Add NE Logo

**Standard Contract for Goods and/or Services - Order Form**

|  |  |  |
| --- | --- | --- |
| 1. **Purchase Order Number** | [**Insert** Customer's purchase order number | |
| 1. **Customer** | Natural England | |
| 1. **Contractor(s)** | [**Insert** *Contractor’s name, registered address (if registered), and registration number (if registered* | |
| 1. **Defra Group Members** | The following Defra Group members will receive the benefit of the Deliverables:  [**Insert** Defra Group members who are to be receive the benefit under the Agreement or N/A | |
| 1. **The Agreement** | This Order is part of the Agreement and is subject to the terms and conditions referenced at Appendix 1 and shall come into effect on the Start Date.  Unless the context otherwise requires, capitalised expressions used in this Order have the same meanings as in the terms and conditions.  The following documents are incorporated into the Agreement. If there is any conflict, the following order of precedence applies (in descending order):   1. this Order; 2. the terms and conditions at Appendix 1; and 3. the remaining Appendices (if any) in equal order of precedence. | |
| 1. **Deliverables** | **Applicable Deliverables** | **Goods Only:**  **Services Only:**  **Good and Services:** |
| **Goods** | None. |
| **Services** | As described in Appendix 2 – Specification / Description  Date(s) of Delivery: 20/01/2025 |
| 1. **Start Date** | *01/08/2024* | |
| 1. **Expiry Date** | *[****Insert*** *Day Month Year]* | |
| 1. **Charges** | The Charges for the Goods and/or Services shall be as set out [below ***[insert details]*** / in [Appendix 3 – Charges]]. The Charges are fixed for the duration of the Agreement. | |
| 1. **Payment** | Payments will be made to ***[Insert payment method(s) and necessary details]*** | |
| 1. **Contractor’s Liability Cap (Clause 13.2.1)** | [A sum equal to £5,000,000]. | |
| 1. **Customer’s Authorised Representative(s)** | For general liaison your contact will continue to be  Sajan Sebastian [sajan.sebastian@naturalengland.org.uk](mailto:sajan.sebastian@naturalengland.org.uk)  or, in their absence, McCabe Kiera [kiera.mccabe@naturalengland.org.uk](mailto:kiera.mccabe@naturalengland.org.uk) and Ian Goodchild [Ian.Goodchild@naturalengland.org.uk](mailto:Ian.Goodchild@naturalengland.org.uk) | |
| 1. **Contractor’s Authorised Representative** | For general liaison your contact will continue to be  [**Insert *contract manager name and contact details***]  or, in their absence,  [**Insert *secondary name and contact details***]. | |
| 1. **Optional Intellectual Property Rights (“IPR”) Clauses** | The Customer has chosen Option [**A][B(Default Option)]** in respect of intellectual property rights provisions for the Agreement as set out in the terms and conditions. | |
| 1. **Progress Meetings and Progress Reports** | *[****Insert***Not applicable  *[****Or******insert***   * The Contractor shall attend progress meetings with the Customer every [  6 weeks ] * The Contractor shall provide the Customer with progress reports every [ 4  weeks]] | |
| 1. **Address for notices** | |  |  | | --- | --- | | **Customer:** | **Contractor:** | | Sajan Sebastian  Natural England  Eastbrook,  Shaftebury Road  Cambridge  CB2 8DR  Attention: Dr  Email: [sajan.sebastian@naturalengland.org.uk](mailto:sajan.sebastian@naturalengland.org.uk) | [**insert *name and address of Contractor*]**  Attention: **[insert *title***]  Email: [**insert *email address***] | |  | | |
| 1. **Key Personnel of the Contractor** | |  |  |  | | --- | --- | --- | | **Key Personnel Role:** | **Key Personnel Name:** | **Contact Details:** | |  |  |  | |  | | | |  |  |  | | |
| 1. **Procedures and Policies** | For the purposes of the Agreement: ***[add/amend/delete as necessary]*** [The Customer’s Staff Vetting Procedures are: [**Insert *details/contained in [*Insert *link to relevant policy****].* *[****Example 1:*** *The Customer requires the Contractor to ensure that any person employed in the Delivery of the Goods and/or Services has undertaken a disclosure and barring service check.]**[****Example 2:*** *Details of what the Customer considers to be a Relevant Conviction for the purposes of clause 6.4 of the terms and conditions].* [The Customer’s security / data security requirements are: [**Insert *details/contained in [*Insert *link to relevant policy***].  [The Customer’s additional sustainability requirements are: [**Insert *details/contained in [*Insert *link to relevant policy***].  [The Customer’s equality and diversity policy/requirements and instructions related to equality Law [and] environmental policy [is/are] [**Insert *details/contained in [*Insert *link to relevant policy***].  [The Customer’s health and safety policy is: [**Insert *details/contained in [*Insert *link to relevant policy***]. | |
| 1. **Special Terms** | Special Term 1 - ***[Insert terms to revise or supplement the terms and conditions, or enter ‘N/A’ and delete the extra rows below for example but not exhaustive:***   * ***longer extension period;*** * ***time being of the essence for delivery]*** | |
| 1. **Additional Insurance** |  | |
| 1. **Further Data Protection Provisions** | The further data protection provisions contained within Annex 4 of the terms and conditions are applicable to this Agreement where indicated below:  **Yes:**  **No:** | |

|  |  |
| --- | --- |
| Signed for and on behalf of the **Customer** | Signed for and on behalf of the **Contractor** |
| Name:  [ ]  [ ] | Name:  [**Insert** name]  [**Insert** job title] |
| Date: | Date: |
| Signature: | Signature: |

**Appendix 1: Terms and Conditions**

The Customer’s Standard Good & Services Terms and Conditions which can be located on the [Natural England Website](https://eur05.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.gov.uk%2Fgovernment%2Forganisations%2Fnatural-england%2Fabout%2Fprocurement&data=05%7C01%7Cdaniel.lavender%40dlapiper.com%7Ce61b389c5e15470f278e08dbcc060e37%7Ce855e7acc54640d299f7a100522010f9%7C1%7C0%7C638328098969691096%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=ymInFtzabvMF3T9or361i03D%2B4kyuzgt8T5CzJeS7Gc%3D&reserved=0) and which are called ‘Standard Goods & Services Terms and Conditions’

**Appendix 2: Specification/Description**

**Background to Natural England**

Natural England (NE) is the government’s advisor on the natural environment. We provide practical advice, grounded in science, on how best to safeguard England’s natural wealth for the benefit of everyone. Our remit is to ensure sustainable stewardship of the land and sea so that people and nature can thrive. It is our responsibility to see that England’s rich natural environment can adapt and survive intact for future generations to enjoy.

**Project background**

This project is part of the Marine Natural Capital and Ecosystem Assessment (mNCEA) Programme which is a three-year Defra-funded programme that looks to support the drive for new approaches to decision making based on the Natural Capital and Ecosystem Assessment (NCEA) approach. The overarching aim is to deliver evidence, tools and guidance on the extent and condition of marine natural capital assets, the ecosystem services they provide and the trade-offs that are necessary in realising the natural capital benefits of most importance to society. In the long term this will revolutionise how we understand and make decisions about our marine environment and ultimately enable us to reach our sustainable blue growth potential.

This particular project is testing DNA metabarcoding as a technique for tracking sedimentary ecosystem asset condition. DNA metabarcoding will be used alongside traditional morphological infauna ID to understand how eDNA of benthic fauna responds to anthropogenic pressure (such as pollution, contaminants, disturbance, etc.). The outputs will be used to assess if these metabarcoding techniques can be used in future monitoring scenarios that will enable more effective and efficient monitoring of impacts on the seabed at greater spatial scales, and with greater ease, than is currently possible.

Natural England is collecting traditional benthic infauna grab samples and eDNA sediment samples along pressure gradients in up to two sites, including the **Humber** (SAC) and the **Tees Estuary**. The surveys will be conducted in July - August 2024. Further details of precise sample stations will be confirmed with the successful contractor. We are also interested in collecting meiofaunal samples through scrape sampling (undisturbed surface sediment layer) from grab.

Sampling will be conducted along known pressure gradients at each site including a control site which is unimpacted. Samples will be collected at five stations at each site (including control station). At each station, triplicate grab samples will be collected using a 0.1m2 Day grab. Subsamples of at least 30g of sediment will be collected from the top of the grab sample using a mini-corer (in accordance with the JNCC and NE DNA based benthic monitoring protocols (NatureMetrics, 2022)). Samples will be frozen in sealed and labelled zip-lock bags ready for transport to the lab. On arrival to the lab samples should be frozen at -80°C.  Meiofauna scrapes will also be taken following standard methodology. A field blank was processed in the Solent by presenting a 60ml syringe to the site and kept in the Ziplock bag is considered as a field blank.  Field blanks will be collected from each site.

**Infauna analysis of grab samples will be undertaken by a separate contractor; output datasets will be available on 30st September 2024, and will be shared in Excel format with the successful contractor for analysis and discussion in the report.**

**Aims and Objectives**

The aim of this contract is to produce DNA metabarcoding data for benthic eDNA sediment samples, and examine this data in the context of pressure gradients and associated infauna data. Metabarcoding and traditional taxonomic output will be evaluated for their respective potential to be used as a method for determining the condition of marine sediments and therefore their ecosystem service delivery potential.

The primary interest is to see if there is a change in community composition in response to known pressure gradients. As such we are particularly interested in bacterial, meiofaunal diversity and wider community diversity (fish, invertebrates etc). Contractors are invited to suggest costed options for barcode regions/open access primers that could provide a meaningful picture of diversity from the DNA datasets. Natural England will provide the successful contractor with data on pressures such as water quality and/or contaminants for interpretation.

The specific objectives are to:

* Undertake DNA extraction of 30 sediment samples (2 x 15 samples per site) with negative controls.
* Undertake eDNA analysis using Metabarcoding PCR replicates individually and undertake bioinformatic processing
* Produce report summarising interpretation of results in the form of graphical output and spatial representation across sites in relation to pressure gradient, including diversity and abundance data from both infauna and DNA datasets
* Provide a discussion of the results considering the success of bioinformatic processing and the applicability of DNA-based indicators for monitoring ecosystem asset (marine sediment) condition
* Primers need to be open access for selected taxa (Vertebrates 12S, Microbial 16S, Eukaryotes 18S and COI)
* The primer 16S (barcode region v3/4) has been widely used by the EA and may make comparing with other studies easier.
* includes positive controls, negative controls, and replicates at all steps

**Please provide a cost breakdown for sample analysis per site. In the case that a survey of two sites is not possible, one site will be selected for sample collection.**

**Outputs**

The results should be provided in a full report written in accordance to the [Natural England report writing guidance](https://publications.naturalengland.org.uk/publication/5790636781600768).

The methods section should include detailed methodology including:

* Sample collection method, including how samples have been stored both before they got to the lab and at the lab. A summary of the sampling methodology and survey area will be provided by Natural England.
* DNA extraction methods - state any kits used. State how the DNA was quantified and discuss the quality of DNA extracted. Explain how sample contamination was controlled for and avoided
* PCR amplification - Specify the open access primers, PCR cycle conditions and reagents used. Describe the indexing process.
* Sequencing - State how the DNA products were prepared for sequencing including reagents, primers and conditions. State how the DNA was quantified, and the model of the sequencing machine used. The methods should allow the reader to understand confidence in the sequences obtained.
* Bioinformatic processing - State in detail how the bioinformatic processing was completed, by specifying the steps taken. State any programs and models that were used and any thresholds set. Where sequences are being used for taxonomic assignment, please explain the methods used to assign a species and why any reads may have been discarded. State all cut-off thresholds and state whether OTUs or ASVs are used.
* Reference libraries - Name all reference libraries used (open access preferred), and any rules used. State all cut-off thresholds, such as for % identity for taxonomic assignment.
* [Metadata Spreadsheet](https://defra.sharepoint.com/:x:/r/sites/WorkDelivery2763/Yr%203%20Inshore%20Evidence/2.6%20eDNA%20as%20a%20tool%20for%20tracking%20sediment%20condition/Copy%20of%20NE_single_species_metadata_template_current.xlsx?d=w3521ecbc4a0347f3979922546dd2945a&csf=1&web=1&e=ndA6Lx) attached should be filled in appropriately.
* QA - Explain the QA checks that have been undertaken on the results, including thresholds that may have been set.

The contractor should provide a detailed results section, explaining the results generated, which should include:

* The efficiency of DNA extraction and correct amplification of expected PCR products at each stage
* Number of sequencing reads generated, quality of sequencing reads, proportion of reads discarded and proportion which were assigned to species
* Visualisations of community and species detections by site and further analysis of diversity and abundance data from both infauna and DNA datasets, in relation to pressure gradient.

 A detailed discussion should be included explaining the results and confidence levels in the bioinformatic processing . Discussion should include:

* A discussion of any problems and how they were resolved, such as issues with PCR leading to a change of reagents or amplification conditions.
* Quality of the sequencing reads obtained.
* Discussion of the pros and cons of the primers and barcode(s) used. Has the expected species diversity been detected? Have non-target taxa been detected? Is species bias expected? Can the assay distinguish between closely related species?
* Discussion of any unexpected species detections. If any non-native or unexpected species have been detected, the confidence in this result.
* Discussion of any reference database or barcode issues which may have led to sequences being wrongly assigned or not assigned to species level.
* Discussion of whether the data can give information on species abundance or not.
* Consideration of the applicability and/or development of DNA-based indicators for monitoring benthic sediment condition
* Recommendations for future work based on the results of the current study.

**Data**

Two sets of data are required:

* A Microsoft Excel spreadsheet listing the species identified, the sample location if applicable and the reference library and sequence ID used to identify the species. If a species was not assigned, the sequence should be identified to the highest possible level, e.g. family.
* Raw sequence reads, in FASTQ format.

**Data ownership**

The intellectual property rights and copyright for all products will lie with Natural England. The data and any report produced will be made available by Natural England under [Open Government Licence](https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/) at the end of the project.

**Other**

In support of this contract NE will provide the winning supplier with:

* Project support from dedicated project lead
* Opportunity to feedback and discuss progress and the project
* Supporting GIS datasets (if required) under licence for use in this contract:
* Base map data from Ordnance Survey
* Raster charts from Oceanwise (Not to be used for Navigation)

Please see the following site for information on how to acquire GI information <https://www.gov.uk/how-to-access-natural-englands-maps-and-data>

**Timelines**

|  |  |
| --- | --- |
| **Milestone** | **Target date** |
| Successful contractor awarded | 01/08/2024 |
| Samples provided to successful contractor | 30/08/2024\* |
| DNA metabarcoding and bioinformatics analysis complete | 22/10/2024 |
| Infauna data provided to contractor | 20/10/2024 |
| Draft report due to project officer in digital via email | 06/12/2024 |
| Natural England to provide comments on draft report | 16/12/2024 |
| Final report | 08/01/2025 |
| Contract completion | 20/01/2025 |

**\***This is the latest possible date by which samples will be collected. Precise sampling dates will be confirmed with successful contractor but may be subject to change for example due to weather downtime. Natural England will communicate this with the successful supplier.

Natural England would expect to discuss and review timelines with the successful contractor in the start-up meeting and throughout the duration of the contract. Any delays to this timetable should be discussed with the Natural England Project Officer and delays not outside the control of the contractor will be penalised.

**Appendix 3: Charges**

[***Guidance note: Include a clear breakdown of the charges in as much detail as necessary***]

**Appendix 4: Processing Personal Data**

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| --- | --- |
|  |  |
| **[XXXX]** |
| **Contract:** |
| **Date:** | **[XXXX]** |
| **Description of authorised processing** | **Details** |
| Identity of Controller and Processor for each category of Personal Data |  |
| Subject matter of the processing |  |
| Duration of the processing |  |
| Nature and purposes of the processing |  |
| Type of Personal Data |  |
| Categories of Data Subject |  |
| Plan for return and destruction of the data once the processing is complete UNLESS requirement under law to preserve that type of data |  |
| Locations at which the Contractor and/or its subcontractors process Personal Data under this Agreement |  |
| Protective Measures that the Contractor and, where applicable, its subcontractors have implemented to protect Personal Data processed under this Agreement against a breach of security (insofar as that breach of security relates to data) or a Personal Data Breach |  |