## Defra_582_SML_AW-crop

Annex A - Specification

[Provision and Maintenance of a Vegetable and Pea Genebank to Facilitate R&D Need](https://defra.bravosolution.co.uk/esop/toolkit/negotiation/tnd/tenderConfiguration.do?from=menu&tenderCode=tender_268821" \o "View Details: Provision and Maintenence of a Vegetable and Pea Genebank to Facilitate R&D Need)

Procurement Reference Number C5515

12/2022

## Definitions

Unless the context otherwise requires, the following words and expressions used within the Bidder Pack (except for Section 3: Terms and Conditions of Contract) shall have the following meanings to be interpreted in the singular or plural as the context requires.

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| **TERM** | **MEANING** |
| **“Authority”** | the [Department for Environment, Food and Rural Affairs acting as part of the Crown] |
| **“Bidder Pack”** | this invitation to tender and all related documents published by the Authority and made available to Tenderers. |
| **“Contract”**  | the contract (set out in Appendix B) to be entered into by the Authority and the successful Tenderer. |
| **“EIR”** | the Environmental Information Regulations 2004 (as amended) together with any guidance and/or codes of practice issued by the Information Commissioner or any Government Department in relation to those Regulations.  |
| **“eSourcing system”** | eSourcing system is the eSourcing system used by the Authority for conducting this procurement, which can be found at http://defra.eSourcing systemsolution.co.uk for projects run on Bravo, or <https://defra-family.force.com/s/Welcome> for projects run on Atamis |
| **“FOIA”** | the Freedom of Information Act 2000 (as amended) and any subordinate legislation made under that Act together with any guidance and/or codes of practice issued by the Information Commissioner or any Government Department in relation to that legislation. |
| **“Form of Tender”** | means the form contained in Annex 2 to the Procurement Specific section of the Bidder Pack which must be signed, scanned and uploaded into the Authority’s eSourcing System by the Tenderer to indicate that it understands the Tender and accepts the various terms and conditions and other requirements of participating in the exercise. |
| **“Information”** | means the information contained in the Bidder Pack or sent with it, and any information which has been made available to the Tenderer by the Authority, its employees, agents or advisers in connection with the procurement. |
| **“Involved Person”** | means any person who is either working for, or acting on behalf of, the Authority in connection with this procurement and/or the Contract including, without limitation, any officer, employee, advisor, agent, member, partner or consultant”. |
| **“Pricing Schedule”** | the form accessed via eSourcing system in which Tenderers are required to submit their pricing information as part of a Tender. |
| **“Regulations”** | the Public Contracts Regulations 2015.  |
| **“Relevant Body** | means any other organisation, body or government department that is working with or acting on behalf of the Authority in connection with this procurement and/or the Contract including, without limitation, its officers, employees, advisors, agents, members, partners or consultants. |
| **“Response”** | means the information submitted in response to the Bidder Pack via the online response forms on eSourcing system including the Tenderer’s formal Tender. |
| **“Specification of Requirements”** | the Authority’s requirements set out in Section 2 of the Bidder Pack Procurement Specific Requirements. |
| **“Tender”** | the formal offer to provide the goods or services descibed in section 1.1 of part 1 of the Bidder Pack and comprising the responses to the questions in eSourcing system and the Pricing Schedule. |
| **“Tenderer”** | anyone responding to the Bidder Pack and, where the context requires, includes a potential tenderer. |
| **“Timetable”** | the procurement timetable set out in Section 1 of the Bidder Pack Procurement Specific Requirements.  |

1. **Aims**

2.1 The aims for each of the two lots are the same. They are to support the following areas:

* Protecting our most important food and forage crops in an effort to safeguard global food security
* Minimising genetic erosion and safeguard the genetic diversity of farmed and wild plants
* Conserving and sustainably using our plant genetic resources
* Sharing the benefits arising from the conservation and sustainable use of our plant genetic resources

2.2 More specific aims:

* Conservation of crop genetic diversity (including both cultivated and wild samples) under conditions which are optimal for long-term storage
* Maintenance of associated records to aid collection management, and the development of approaches to maximise the data available to collection users
* Development of the collections through continued interaction and networking with other institutions working in plant genetic resources both in the UK and across Europe. This includes participation in the European Co-operative Programme on Plant Genetic Resources (ECPGR) and the European Collection as implemented through the AEGIS (A European Genebank Integrated System) project.
* Maximising awareness and the use of the resource of genetic diversity represented by the collections through a programme of public and industry engagement
* Collaboration in research projects and programmes which aim to understand and use the genetic variation represented by the collection
1. **Background**

3.1 The United Kingdom’s (UK) range of plant genetic resources and the variability within them are of great economic, social and cultural importance and these are good reasons for the Authority to ensure that they are conserved and sustainably used. Additionally, The Authority have national and international obligations to conserve and sustainably use our plant genetic resources including:

* Convention on Biological Diversity Post-2020 Biodiversity Framework (in preparation) to guide actions worldwide through 2030, to preserve and protect nature and its essential services to people.
* International Treaty on Plant Genetic Resources for Food and Agriculture (ITPRGRFA), which includes commitments on conservation and sustainable use of plant genetic resources. Annex 1 of this treaty lists crops for which inclusion in the multilateral system is required by Parties
* Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
* Within the UK, the Environmental Improvement Plan (in planning) and Genetic Resources Strategy (under consideration) which may potentially contain explicit commitments to protect plant genetic diversity
	1. The Authority’s priorities focus on maximising rural economic growth, improving the natural environment and the safeguarding of animal and plant health. Running through all of these priorities is the wider government top priority for economic growth.
1. **The Lots**

**4.1 The UK Vegetable Genebank (Lot 1)**

4.1.1 The UK Vegetable Gene Bank (UKVGB) represents an internationally significant resource of crop genetic diversity. It comprises seed samples from a variety of vegetable crops such as brassicas, alliums, lettuce and carrots as well as other crops such as celery, parsnip, radish and leafy salad crops. The volume of samples can vary from year to year, but it typically sits between twelve and fourteen-thousand samples.

4.1.2 The current contractor (University of Warwick) is responsible for the maintenance of the UKVGB Collections and the conservation and sustainable utilisation of its resources. The UKVGB is currently situated at the Wellesbourne Campus, University of Warwick, Wellesbourne, Warwick. The Genebank collections include a wide range of small seeded, mainly outbreeding vegetables (current/obsolete cultivars and landraces) and associated wild taxa including:

|  |  |  |
| --- | --- | --- |
| **Species** | Description | Number of Samples (Correct at November 2022) |
| **Allium**  | Onion, leek, Welsh leek and wild taxa | 1822 |
| **Apium**  | Celery and celeriac | 93 |
| **Beta** | Beets | 122 |
| **Brassica oleracea**  | Broccoli, Brussels sprout, cabbage, cauliflower, kale & kohl rabi  | 3963 |
| **Brassica napus**  | Horticultural & fodder forms (kale & swede) | 451 |
| **Brassica rapa**  | Horticultural & fodder forms (Chinese cabbage, broccoletto & turnip) | 708 |
| **Brassica juncea** | Horticultural & fodder (leaf mustards) | 87 |
| **Daucus** | Carrot and wild taxa | 1509 |
| **Lactuca** | Lettuce and wild taxa | 1505 |
| **Lycopersicon** | Nightshades and relatives | 272 |
| **Raphanus** | Radish and wild taxa | 802 |
| **Spinacia** | Spinaches | 125 |
| **Other** | Various other minor vegetables and salad crops | 666 |

**4.2 The UK Pea Genebank (Lot 2)**

4.2.1 The UK Pea Gene Bank collection underpins a wide range of research and commercial breeding through the provision of relevant germplasm and associated data. The collection currently stands at just over three thousand six hundred and fifty (3,650) pisum accessions and comprises wild accessions, landraces, cultivars and breeders’ lines from the different breeding pools across the world. The collection is also the world reference collection of mutation stocks for pea which underpin the Pisum Gene list and mapping work as well as sets of host differentials for disease work and breeding cited in the international UPOV guidelines for pea.

4.2.2 The collection is currently housed at and managed by the John Innes Centre in Norwich.

**4.3 Specific Requirements of Both Lots.**

4.3.1 The genetic diversity in the two collections has the potential to offer insights into fundamental crop biology and genetics, and to offer plant breeders new sources of desirable traits for the creation of improved crop varieties. Crop varieties which assist in the goal of ‘sustainable intensification’ of agriculture are required in order to address issues of global and UK food security; new varieties will need enhanced properties such as pest and disease resilience, efficiency in water and nutrient use, and the ability to give increased and stable yields under fluctuating environmental conditions.

4.3.2 The UK is obliged to manage and conserve plant genetic resources for food and agriculture (PGRFA) under the Convention on Biological Diversity (CBD), including the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). The ITPGRFA requires signatories to manage, conserve and make accessible their PGRFA under a Multi-Lateral System, enabling access to genetic resources whilst providing a mechanism for benefit sharing.

4.3.3 Supporting the management and conservation of the Vegetable and Pea Genebank collections therefore assists the UK in meeting international obligations on PGRFA and ensuring that the diversity within them is available for efficient utilization.

4.3.4 The Authority, on the recommendation of its Chief Scientific Advisor, supports the on-going maintenance of the Vegetable and Pea Genebanks, the conservation of its Collections and the increased utilisation of its resources. The Authority considers that the Vegetable and Pea Gene Bank Collections are well advanced in the areas of conservation and so the priorities for the Contract should focus again on the sustainable utilisation of the Collections.

4.3.5 Consortium bids are welcomed. All bids should name a principal investigator, who will hold responsibility for the fulfilment of the Contract and a Research Manager who will be the point of contact with the Authority throughout the Contract.

1. **Detailed Requirements of Both Lots**

5.1 The Contract aims will be delivered through achieving the following objectives (separated into the areas of Housing and Maintenance, Conservation, Security and Storage, Records and Archives, Networking, Increasing Utilisation and Transitional Measures).

**5.2 Site Requirements**

5.2.1 Minimum site requirements for both lots are set out below and must all comply with:

5.2.2 the International Food and Agriculture Genebank standards:

[Genebank Standards for Plant Genetic Resources for Food and Agriculture (fao.org)](https://www.fao.org/3/i3704e/i3704e.pdf)

5.2.3 And the A European Genbank Integrated System (AEGIS) Genebank Standards:

[ECPGR: Genebank standards (cgiar.org)](https://www.ecpgr.cgiar.org/aegis/aquas/genebank-standards)

5.2.4 Minimum requirements

* Cold storage appropriate to the species variety and volume in line with the requirements of the two standards.
* A minimum of three 200m squared Glasshouses to grow plants for regeneration which include isolation cages to prevent cross-pollination.
* Drying rooms at 150C and 15% relative humidity
* Seed cleaning and packaging facilities
* Horticultural agronomic and plant pathologies support on site to detect plant diseases.
* Capability to grow non-adapted and wild germplasm including but not limited to added nitrogen (not adapted to UK rhizobia) and other added microelements as required (such as iron)
* Capability to grow the mutants, wild and genetic stocks in a glasshouse and the advance cultivars and research material in a net house under field conditions where they can be characterised meaningfully for the bioscience user community.
* Outdoor cultivation capabilities.
* The ability to barcode / mark individual plants in the field/ glasshouse to prevent mix-ups.
* The capability to monitor stock level and seed quality of several thousand seed lots.
* Seed stocks traceability, both in regeneration and distribution. The Contractor must have the ability to track back a supplied seed to its specific stock (not only the specific accession but a specific envelope). This is of specific importance in plant passporting/ phytosanitary testing
* Established links with other national and international Genebanks in support of the working relationships needed to fulfil the requirements of the AEGIS standards.
1. **The Work Packages**

**6.1 Housing and Maintenance**

**6.1.2. Work Package 1 - Objectives for Housing and Maintenance**

6.1.3 Provide for the long-term security of the Vegetable and/or Pea Genebanks, and to conserve the genetic diversity the Collections contain, maintaining them to a high health status commensurate with their international importance. To provide for the needs of the main collection users, such as scientists, breeders and for educational purposes. The Contractor shall:

* + Provide secure long-term housing for the Vegetable and/or Pea Genebank; to include both the maintenance of current material and the addition where necessary of novel material of relevance to the collections
	+ Maintain the Collections to a high health status commensurate with its international importance (i.e. a standard in accordance with the specific requirements of its use as an international germplasm and seed resource)
	+ Identify management responsibilities and accountabilities in line with the requirements of the Genebank Standards for Plant Genetic Resources for Food and Agriculture and AEGIS.
	+ Ensure the needs of users of the Vegetable and/or Pea Genebank are met in line with the requirements of the Genebank Standards for Plant Genetic Resources for Food and Agriculture and AEGIS.

**6.2 Conservation**

**6.2.1 Work Package 2 - Objective for Conservation**

6.2.3 The Contractor shall continue a programme of accessioning, seed viability monitoring, regeneration, characterization and evaluation of seeds and germplasm in accordance with recognised, published international standards and working practices.

**6.3** **Security and Storage**

**6.3.1** **Work Package 3 - Objectives for Security and Storage**

6.3.2 Continue a programme of security and storage for the Vegetable Genebank Collections in accordance with recognised, published international standards and working practices as set out in the minimum Site Requirements (section 5.2 above)

6.3.4 The Contractor shall:

* Continue to maintain, on a quid pro quo basis, duplicate ‘black box’ security storage for the Vegetable and/or Pea Genebank Collections, and maintain the security duplicates of other Genebanks under long term storage conditions in accordance with recognised, published international standards and working practices as set out in the minimum Site Requirements (section 5.2 above)
* The Contractor shall collaborate with other national and international Genebanks and research institutes in long-term seed storage, material regeneration and other relevant experiments. in accordance with recognised, published international standards and working practices as set out in the minimum Site Requirements (section 5.2 above)

**6.4** **Records and Archives**

**6.4.1 Work Package 4 - Objectives for Records and Archives**

6.4.2 Continue the provision of, but also develop, information management systems that combine comprehensive and accurate information on the origins, availability and characteristics of material in the Vegetable and/or Pea Genebank in accordance with recognised, published international standards and working practices. To promote utilisation of the materials for all the potential user groups, both nationally and internationally, through access to comprehensive archive and new information via the information management systems. To conserve and catalogue existing archives in a secure environment.

6.4.3 The Contractor shall:

* Provide continued Maintenance of records and archives in an accessible manner in accordance with recognised, published international standards and working practices as set out in the minimum Site Requirements (section 5.2 above)
* Maintain and update Community Searchable Databases
* Maintain and develop the existing websites in a user-friendly and accessible manner:
	+ http://www2.warwick.ac.uk/fac/sci/lifesci/wcc/gru/
	+ https://www.seedstor.ac.uk/
* Safeguard all data to the stated protocol set out in section 4.7 Standards for documentation to be found in:

[Genebank Standards for Plant Genetic Resources for Food and Agriculture (fao.org)](https://www.fao.org/3/i3704e/i3704e.pdf)

**6.5** **Networking**

**6.5.1 Work Package 5 - Objectives for Networking**

6.5.2 Ensure that the Vegetable and/or Pea Genebank continues to have an active role in National and International Networks.

6.5.3 The Contractor shall:

* + Provide strategic scientific leadership for plant genetic resources and be a player in the national and international plant genetic resources community including the European Cooperative Programme for Plant Genetic Resources and AEGIS (A European Integrated Genebank System)
	+ Work collaboratively with all relevant stakeholders, including with any future Vegetable and Pulse Crop Genetic Improvement Networks (VeGIN and PCGIN) <http://www2.warwick.ac.uk/fac/sci/lifesci/research/vegin/> <https://www.jic.ac.uk/research-impact/pulse-crop-genetic-improvement-network-pcgin/>
	+ Promote dissemination of information related to the Vegetable and/or Pea Genebank Collections, such as via newsletter, scientific articles, or stakeholder workshops to enable maximum sustainable exploitation by industry and to promote collaborative research links.

**6.6** **Increasing Utilisation**

**6.6.1 Work Package 6 - Objectives for Increasing Utilisation**

6.6.2 Ensure that the Vegetable and/or Pea Genebank Collections are fully utilised for scientific, training, industry and public purposes in accordance with recognised, published international standards and working practices.

6.6.3 The Contractor shall:

* + Increase the distribution of germplasm, and other resources of the Vegetable and/or Pea Genebank both for scientific and public interest
	+ Increase the sustainable use of the Vegetable and/or Pea Genebank Collections in alignment with the FAO’s Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture (priorities 8, 9, 10 and 11;)
	+ Pro-actively increase the engagement and dialogue with industry – consider trends, interests, market gaps and use this data to help identify the services they need from the Vegetable and/or Pea Genebank
	+ Ensure other possibilities for improving the sustainable use of the Vegetable and/or Pea Genebank Collections are explored, and where possible piloted or implemented
	+ Ensure possibilities for generating revenue to part fund the conservation and or increased utilisation of the Collections are explored, and where possible piloted or implemented

**6.7 Transition and Movement**

**6.7.1 Work Package 7 - Objectives for Transition and Movement to Proposed Site (where applicable)**

6.7.2 Tenderers proposing to relocate the Vegetable and/or Pea Genebank Collections, shall be responsible for ensuring that the safety and standards of the Vegetable and/or Pea Genebank (to a high health status commensurate with their international importance) are maintained throughout the relocation process.

6.7.3 The Contractor shall:

* + Within 1 month of contract award, provide a detailed plan and timetable, for moving the Vegetable and/or Pea Genebank’s seeds, plants and hard copy information. The plan shall take into account planting seasons and current regeneration projects. The Contractor is required to communicate with the incumbent supplier to understand the time dependencies of movement. All movement shall comply with the requirements of International Food and Agriculture Genebank standards and the AEGIS standards at all times.
1. **Outputs and Timetable**
	1. The Contractor shall ensure the following throughout the life of the Contract:

7.2 The Vegetable and/or Pea Genebank Collections are maintained to a high health status commensurate with their international importance throughout the contract period and any contract extension periods

* 1. Provision of annual progress reports (as specified in the Management section of this project specification) and measurement of Contractor performance via agreed Key Performance Indicators.
	2. Collections (seeds and germplasm) of the Vegetable and/or Pea Genebank are maintained, accessions are viability monitored, regenerated, characterized and evaluated and new Collections are accessioned )
	3. Increased engagement and dialogue with the industry is achieved
	4. Increased sustainable utilisation of the Vegetable and/or Pea Genebank Collections is achieved
	5. The viability of generating revenue to part fund the Vegetable and/or Pea Genebank is established and if viable arrangements are implemented
	6. Note: The Authority is directly funding the housing, maintenance and research of the Vegetable and Pea Genebank as required under international and national obligations and therefore the successful tenderer(s) is/are able to focus on efforts to support this activity which is not in conflict with international and national obligations.
1. **Management**

8.1 The Contractor shall appoint a Project Leader who shall be responsible for the management and delivery of the Contract and shall act as the liaison point for the Authority’s Project Manager.

8.2 A project initiation meeting between the Authority and the Contractor’s Project Leader shall be required at the start of the Contract. All meetings shall be held via Microsoft Teams (unless agreed otherwise with the Authority’s Project Manager). In addition to this, an annual contract meeting shall be held in September of each year of the contract along with an interim progress meeting in April of each year of the contract. Additional meetings may be called by either Party to the contract by exception and attendance shall not be unreasonably withheld.

8.3 The Contractor’s Project Leader shall be required to report on progress towards meeting the objectives and delivering the outputs of the Contract to the Authority. Reports shall be in layman terms and formatted to align with the project objectives, project milestones and project outputs.

8.4 Key Performance Indicators shall be agreed with the Contractor during the standstill period and used as a mechanism to monitor contract performance.

8.5 The Contractor’s Project Leader shall

* + provide the Authority with annual written progress reports (in the format detailed below) and performance metrics in the form of performance against the agreed KPI’s.
	+ attend one annual meeting with the Authority in September of each year of the project
	+ The purpose of the report and meeting is for the Contractor to:

1) Provide detailed written and verbal report of progress.

2) Written reports shall be sent to the Authority no less than 10 working days in advance of the annual meeting.

3) Discuss and take on board suggestions made by the Authority about further scientific exploration or development of the Vegetable and Pea Genebank Collections, improving utilisation, management and safekeeping of the Collections

* 1. Reports shall include as a minimum:
		1. Project details
		2. Objectives of the project
		3. Summary of progress
		4. Amendments to project (if current objectives no longer appropriate for the remainder of the project)
		5. Progress in relation to targets (listing of agreed milestones for the year/period as set out in contract and an explanation if any have not been met)
		6. Amendments and proposed mitigations to the contract risk register
		7. Publications and other outputs
		8. Future work (any new evidence opportunities which may arise from the project)
		9. Health and Safety incidents
		10. Water usage improvements
		11. Energy reduction improvements
	2. The Contractor shall provide a secretariat function, including but not limited to arranging meetings and production of minutes, for all meetings between the Contractor and the Authority.
1. **Risk Management**

9.1 The Contractor shall retain and regularly update a risk register to be agreed with the Authority within one month of contract award. The risk register shall take into account risks identified within the Contractor’s response, the risks held within the risk register of the incumbent supplier and any additional risks identified by the Authority, including new risks identified during the life of the contract. The risk register shall form part of the Contractor’s preparation for annual and interim meetings and a risk section shall be included in the annual report detailing any differences identified since the previous discussion and the Contractor’s proposed mitigations.

1. **Extension Management**

10.1 The first term of the contract shall be 4 years commencing 01/04/2023. Upon satisfactory performance of the Contract, the Authority may extend the contract up to a maximum of a further 8 years, it is intended that these extensions shall be enacted in 4 yearly blocks, however, the Authority reserves the right to extend by shorter time periods. Prices shall be set at the beginning of every term of the contract. During years 4 and 8, the Contractor shall have the opportunity to request price increases. These increases must be evidence based and may not be in excess of Public Sector Pay cap for the previous year for staff rates which are to be provided as part of the Commercial submission to this ITT. For overheads and consumables prices shall be set for the term of each four year extension period and may not exceed CPI for the year to date prior to the extension or 2.5%, whichever is lower.

10.2 Three hundred and sixty five (365) days before each breakpoint in the Contract, the Contractor shall provide a full assessment of their transition costs for the Project which are to be payable by the Authority upon transfer of Services to another party. No additional transition costs shall be payable by the Authority or incoming supplier. This shall only be payable if the Genebank is transferred to another organisation upon re-tender.

**11. Business Continuity**

11.1 The Contractor shall consider the impact of extreme weather events and a changing climate on the contract deliverables. Within the annual report, the Contractor shall provide evidence of the impacts of climate resilience and how the impacts have been considered within their organisation, (i.e. supply chain premises and site operations).

11.2 To help the Contractor to assess this, a Business Resilience Health Check, (or similar applicable tool) may be used:

<http://www.businessresiliencehealthcheck.co.uk>

11.3 The Contractor shall prepare a current business continuity plan (“the Business Continuity Plan”) for the approval of the The Authority 2 weeks after contract commencement, which assesses any risks that would prevent the Contractor Providing the Service during the Service Period. Upon approval by The Authority, it shall be appended to the Contract by The Authority and offered via The Authority’s e-sourcing system to the Contractor for signature by means of a Change Control Note (CCN). The Business Continuity Plan shall identify the Contractor’s reliance on the supply chain and must set out the contingency measures in place to mitigate any risks identified. As part of the Business Continuity Plan. The Contractor shall take into account the business continuity plans of the supply chain. The Business Continuity Plan must include (where relevant), an assessment of impacts relating to extreme weather, a changing average climate and resource scarcity.

11.4 The Business Continuity Plan shall be reviewed by the Contractor annually and after any disruption. The Business Continuity Plan shall form a standing item on the agenda for each annual meeting. Any changes to the Business Continuity Plan shall be presented to The Authority at the annual meeting, if accepted by the Authority, they shall be implemented via Contract Change Note to the contract.