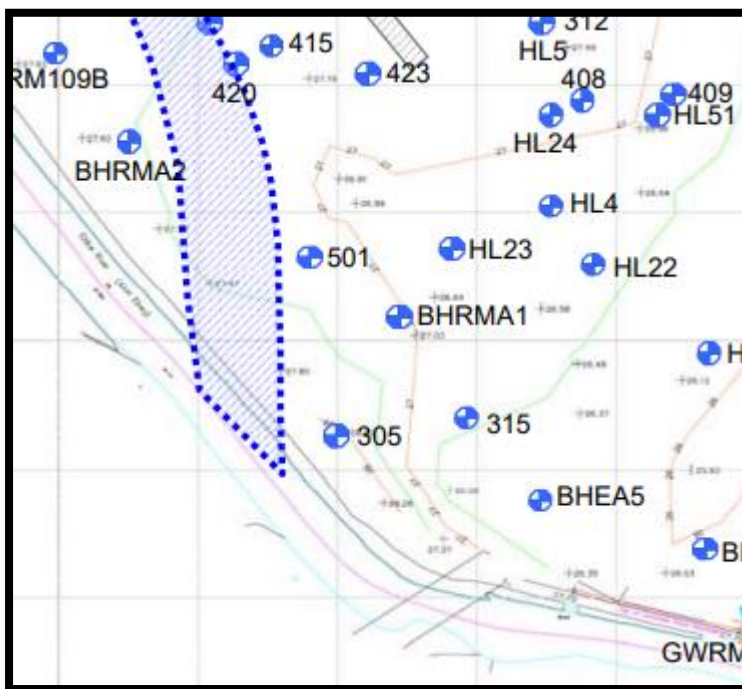
There will be a visual check of all-lifting straps, shackles and chains prior to each use and any defects found will be reported to the site supervisor and replaced. Materials arriving on site without the correct certified lifting equipment will be turned away from site. All materials will be stored / stacked to maintain the access routes.

Material deliveries, where practicable, will be delivered to site in such a way so as to eliminate the requirement to go on to the rear of the vehicle by requesting materials to be palletised, placed on bearers or delivered pre-slung to allow slings to be attached at ground level.

This allows for unloading of the vehicle from ground level by excavator with lifting equipment/fork attachment eliminating the risk of falls from height during such work.

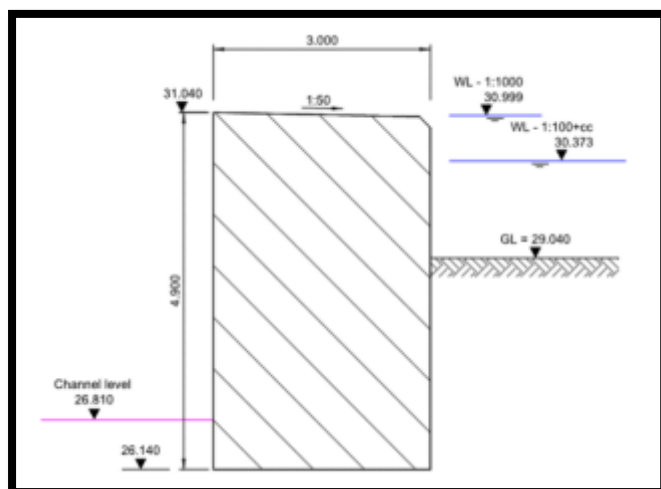
### 5.2.2 INVESTIGATION WORKS

Integral Geotechnique (Wales) Ltd carried out a site investigation report dated 2012 and can be made available on request.



*Extract of Fig 12 of SI: Borehole Location Plan*

The 1.6 km long mass concrete flood wall, which protects Jubilee Park development and was constructed in 2014-2015, and is present along the western boundary of the footpath and is subject to periodic condition inspections (last inspection 2020). A review of the Arup's Flood Inspection Report 2020 and the original construction drawings indicates the construction of the flood defence wall local to the riverbank collapse, to be an in-situ mass concrete retaining wall founded on alluvial gravels at approximately 26.140m AOD: Ref **Fig 1**



**Fig 1**

### 5.2.3 REVETMENT WORKS

The proposed solution is to deploy pre-filled 2 tonne “AquaRock” bags which will protect and prevent any further riverbank erosion. The primary advantage is convenience is that the structure and shape allow for a quick and efficient installation and the construction is simple and time efficient and is not reliant on large scale equipment and manpower as they can be brought in and filled onsite with a Jig provided by Salix from the stockpile of specified stone fill in the laydown area. The bags have lifting rings for fast placement with a mobile crane capable of lifting and slewing the bags from the other side of the Jubilee Park flood defence wall which is used as a laydown area. The deployment of the bottom Aqua Rock bag will be anchored and the reminder to be tied together and will provide a flexible and sustainable alternative to any of the previously described hard or soft engineering solutions for this application were a rapid and safe installation is required in flowing water with the placement of the filled units.

This document summarises the rationale behind the development of the design for of the revetment works and the proposed methods of construction of the design and key considerations for the works.

Vale Consultancy was commissioned to undertake a feasibility study to determine the most appropriate management practice to restore the riverbank where collapse has occurred, and erosion is continuing and the preferred engineering solution for the repairs for the bank. The solution would ensure that the existing area of riverbank collapse is reinstated and is protected from further erosion.

The key elements of the final design are summarised below, with full details in the Feasibility Report dated August 2023:

1. Removal of the existing collapsed riverbank from within the river channel
2. Installation of a 25 m long deployment of 2 tonne “AquaRock” bags

The design has been based on Vale Consultancy evaluation of hydraulic performance and sediment transport processes to ensure that the project aims are met with minimal risks to the natural and built environment. Key aims of the project include:

|                                                                                    |
|------------------------------------------------------------------------------------|
| Provides a strong defence against water erosion and high-water levels.             |
| Provides a sustainable solution with a long-term material strength and durability. |
| The selected size range is a 2-tonne bag about 2 metres in diameter                |
| Provide ecological benefit by providing a habitat for invertebrates.               |
| The angular stone filling provides an interlocking fit                             |
| The bags allow water to flow but trap sediment and improve water quality.          |
| The bags can be landscaped above high-water levels thereby restoring the footpath. |

Prior to the commencement of any physical works, an initial on-site start-up meeting is required to ensure that all parties involved agree with the proposed construction process. Vale Consultancy as the designer, requires periodic representation to witness key phases of construction to ensure that the designs are executed appropriately and that any 'field-fitting' can be undertaken under the direction of the engineer when it is determined necessary.

The principal contractor is responsible for liaising with the service providers regarding the location of local services within the construction area. This communication should cover all aspects of working near, crossing over and under services ensuring that the principal contractor is clear on which activities are permitted.

#### **5.2.4 ECOLOGY**

An ecological appraisal has been conducted by *Abby Sanders Ecology* for the reach of the river Ebbw affected by the works, and it is required that the principal contractor is afforded access to the ecologist during the construction period. The survey identified the presence of the flora and fauna and with the associated recommendations provided within the report, and the recommendation that the physical works will require the necessary mitigation measures implemented and any required protected species license applications

### 5.2.5 POLLUTION CONTROL

All sediment controls will be regularly inspected by the Principal Contractor and maintained by the Principal Contractor to ensure that they are effective. Silt control across the site is paramount during the site clearance /preparation and construction stage of the works and when working within the river extreme care will be taken to prevent pollution and mobilisation of silt and sediment, this would include careful removal of any riparian vegetation and stabilisation of the exposed banks where required. Areas or activities considered to be high risk will be carried out at least 10m from the watercourse and would include fuel, oil or chemical storage, equipment washing refuelling and parking areas.

The Principal Contractor will keep a site diary recording all activities associated with the construction of the scheme, including sediment/pollution control and would include

- The weather forecast
- Installation, inspection and improvements where necessary of silt control measures
- Update of work progress
- Events/incidents
- The diary will be kept in the site office and will be available for inspection.

Pollution spill kits will be made available to all personnel and site staff will be trained in the use of spill kits; these kits will accompany all on site vehicles.

### 6.0 CONSTRUCTION PROCESS

For the purposes of this Method Statement, refers to the proposed works on the reach of the river Ebbw immediately downstream of Rogerstone Welfare Ground, which are identified and listed in the drawing issue sheet .

Tender design drawings are provided separate to this document.

The proposed solution to reinstate the collapsed riverbank section over a 25m length and the line of footpath and to deploy “AquaRock” Bags which will protect and prevent any further riverbank erosion.

The construction method statement with the descriptions for each of the main elements of the proposed works are outlined in this Section. *There may be small amendments to the method described as the project proceeds and a better understanding of ground conditions is gained.*

Access construction methodology

The work sequence will be as follows: -

- Site engineer will set out line and level control for excavation works.
- The tracked excavator will strip the topsoil and set it aside for later reinstatement or soiling of batters as required.
- The excavator will excavate the subsoil to the correct profile.
- Surplus material will be removed and transported to the designated stockpile area.
- If required, geotextile will then be placed over the subsoil.
- Fill material and / or subbase will be imported as required.
- All fill material will be laid to the required depths & finished levels and will be fully compacted in layers using a ride on roller.

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## 6.1 PRE-CONSTRUCTION WORKS

The proposed development has been designed and planned to minimise its environmental impacts. Specific areas where the environment has been considered include:

- Scheduling of works to reduce impacts on the natural heritage.
- Use of existing access tracks where possible.
- Protection of the trunk sewer
- Any advised ecological works as identified by the ecologist

For all works, the following measures will be taken:

- A site walkover must be conducted prior to any commencement of works to check for the presence of breeding birds, protected under the 'Nature Conservation Act 2004' previously the 'Wildlife & Countryside Act 1981.' The works are not expected to result in a negative impact upon the species, though consideration should be given to the potential of late or early nesting birds. If any nests are found or suspected whilst conducting the site walkover, the contractor or engineer should contact the regulating authorities immediately who will deploy an ecologist to assess. The area should then be ring fenced by barrier tape and an appropriate buffer zone maintained until further advice provided.
- All identified services will be marked out and fenced off or protected prior to commencement of works.
- An oil spill kit will be always maintained on site. Spill kit and fire extinguisher to be kept in all excavators.
- Any plant used on the contract will be cleaned before use and will be regularly checked for leaks, drips etc.
- Fuelling operations and washing of vehicles or plant will be carried out at the designated areas at least 10m from surface or ground water.
- In the event of a spill operations will cease, and the spill will be treated in accordance with an agreed spill response procedure.
- Operatives will be briefed in the form of a toolbox talk on this Method Statement, Risk Assessment, the spill response procedures and ecological requirements.
- Oil booms will be set up across the watercourse downstream of in-river works. Diesel will not be stored on site.
- Small plant i.e. generators and pumps to be always kept in an impervious drip tray with capacity equal to or greater than 110% of the capacity of the fuel tank.

All practical measures will be taken for silt and sediment control management, with reference to the CAR Licence, to NRW Regulatory Method, Regulation of Engineering Activities and Sediment Management. The relevant NRW Guideline Pollution Prevention will also be consulted as a source of information good practice regarding works in or near water, and the requirements of the Flood Risk Activity Permit (FRAP)

### 6.1.2 TEMPORARY WORKS

The principal contractor will need to apply for a Flood Risk Activity Permit (FRAP) prior to carrying out the temporary works associated with the permanent work, to the River Ebbw.

FRAP secured for the permanent works Ref: DFR/S/2024/0138 (9<sup>TH</sup> January 2024)

- Planning and site setup

- Site clearance
- Minimise runoff contamination
- Partial Isolation of work area using a “Murlac Frame Dam and Silt Management system” or approved equivalent. (See Below for typical application detail)



- Dewatering of isolated area
- Treatment and/or disposal of contaminated water
- Construction should be scheduled for when ecological sensitivity to disturbance is relatively low and there is a reduced risk of wet conditions impacting the works programme.
- The programme should also allow sufficient time for bankside vegetation to re-establish post-works and prior to winter flows.

## 7.0 ASSUMPTIONS

*As with any construction that involves working in the natural environment, complete and spatially continuous supporting data sets (e.g. services, ground conditions etc) are not always available. It is therefore not uncommon for unexpected issues to arise once the construction phase has begun. Under such circumstance, the engineer in tandem with the principal contractor may require making decisions at short notice as to how designs need to be modified to solve these issues. This process is known as 'field-fitting' as a result of unforeseen site-specific issues that may be encountered during the works.*

*Vale Consultancy, as the designer and engineer, requires periodic representation to witness key elements of the construction associated with this contract, to ensure that the designs are executed appropriately and that any 'field-fitting' can be undertaken when it is determined necessary under the direction of the engineer.*

### **Anticipated Schedule of Inspections (Timings to be agreed)**

- **Pre-Commencement site meeting and inductions**
- **Formation Levels for the reinstatement works**

- ***Placement and anchoring of base/bottom rock bags.***
- ***Placement and fixing of rock mattress of bridge abutment armouring.***
- ***Final placement of the Aquarock bags***
- ***Placement of reinforced turf***
- ***Final inspection of completed works.***

*An inevitable reality of implementing river restoration designs is the requisite stabilisation period following the initial completion of design works, which may be up to 3-5 years depending on flow regime over this period. During the stabilisation period, the site is more susceptible to adjustment as a result of high flows and therefore, monitoring of the condition of the constructed design should be conducted following any such event. Monitoring will determine if remedial 'adaptive management' work is required to mitigate any issues should they arise.*