

Our Ref: SC210004

Your Ref:

Date: 01 September 2021

Dear Sir/Madam

**Contract Ref: SC210004**

**Contract Title: Interpreting DNA data for the assessment of river phytobenthos**

You are invited to quote for the above in accordance with the enclosed documents.

Instructions on what information we require you to provide is in Section 4 of the following Request for Quotation document.

Your response should be returned to the following email address by 1700h Friday 24 September 2021

jo-anne.pitt@environment-agency.gov.uk

Please confirm, by email, receipt of these documents and whether you intend to submit a quote.

If you have any queries, please do not hesitate to contact me.

Yours sincerely

Dr Jo-Anne Pitt

Senior Specialist, Research

E-mail: jo-anne.pitt@environment-agency.gov.uk@environment-agency.gov.uk

Telephone: +44 (0)7786526385

**The Environment Agency**, Horizon House, Bristol BS1 5AH

**Request for Quotation**

**Ref: SC210004**

**Title: Interpreting DNA data for the assessment of river phytobenthos**

**Section 1**

**Who is the Environment Agency?**

We are an Executive Non-departmental Public Body responsible to the Secretary of State for Environment, Food and Rural Affairs. Our principal aims are to protect and improve the environment, and to promote sustainable development.

Further information on our responsibilities, Corporate Plan and how we are structured can be found on our Website.

<https://www.gov.uk/government/organisations/environment-agency/about>

**What do we spend our money on?**

We are a major procurer of goods and services within the UK, spending circa £600M per annum, our major spend areas are:

* Flood and Coastal Risk Management (design, construction and maintenance)
* ICT and Telecommunications
* Vehicles and Plant
* Environmental Consultancy and Monitoring
* Temporary Staff and Contractors
* Facilities Management, Energy and Utilities
* Flood Management and Water Related Services

**What do we need from our suppliers?**

Suppliers are vital in supporting the delivery of our corporate plan. We aim to support the economy and society whilst delivering more environmental outcomes for every pound we spend. In many areas we are leading the way on environmental and technical developments. It is our role to ensure that suppliers clearly understand our corporate aims and objectives and know that we are committed to delivering the best value most sustainable solutions, taking into account the whole life cost of our procurement decisions. We promote diversity and equality and treat all of our suppliers fairly.

Our procurement strategy may be of interest to you as a potential supplier. It sets out our priorities and key commitments in a range of areas such as delivering our corporate plan, Government policy, supplier management and sustainable procurement:

<https://www.gov.uk/government/organisations/environment-agency/about/procurement#procurement-strategy>

**Government changes and collaboration**

Since 1 April 2013, the Environment Agency is no longer responsible for delivering the environmental priorities of Wales. This is now the remit of Natural Resources Wales (NRW).Further information can be found here:

<http://naturalresources.wales/splash?orig=/>

By bidding for this requirement, you may also be approached by other members of the Defra network, NRW or other government departments that are specifically named in the tender document.

**Further information**

For further information and to see our commitments to Diversity and Equality, please visit our website.

<https://www.gov.uk/government/organisations/environment-agency/about/procurement>

https://www.gov.uk/government/organisations/environment-agency/about/equality-and-diversity

Also, are you up to date on environmental legislation? See links below for further information.

Waste and Environmental Impact - <https://www.gov.uk/browse/business/waste-environment>

Environmental Regulations - <https://www.gov.uk/browse/business/waste-environment/environmental-regulations>’

**Section 2**

**The Customer**

**Summary**

This work is being commissioned by the Research team within the Chief Scientist’s Group. The work of the Environment Agency’s Chief Scientist’s Group is a key ingredient in the partnership between research, guidance and operations that enables the Environment Agency to protect and restore our environment. The team focuses on four main areas of activity:

* Setting the agenda, by providing the evidence for decisions;
* Maintaining scientific credibility, by ensuring that our programmes and projects are fit for purpose and executed according to international standards;
* Carrying out research, either by contracting it out to research organisations and consultancies or by doing it ourselves;
* Delivering information, advice, tools and techniques, by making appropriate products available.

## Contract Length

It is anticipated that this contract will be awarded to one supplier for a period of 6 months to end no later than 31/03/22. Prices will remain fixed for the duration of the contract award period. We may at our sole discretion extend this contract to include related or further work. Any extension shall be agreed in advance of any work commencing and may be subject to further competition. Any amendment to contract prices for the extensions are to be by negotiation.

The Environment Agency Conditions of Contract for Research (Appendix C) shall apply to this contract.

This contract shall be managed on behalf of the Agency by

Dr Jo-Anne Pitt,

jo-anne.pitt@environment-agency.gov.uk

+44(0)7786526385

## Contact Details and Timeline

Dr Jo-Anne Pitt will be your contact for any questions linked to the content of the quote pack or the process. Please submit any questions by email and note that both the question and the response will be circulated to all tenderers.

Key elements of the process have been reviewed. Anticipated dates for planned activities are below:

|  |  |
| --- | --- |
| **Activity** | **Due Date** |
| Supplier responses for Request for Quote | 17.00h Friday 24 September 2021 |
| Evaluation of Request for Quote submissions | 30 September 2021 |
| Award of contract | 04 October 2021 |
| Project/Contract end date | 31 March 2022 |

It should be noted that these timescales and activities may be subject to change.

**Section 3**

## Evaluation Criteria

We will award this contract in line with the most economically advantageous tender (MEAT) as set out in the following award criteria:

* Price – 60%
* Quality – 40%

The following quality criteria are weighted in accordance with the importance and relevance attached to each one.

* Experience of key personnel who will be directly involved with this contract, including evidence of translating DNA and other data into usable outputs for freshwater environmental assessment **40%**.
* Knowledge and application of computational ecology and bioinformatics techniques **40%**
* Your proposed methodology/approach for Phase 2 **20%**

The criteria listed above will be assessed on a 0 to 10 basis and will reflect the following judgements:

|  |  |
| --- | --- |
| **Rating of Response****The tenderer provides a response which in the opinion of the evaluators is:**  | **Score** |
| **Excellent:** Addresses all of the requirements and provides a response with relevant supporting information which does not contain any weaknesses, giving the Agency complete confidence that the requirements will be met. | 10 |
| **Very Good:** Addresses all of the requirements and provides a response with relevant supporting information, which contains very minor weaknesses, giving the Agency high confidence that the requirements will be met. | 8 |
| **Good:** Addresses all of the requirements and provides a response with relevant supporting information, which contains minor weaknesses, giving the Agency reasonable confidence that the requirements will be met.  | 6 |
| **Satisfactory:** Substantially addresses the requirements and provides a response with relevant supporting information which may contain moderate weaknesses, but gives the Agency some confidence that the requirements will be met.  | 4 |
| **Weak:** Partially addresses the requirements, or provides supporting information that is of limited relevance or contains significant weaknesses, and therefore gives the Agency low confidence that the requirements will be met. | 2 |
| **Nil:** No response or provides a response that gives the Agency no confidence that the requirements will be met.   | 0 |

**Section 4**

**Information to be returned**

**Please note, the following information requested must be provided. Incomplete tender submissions may be discounted.**

Please complete and return the following information:

* completed Pricing Schedule (Appendix A);
* completed Prior Rights Schedule (Appendix B);
* confirmation that terms and conditions are accepted (Appendix C. Please note that the terms cannot be amended later).
* details of the personnel you are proposing to carry out the service, including CV’s of your key personnel;
* details of how you propose to maintain continuity of personnel;
* outline of proposed methodology for Phase 2;
* details of your knowledge and experience in relation to the tasks and deliverables described in Section 5 below, including recent experience of carrying out similar contracts and any recent relevant publications

**Section 5**

**Specification**

# Background to the Requirement

DNA-based analysis of biological samples for environmental assessment potentially offers a more cost-effective way of acquiring species data than the more conventional methods currently employed by the Environment Agency, other UK regulators and conservation agencies.

Benthic diatoms have been used in environmental assessment in the UK for many years, principally in rivers but with some application in lakes. They are easily sampled alongside the collection of other biological and/or environmental parameters and have been shown to respond to nutrient pressure in particular. The Trophic Diatom Index (TDI) was developed in the 1990s (Kelly and Whitton 1995) and subsequently modified to provide an assessment tool (DARLEQ) that was compliant with the requirements of the Water Framework Directive, with diatoms being used as a proxy for the status of the wider phytobenthos (Kelly et al 2008). The DARLEQ tool was designed for use with light microscopy (LM) data, and was intercalibrated to a common definition of good ecological status under the WFD.

The Environment Agency has been at the forefront of developments in the use of DNA for identification of freshwater benthic diatoms in recent years and significant progress has been made, in collaboration with SEPA and with input from other UK agencies. (Environment Agency 2018, 2020 and SEPA 2018)

A relationship has been demonstrated between the DNA data and nutrient pressures that is similar to that for LM data, but the two methods produce differing outputs in terms of the taxa identified and quantified, leading in some instances to different TDI scores and calculated EQR values. Mismatches in the WFD classification occur in about 35% of sites where comparative data are available. This mismatch between the DNA and LM methods was considered too large by the UK Administrations when reviewed in 2019, and therefore the DNA based method has not been adopted for formal classification and reporting purposes for River Basin Planning Cycle 3.

In this project we wish to:

* Re-evaluate the match of NGS to LM classification results using an improved DNA barcode reference database and different bioinformatics pipelines. This work will be carried out using existing datasets held by the Environment Agency. The outcome of this work will determine whether the match can be improved sufficiently for acceptance for formal reporting by Defra and other UK Admins.
* Explore the potential for different approaches to the analysis of DNA data for the assessment of the wider phytobenthic community, using existing DNA data and associated water quality and other environmental information.

**Phase 1**

There are currently a variety of bioinformatics pipelines and approaches available for analysing NGS data, including those developed specifically for diatom metabarcoding data (Bailet et al 2020). These include Qiime, Mothur and DADA2. Bailet et al (2020) demonstrated that biotic index scores and ecological assessments varied significantly between bioinformatic approaches. The original development of the UK DARLEQ 3 tool used a custom-built pipeline and curated database (Environment Agency 2018, 2020, and SEPA 2018). There was a good correlation (0.77) between the LM TDI and NGS TDI EQR values. However approximately 35% of sites would have a different WFD class from each method using this approach (differences were both positive and negative, with no bias). Since this development work was undertaken, alternative bioinformatics approaches (OTU vs ASV and different pipelines) have been developed and more barcodes added to online databases (Rimet et al 2019).

This phase of work will investigate the impact of using an updated database and different bioinformatics pipeline approaches on WFD ecological status, using the existing NGS data.

Specific tasks:

* Develop the most comprehensive, up to date rbcL barcode database from DIAT.BARCODE that incorporates 331 bp rbcL barcode.
* Install and set up original QIIME bioinformatics pipeline.
* Adapt and install alternative pipelines such as DADA2 and MOTHUR. Various diatom pipelines exist but have been custom built for different barcode regions. They will therefore need adapting to accommodate 331bp rbcL barcode. Alternatively others may exist that could also be adapted. It is expected that at least two pipelines in addition to the existing QIIME pipeline will be used for comparison, in agreement with the project manager.
* Collate Environment Agency supplied raw NGS sequence files, LM and other supporting data for ~1500 UK sites.
* Run the original QIIME pipeline with the updated reference database.
* Run alternative pipelines with the updated reference database.
* Determine diatom assemblage outputs from different pipeline outputs.
* Use DARLEQ3 (UKTAG 2020) to calculate TDI5 NGS scores from each pipeline output for comparison with TDI5 LM.
* Derive classification outputs from each pipeline and compare with LM results.
* Evaluate the differences in results obtained and quantify any improvement over the original outputs.
* Produce a report in Environment Agency science template. All supporting data used in analysis to accompany report, including samples and associated metadata and copies of *rbcL* databases used

**Phase 2**

We anticipate an exploratory approach to the work in Phase 2, which is therefore less closely defined than Phase 1. We expect the approach taken to be agreed in discussion with the project manager and project team, based on initial suggestions from the contractor.

Specific tasks:

* Using available DNA data (potentially including approximately 2400 additional samples not used in the comparative work in Phase1) and any readily available supporting environmental information (e.g. water quality data from the Open Data archive, GIS based catchment land use information, river flow data), explore the potential for:
1. Extraction of additional non-diatom species, other taxonomic unit information, or taxon-free data, for the phytobenthic community from the existing NGS data
2. Application of appropriate statistical methods or models to demonstrate the potential for identifying pressure-response relationships based on the alternative data approach
* Produce a report of the work undertaken, including evaluation of the potential for a new metric/metrics and recommendations for further work. All supporting data to be collated and supplied.

**References**

Bailet, B., Apothéloz‐Perret‐Gentil, L., Baricevic, A., Chonova, T., Franc, A., Frigerio, J-M., Kelly, M., Mora, D., Pfannkuchen, M., Proft, S., Ramon, M., Vasselon, V., Zimmermann, J., Kahlert, Mari. (2020). Diatom DNA metabarcoding for ecological assessment: Comparison among bioinformatics pipelines used in six European countries reveals the need for standardization. Science of The Total Environment. 745. 140948. 10.1016/j.scitotenv.2020.140948.

Environment Agency (2018) A DNA based diatom metabarcoding approach for Water Framework Directive classification of rivers. SC 140024/R [A DNA-based diatom metabarcoding approach](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/684493/A_DNA_based_metabarcoding_approach_to_assess_diatom_communities_in_rivers_-_report.pdf)

Environment Agency (2020) Assessing river nutrients using diatom DNA – further development of an operational method SC160014/R [Assessing river nutrients using diatom DNA](https://www.gov.uk/government/publications/assessing-river-nutrients-using-diatom-dna-further-development-of-an-operational-method)

Kelly, M.G. and Whitton, B.A. (1995) The Trophic Diatom Index: a new index for monitoring eutrophication in rivers. *Journal of Applied Phycology*, 7 (4), 433-444.

Kelly. M., Juggins, S., Guthrie, R., Pritchard, S., Jamieson, J., Rippey, B., Hirst, H. and Yallop, M., (2008). Assessment of ecological status in U.K. rivers using diatoms. *Freshwater Biology*, 53 (2), 403-422.

Rimet F., Gusev E., Kahlert M., Kelly M., Kulikovskiy M., Maltsev Y., Mann D., Pfannkuchen M., Trobajo R., Vasselon V., Zimmermann J., Bouchez A., 2019. Diat.barcode, an open-access curated barcode library for diatoms. Scientific Reports. <https://www.nature.com/articles/s41598-019-51500-6>

Rimet, Frederic; Chonova, Teofana; Gassiole, Gilles; Gusev, Evgenuy; Kahlert, Maria; Keck, François; Kelly, Martyn; Kulikovskiy, Maxim; Maltsev, Yevhen; Mann, David; Pfannkuchen, Martin; Trobajo, Rosa; Vasselon, Valentin; Wetzel, Carlos; Zimmermann, Jonas; Bouchez, Agnès, 2018, "Diat.barcode, an open-access barcode library for diatoms", <https://doi.org/10.15454/TOMBYZ>, Portail Data INRAE, V9

Frederic Rimet; Philippe Chaumeil; Francois Keck; Lenaïg Kermarrec; Valentin Vasselon; Maria Kahlert; Alain Franc; Agnes Bouchez. 2016. R-Syst::diatom: an open-access and curated barcode database for diatoms and freshwater monitoring. Database, 2016, 1-21.<http://database.oxfordjournals.org/content/2016/baw016.full?keytype=ref&ijkey=H324uA95JzzEomz>

Rimet F., Chaumeil P., Keck F., Kermarrec L., Vasselon V., Kahlert M., Franc A., Bouchez A., 2015. R-Syst::diatom: a barcode database for diatoms and freshwater biomonitoring - data sources and curation procedure. INRA Report, 14 pages <http://dx.doi.org/10.5281/zenodo.31137>

SEPA (2018) Evaluation of benthic diatom classification in UK rivers using LM and NGS methods. Report number E18-56 (PO 4057194) [Evaluation of benthic diatom classification in UK rivers using LM and NGS methods](https://www.sepa.org.uk/media/399244/benthic_diatom_report_lm_and_ngs.pdf)

UKTAG (2020) UKTAG River Assessment Method, Macrophytes and Phytobenthos

Phytobenthos - Diatoms for Assessing River and Lake Ecological Quality (River DARLEQ3) [River phytobenthos method statement](http://www.wfduk.org/sites/default/files/River%20Phytobenthos%20UKTAG%20Method%20Statement%20Sep2020.pdf)

# Specific Objectives/Deliverables

**Objectives:**

**Phase 1**

* Compare diatom assemblages derived from each pipeline with each other and with LM to compare the performance of each pipeline at taxonomic assignment and compare the proportion of unassigned.
* Compare sample TDIs computed with different pipelines and with LM.
* Compare ecological status for samples computed with different pipelines and LM.
* Determine which pipeline produces the best overall correlation between NGS and LM and the impact on ecological status classes e.g. the range of class change from 1 – 4. Discuss the major discrepancies between pipelines and provide a recommendation with justification for adopting or not adopting a change of pipeline for use with DARLEQ 3 NGS.

**Phase 2**

* Explore NGS data to determine the potential to extract wider information on the river phytobenthic community
* Examine relationships with environmental variables to assess the potential for development of new approaches/new metrics for the assessment of river phytobenthos.
* Provide recommendations for further work

**Deliverables**

Phase 1 Report (Environment Agency Science report format) detailing work undertaken, database (format to be agreed) containing data used in producing comparative results and outputs from DARLEQ3.

Phase 2 Report (Environment Agency Science report format) detailing approach, results and recommendations for further development, database (format to be agreed) containing collated data used in the work.

### Timescales/Deadlines

Note that although the project consists of two phases, it is likely that some work for Phase 2 could be conducted concurrently with Phase 1.

|  |  |
| --- | --- |
| **Date** | **Milestone/Deliverable** |
| 04 October 2021 | Contract awarded  |
| Week beginning 04 October 2021 | Start up meeting (MS Teams) Contractor/Project Team/Advisory GroupProvision of data sets to contractors |
| Fortnightly | Project manager/contractor catch-up calls |
| December 2021 | Progress meeting (MS Teams). Contractor/Project Team/Advisory Group |
| 21 January 2022 | Draft report Phase 1 (Environment Agency Science report template) |
| 18 February 2022 | Draft Report Phase 2 (Environment Agency Science report template) |
| 15 March 2022 | Final reports (Environment Agency Science report template) and databases |
| 31 March 2022 | Project ends |

### Skills of Personnel Required

Potential contractors may wish to form partnerships or consortia in order to access the range of expertise require in this project.

* Experience of bioinformatics pipeline use and programming skills, particularly in Python and R.
* Strong background in statistics, data mining, and machine learning.
* Understanding of the basis of current ecological classification tools in use for WFD, and the reporting requirements of the Environment Agency would be an advantage, in particular
* Knowledge of DARLEQ tool. More information can be found within the Environment Agency and SEPA reports, and the UKTAG method statement and associated documents (see references in Section 5.1 above)
* An understanding of river phytobenthos, algal taxonomy and wider river ecology would be advantageous

**Section 6**

**Contract Management**

This contract shall be managed on behalf of the Agency by Dr Jo-Anne Pitt

jo-anne.pitt@environment-agency.gov.uk, 07786526385

A small project team and advisory group has been established by the Environment Agency to provide oversight of the work. A project start-up meeting will be held via MS Teams as soon as possible after the contract is awarded, and a formal progress review meeting will be scheduled at the halfway point of the project.

The contractor is expected to maintain regular communication with the project manager; fortnightly telephone calls or MS Teams meetings will be scheduled to facilitate this.

We will raise purchase orders to cover the cost of the services and will issue to the awarded supplier following contract award.

We will pay 40% of the contract costs on receipt of a satisfactory draft report for Phase 1, and the remainder of receipt and approval of the final report for the project.

Before the invoice is issued, a fee note must be emailed in advance to the contract manager for approval. All invoices must quote the purchase order number in order to be processed. A file copy invoice must be provided to the contract manager, on request. The timescale for payment of invoices will be up to 30 days after we have received a valid invoice.

**Section 7**

**Sustainability Considerations**

We are committed to continually improving our sustainability performance. The Environment Agency has set itself tough objectives as a clear commitment and contribution to sustainable development throughout England. The Agency recognises that this can only be achieved through commitment from all sectors of society and it is intent on raising awareness amongst industry and commerce.

Contractors must adopt a sound proactive environmental approach, designed to minimise harm to the environment.

Environmental criteria should be considered as part of your tender submission with credit given for innovation. Factors to be considered could include areas such as:

* + - Paper use: All documents and reports prepared by consultants and contractors are produced wherever possible on recycled paper containing at least 100% post consumer waste and printed double sided.
		- Travel: use of public transport, reduce face to face meetings by using email and videoconferencing. Meetings to be held in locations to minimise travel and close to public transport links.
		- Packaging: should be kept to a minimum. Re-use and disposal issues must be considered.
		- Efficient Energy and Water Use.
		- Disposal of Waste: Whilst on site the contractor is responsible for the disposal of their own waste and can only use client facilities with express permission from the on site facilities officer.
		- Whilst on site, contractors should comply with the local environmental policy statement which will be made available to you in advance or on arrival.

**Diversity and Equal Opportunities**

We are committed to promoting equality and diversity in all we do and valuing the diversity of our workforce, customers and communities.  As a public body, we publish regular information about what our equality objectives are and how we’re meeting them.

<https://www.gov.uk/government/organisations/environment-agency/about/equality-and-diversity>

**Health and Safety**

Contractors will be responsible for making sure all required health and safety aspects including risk assessments are undertaken and required management measures are in place to protect worker exposure. This includes management of all partners, consortium members and subcontractors.

**IEM2020:**

## Sustainability Objectives

As the Environment Agency, our overarching aim is to protect and improve the environment for people and wildlife. Over the last 10 years we have achieved significant reductions in our environmental impacts that occur through our everyday operations. This included a 40% reduction in our carbon emissions and a 37% reduction in the number of miles we travel. This year we have launched our new Internal Environmental Management strategy to take us through to 2020, building on these successes and widening our ambition.

**Supply chain**

Our 2020 approach will have a very strong emphasis on the indirect impacts of our supply chain.

Our supply chain accounts for over 70% of our total environmental impacts.

Working with our supply chain we want to be world class in the area of environmental management. The environmental impacts of our work and that delivered by and through our supply chain must be reduced; environmental risks must be effectively managed and opportunities for enhancements investigated.

As an organisation, our environmental management system (EMS) is accredited to ISO14001 and EMAS standards. Our procurement activities form part of this system; driving environmental performance improvements across the value chain.

## Section 8

### Additional Information

### Copyright and confidentiality

Unless otherwise indicated, the copyright in all of the documentation belongs to the Environment Agency, and the documentation is to be returned to us with your tender. The contents of the documentation must be held in confidence by you and not disclosed to any third party other than is strictly necessary for the purposes of submitting your quote. You must also ensure that a similar obligation of confidentiality is placed upon any third party to whom you may need to disclose any of the documentation for the purposes of the tender.

### Accuracy of documentation

You should check all documentation; should any part be found to be missing or unclear you should immediately contact us at the address given in the covering letter. No liability will be accepted by the Environment Agency for any omission or errors in the documentation which could have been identified by you.

### Amendments to documentation

Prior to the date for return of tenders, we may clarify, amend or add to the documentation. A copy of each instruction will be issued to every Tenderer and shall form part of the documentation. No amendment shall be made to the documentation unless it is the subject of an instruction. The Tenderer shall promptly acknowledge receipt of such instructions.

### Alternative Offers

Alternative offers may be considered if they constitute a fully priced alternative and are submitted in addition to a quotation complying with the requirements of the Invitation to Quote Documents. If, for any reason you wish to submit an alternative offer without a fully compliant tender please contact us in accordance with the details in the covering letter.

## Continuity of personnel

The Contractor shall employ sufficient staff to ensure that the Services are provided at all times and in all respects to the Project Standard. It shall be the duty of the Contractor to ensure that a sufficient reserve of staff is available to ensure project delivery in the event of staff holidays, sickness or voluntary absence

The Environment Agency will be notified immediately of any changes to personnel associated with the project. The Contractor will ensure that every effort is made to replace outgoing staff with personnel of equal calibre and expertise. All new members of staff undertaking work for the Project will need to be agreed by the Environment Agency prior to commencement.

At all times, the Contractor shall only employ in the execution and superintendence of the Contract persons who are suitable and appropriately skilled and experienced.

## Intellectual property rights

All results, including material and tools produced, developed or paid for under this contract shall be the property of the Environment Agency.

## References

The Environment Agency may request recent and relevant references prior to the award of the project.

**Contract award**

This Request for Quote is issued in good faith but we reserve the right not to award any or all of this work.

### DATA PROTECTION ACT ADDENDUM TO SPECIFICATION

## Protection of personal data

In order to comply with the Data Protection Act 1998 the Contractor must agree to the following:

* You must only process the personal data in strict accordance with instructions from the Environment Agency.
* You must ensure that all the personal data that we disclose to you or you collect on our behalf under this agreement are kept confidential.
* You must take reasonable steps to ensure the reliability of employees who have access to personal data.
* Only employees who may be required to assist in meeting the obligations under this agreement may have access to the personal data.
* Any disclosure of personal data must be made in confidence and extend only so far as that which is specifically necessary for the purposes of this agreement.
* You must ensure that there are appropriate security measures in place to safeguard against any unauthorised access or unlawful processing or accidental loss, destruction or damage or disclosure of the personal data.
* On termination of this agreement, for whatever reason, the personal data must be returned to us promptly and safely, together with all copies in your possession or control.

# APPENDIX A - PRICING SCHEDULE

ALL COSTS QUOTED MUST BE EXCLUSIVE OF VAT

All costs must be quoted on this schedule. Any costs not detailed will not be paid.

**Staff Costs**

Please detail the day rates of your proposed personnel in the table below.

(Please also advise how many hours you constitute a working day)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Title/Grade**  | **Phase 1/ Phase 2** | **Day Rate** | **No of Days** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| **Total** |  |  | £ |  |

**Other costs**

Please state any other costs that will need to be taken into consideration.

|  |  |
| --- | --- |
| **DESCRIPTION** | **COST** £ |
| **1. Other costs (please detail)** |  |
| **2. Other costs (please detail)** |  |
| **3. Other costs (please detail)** |  |
| **TOTAL**  |  |

**Discounts, rebates and reductions**

Please detail below any discounts, rebates and other reductions you are prepared to offer and the basis of those incentives

|  |  |
| --- | --- |
| **DESCRIPTION** | **AMOUNT**£ |
|  |  |
|  |  |
|  |  |
| **TOTAL**  |  |

**Total Overall Cost**

Please detail the total fixed cost for the project

|  |  |
| --- | --- |
| **ITEM** | **TOTAL AMOUNT**£ |
| **Staff Costs** |  |
| **Other Costs** |  |
| **Discounts/reductions** |  |
| **TOTAL Overall Cost** |  |

The following limits will be applicable to all claims for travel and subsistence under this contract:

1. Travel by rail: standard class should be used at all times
2. Travel by car: 45 pence/mile

Hotel bookings should be made through the Environment Agency’s corporate travel contract. Details of this contract are available from the Corporate Contracting Team.

When making reservations you should state that you are a contractor working on Environment Agency business.

Hotel charges must not exceed a maximum limit per night bed and breakfast (VAT included) of: £140 in London; £100 in Bristol; £90 in Warrington; £85 in Reading; £75 in Aberdeen, Birmingham, Belfast, Cardiff, Coventry, Edinburgh, Glasgow, Harlow, Leeds, Manchester, Middlesbrough, Newcastle, Oxford, Portsmouth, Sheffield and York; and £70 in all other destinations. Please note that these hotel ceiling rates are subject to change throughout the life of the contract.

Expenditure on dinner during an overnight stay must not exceed a maximum limit of £25, including a drink.

Receipts for all rail travel, hotel and food expenses will be required as proof of expenditure and will be reimbursed at cost. No profit or additional cost shall be applied by the contractor to such personal expenses.

**APPENDIX B - PRIOR RIGHTS SCHEDULE**

Details of Prior Rights held by the Parties (To be updated as Rights are introduced during the period of the Contract)

Prior Rights owned or lawfully used by a Party, whether under licence or otherwise, which it introduces to the Project for the purposes of fulfilling its obligations under the Contract

Held by the Environment Agency

|  |  |  |
| --- | --- | --- |
| **Name and description of Prior Rights** | **Extent of proposed use in the Project**  | **Proprietary owner of the Prior Rights** |
| QIIME pipeline and associated custom scripts | Phase 1 | Environment Agency |
| Light microscopy data (2014,2016,2017) | Phase 1 | Environment Agency |
| NGS diatom data(2014,2016,2017) approx. 1500 samples | Phase 1 and Phase 2 | Environment Agency |
| DARLEQ3  | Phase 1 | Environment Agency |
| Additional NGS diatom data (2018,2019) approx. 2400 samples | Phase 2 | Environment Agency |
| Water quality data – Open Data archive | Phase 2 | Environment Agency |

Held by the Contractor

|  |  |  |
| --- | --- | --- |
| **Name and description of Prior Rights** | **Extent of proposed use in the Project**  | **Proprietary owner of the Prior Rights** |
|  |  |  |
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**Explanation of Contractor's Prior Rights**
All Intellectual Property Rights owned by or lawfully used by the Contractor, whether under licence or otherwise before the date of this Contract. It can also mean any invention and know how or other intellectual property (whether or not patentable) owned by one of the parties prior to the commencement of the Project, or devised or discovered by one of them only in the course of other projects during the Project period and not arising directly from the Project.

**APPENDIX C – ACCEPTANCE OF TERMS AND CONDITIONS**

I/We accept in full the terms and conditions named in Section 2 and appended to this Request for Quote document.

Company \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name

Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Print Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_