www.gov.uk/naturalengland

Request for Quotation

Soil Sampling Method Comparison for Natural England's Long Term Monitoring Network (LTMN)

Request for Quotation

Soil Sampling Method Comparison for Natural England's Long Term Monitoring Network (LTMN)

You are invited to submit a quotation for the requirement described in the specification below.

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

Your response should be returned to the following email addresses by:

Email: matthew.j.shepherd@naturalengland.org.uk, victoria.sloan@naturalengland.org.uk
Date: Friday 2nd December 2022
Time: 5pm

Ensure you state the reference **'LTMNSOIL - SAMPLING METHOD COMPARISON'** and **'Final Submission'** in the subject field to make it clear that it is your response.

Contact Details and Timeline

Matthew Shepherd 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, unless commercially sensitive, both the question and the response will be circulated to all tenderers.

Action	Date
Date of issue of RFQ	16/11/2022 at 17:00
Deadline for clarifications questions	25/11/2022 at 17:00
Deadline for receipt of Quotation	02/12/2022 at 17:00
Intended date of Contract Award	09/12/2022
Intended Contract Start Date	12/12/2022
Intended Delivery Date / Contract Duration	24/03/2023

Glossary

Unless the context otherwise requires the following words and expressions used within this Request for Quotation shall have the following meanings (to be interpreted in the singular or plural as the context requires):

"Authority"	Means Natural England acting as part of the Department for Environment, Food and Rural Affairs
"RFQ"	Means this Request for Quotation and all related documents published by the Authority and made available to suppliers
"Contract"	Means the contract to be entered into by the Authority and the successful supplier.

The Authority is Natural England. The Authority's priorities are to secure a healthy natural environment; a sustainable, low-carbon economy; a thriving farming sector and a sustainable, healthy and secure food supply. Further information about the Authority can be found at: Natural England

Conditions applying to the RFQ

You should examine your response to the RFQ and related documents ensuring it is complete prior to submitting your completed quotation.

Your quotation must contain sufficient information to enable the Authority to evaluate it fairly and effectively. You should ensure that you have prepared your quotation fully and accurately and that prices quoted are arithmetically correct for the units stated.

The supplier by submitting a quotation is deemed to accept the terms and conditions in the RFQ. Failure to comply with the instructions set out in the RTQ may result in the supplier's exclusion from this procurement.

Acceptance of Quotations

By issuing this RFQ the Authority does not bind itself to accept any quotation and reserves the right not to award a contract to any supplier who submits a quotation.

Costs

The Authority will not reimburse you for any costs and expenses which you incur preparing and submitting your quotation, even if the Authority amends or terminates the procurement process.

Mandatory Requirements

The RFQ includes mandatory requirements and, if you do not comply with them, your quotation will not be evaluated. All mandatory requirements are set out in Bravo.

Clarifications

The Authority reserves the right to discuss, confidentially, any aspect of your quotation with you prior to any award of Contract to clarify matters.

Amendments

The Authority may amend the RFQ at any time prior to the deadline for receipt. If it amends the RFQ the Authority will notify you in writing and may extend the deadline for receipt in order to give you a reasonable time in which to take the amendment into account.

Conditions of Contract

The standard terms and conditions for this contract can be found here. These will be included in any contract awarded as a result of this RFQ process. The Authority will not accept any material changes to these terms and conditions proposed by a supplier.

It is anticipated that this contract will be awarded for a period of 4 months to end no later than 2/03/2023. 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.

Specification

Soil Sampling Method Comparison

Project background

Natural England maintain a Long-term Monitoring Network (LTMN) comprising 37 sites, mainly National Nature Reserves (NNRs) in England where a wide range of environmental parameters are being monitored with the aim of detecting long-term changes in biodiversity and ecosystem function associated with climate change, pollution and land management. A suite of soil parameters is included in this monitoring to assess long-term changes in soil characteristics, functions and biodiversity. One of the key parameters assessed is bulk density (the dry weight of soil per unit volume), which is used to indicate soil porosity and to calculate attributes such as carbon storage. The LTMN network sites cover multiple habitat types, soil types and environmental conditions.

Soils at the sites are currently sampled by coring using plastic pipes, with sample collection undertaken according to a standard protocol developed at the start of the LTMN project. In this, soil cores for monitoring of physico-chemical parameters (gravimetric water content, bulk density, pH, C / N content, cation exchange capacity and exchangeable cations, particle size distribution) are collected at two depths (0 – 15 cm and 15 – 30 cm), using lengths of 5 cm diameter plastic pipe cut / driven into the ground. Whilst this method has proven reasonably effective, the collection of these cores is relatively time-consuming and in some soil types / ground conditions can require multiple attempts to obtain a sample, and/or the collection of incomplete cores, especially at the lower depth. The method also requires approximately 200 pieces of (single-use) plastic tubing per year, which would ideally be avoided to reduce environmental impacts arising from the monitoring work. An alternative sampling approach has therefore been proposed, comprising core collection using a ‘bulb planter’, a new soil coring tool designed to create an equivalent dimension core more rapidly, and without the need for plastic tubing (Photographs 1 and 2 below). Before making a change, however, further testing of the ‘bulb planter’ tool is required, including direct comparison between this and the existing method to ensure that the implications of any change for the long-term dataset are fully understood, and also comparison with a further, more rigorous method for establishing bulk density.

This document provides a specification to undertake a comparison of the existing and proposed soil coring methods in terms of the ease with which complete cores can be obtained, and the bulk density (the parameter most likely to be affected by the coring approach) of the resulting samples. For the latter, sampling by a third method (pit excavation) is included to provide a standard against which both coring methods can be compared.

1) 

2) 

Photographs 1 and 2: 1) the 'bulb planter' inserted to take at soil core at 0 – 15 cm depth and 2) – the 'bulb planter' immediately following core removal.

Soil sampling sites

This method comparison requires sampling in six different types of soil, ideally located at differing geographical locations (sites) across England (one soil type per site). The six types of soil are:

- Organic / peaty soil
- Sandy soil
- Clayey soil
- Medium-textured soil
- Stony soil
- A further soil type (TBC) with challenging conditions (e.g. soil with softer material beneath; a rendzina soil; a waterlogged soil – see below).

Pre-testing of the 'bulb planter' tool suggests that it may not be suitable for sampling lower (15-30 cm) soil horizons in waterlogged soils, as it does not encase the soil samples during sampling and we might expect partial loss of samples taken under the water table. If, however, the contractor can suggest any modifications that would render sampling feasible in wetter conditions, then it may be possible to include this in the sampling design.

Soil mapping can be provided by Natural England on award of contract to assist the successful contractor with selection of sampling sites. Contractors are invited to suggest a range of sites that may provide suitable soil conditions as outlined above, but Natural England will be able to provide access to sites that may provide a wider range of conditions, through access to our NNR network. We will not suggest sampling in any designated areas, to obviate the need for SSSI consent. The sampling plan will need to be agreed with Natural England prior to the commencement of sampling.

Soil sampling plot setup

At each site, a 20 x 20 m area of homogeneous habitat (i.e. with consistent vegetation type, soil type and no obvious disturbance) should be selected, and its location noted on a map or by the

collection of GPS co-ordinates. Plots will need to be on approximately level topography, to enable use of water for measuring soil pit volumes. The corners of this area should be temporarily marked with bamboo canes or similar) to form 'the plot'.

At each (x4) corners of the plot, a soil profile description should be made using a dutch (Edelmann) auger.

This comprises:

- Taking a series of auger samples sequentially down the soil profile to the depth of the C horizon or 1m (whichever is shallower), ejecting each core in sequence onto a plastic sheet and retaining their relative orientation and original total length.
- Identifying the types of horizon, and recording its depth range, texture and colour with reference to a Munsell colour chart (NE may loan these to the contractor if needed).
- Taking a photograph of the soil auger samples laid out in sequence, showing a measurement scale and with a label for the sample clearly visible e.g. "SiteName, Date, NW corner"

The soil profiles should be used to verify the homogeneity of the plot; horizons present should be consistent in all plot corners and with <5 cm difference in horizon thickness. If this is not observed, then the plot should be re-located and the profile descriptions repeated.

Soil sample collection

Prior to soil sampling, a brief test of the 'bulb planter' coring tool is required on the plot margins, to ascertain the most suitable approach to removing it from the soil whilst ensuring the core remains intact.

We have tried 3 methods, these being:

i) Pulling the core out vertically without any further actions.
ii) Levering the core out by lowering the handle of the tool, thus breaking the soil above/adjacent to the sample.
iii) Circular movement of the handle, which results in rotation of the sampling chamber and core within, to deliver a 360 rotation before extraction using i) or ii).

Field information should be collected on all methods trialled, and whichever method is considered most successful should be noted and deployed for the remainder of the sampling.

Within each 20 x 20 m plot, the following soil samples should be collected. Locations for collection within the plot should be random e.g. by dividing plot into 100, 2 x 2m sub-plots and selecting locations using a random number generator.

5 x plastic pipe core samples - "topsoil" (0 -15 cm)
5 x plastic pipe core samples - "subsoil" (15 – 30 cm)
5 x 'bulb planter' samples - "topsoil" (0 -15 cm)
5 x 'bulb planter' samples - "subsoil" (15 – 30 cm)
5 x pit excavation samples "topsoil" (0 –15 cm)
5 x pit excavation samples "subsoil" (15 – 30 cm)(these are excavated in the same place as the 0 – 15cm pit excavation samples)

All samples should be taken to ensure they avoid any disturbance or spoil arising from other sampling within the plot and should be taken from land that has not been trampled.

It is envisaged that field sampling would be completed at each site in a continuous one or two day period to limit temporal variability. Sampling should not be undertaken when soils are frozen.

Equipment (field):

Activity	**Equipment required**
Plot setup	Hand-held GPS or map
	2x Retractable surveyors tapes 50m for plot boundary
	Bamboo canes or equivalent for marking plot corners
	Design of sample collection locations and additional 20m surveyors tapes to locate these.
Soil profile descriptions	Dutch (Edelman) auger
	Plastic sheet
	Metre rule with clear markings
	Munsell soil colour charts and soil texturing key
	Digital camera / phone camera
	Notebook and marker pen for sample labels
Plastic core , 'bulb planter' and pit excavation methods	Scissors / secateurs for vegetation removal
	Knife with long, flexible, sharp serrated blade and safety sleeve
	Gardening gloves
	Wooden driving blocks
	Mallet
	Trowel
	Spade
	Cling film for wrapping cores
	Zip lock bags (medium) labelled with sample identification
	Permanent markers
	60 x 51 mm internal diameter, 150 mm long sections of PVC plastic waste pipe (10 per site, plus spares) - these will be supplied by Natural England.
	Ruler suitable for measuring any shortfall within cores sampled due to compression or partial sampling (i.e. needs scale from end of ruler)
	'Bulb planter' soil corer (to be supplied by Natural England, 2 devices are available)
	Tough, thin, flexible waterproof lining material suitable for lining excavated pits for water volume calculation.
	Water enough to fill 10 3.375 L pits, accounting for reused water (a 20 L jerrycan may suffice).
	Large measuring cylinder.
	Small cup and/or large sponge for removing water from excavated holes and funnel to recover water into jerrycan.
All sampling	Sample storage boxes.
	Notebook / pen / survey sheets / tablet computer

Methods:

The coring methods will be demonstrated to the contractor prior to commencement of survey, either through provision of short videos or series or labelled photographs, and there will be an opportunity to address any outstanding questions with NE soil specialists.

- Record start time for the plastic pipe core soil samples collection.

Plastic Pipe Core sample "topsoil" 0 – 15 cm

1. Locate an undisturbed area of ground.
2. Gently remove / clip vegetation and any fresh litter from the soil surface, taking care not to move decomposing litter beneath.
3. Place plastic core on surface and cut into the soil around bottom edge of the core using serrated knife.
4. Cut/drive the core into the soil using a block, mallet and knife as necessary, stopping when the core top is flush with the soil surface. If a plastic core is cracked during sampling, this should be noted and a new sample taken at an adjacent location.
5. Ideally, the soil within the core tube should be at the same level as the soil surface. If this is not the case, please record on average how much the soil is 'short' within the top of the core, to the nearest 0.5 cm, and note whether this is likely to be due to compression or a partial sample taken. If this effect is extreme (>1 cm), then please repeat the core sample, to a maximum of 3 total attempts. Please record details of all attempts made, and on the final attempt, retain the core for further analysis as the sample.
6. Cut out a wedge of soil at the side of the plastic tube, remove this and surrounding soil with a trowel.
7. Use the tip of the trowel to lever out the intact core, taking care not to lose soil from the base of the core.
8. Trim the bottom edge flush with core using a knife. No loss of soil from the base of the core should occur; however, this can occasionally happen due to presence of a stone or root at the core base. Record losses <1cm as in step 5; for greater losses, repeat sample to a maximum of 3 further attempts.
9. Wrap core in cling film securely (PLEASE TAKE CARE WHEN HANDLING TO RETAIN THE WHOLE CORE).
10. Replace soil wedges / spoil into the holes created.
11. Place core in a large zip-loc bag, seal, and label as described below.

Plastic Pipe Core sample "subsoil", 15 – 30 cm

1. Locate an undisturbed area of ground
2. Carefully remove the top 15 cm depth of soil in a square area approximately 20 cm by 20 cm using a spade.

Follow steps 3. to 11. for "Plastic Pipe Core sample "topsoil" (above).

- Following collection of 5 x satisfactory "Plastic Core - topsoil" and 5 x satisfactory "Plastic Core - subsoil" samples, record end time.

- Record start time for 'bulb planter' sampling.

Bulb Planter sample "topsoil", 0 – 15 cm.

1. Locate an undisturbed area of ground.

2. Gently remove vegetation and any fresh litter from soil surface, taking care not to move decomposing litter beneath.
3. Place 'bulb planter' on soil surface and cover upper hole with lid.
4. Use a twisting motion to push the sampling chamber into the soil, placing pressure on treads as needed, until the outer soil surface is level with the 15 cm mark on the corer. The soil within it may be at the same level as the soil surface, or there may be expansion of the core as it is cut, or potentially a partial sampling of the soil. Remove the lid and examining the core in situ. If there appears to be a partial sample, please try to describe the situation and impact on the core length. If a partial sample is >1cm short, then please repeat the core sample, to a maximum of 3 total attempts. Please record details of all attempts made, and on the final attempt, retain the core for further analysis as the sample.
5. Remove by the optimal technique already determined (i.e. rotation, pulling or levering).
6. Turn the corer over and if required, trim the bottom edge flush with core using a knife and remove any soil from the external surfaces. No loss of soil from the base of the core should occur; however, this can occasionally happen due to presence of a stone or root at the core base. Record losses <1cm as in step 5; for greater losses, repeat sample to a maximum of 3 total attempts.
7. Place a labelled zip-lock bag over the wider aperture of the sampling chamber.
8. Invert the tool so that the soil core falls into the bag, ensuring all is retained. You may need to press the base of the core to free it from the corer.
9. Seal bag.

<u>Bulb Planter sample "subsoil" 15 – 30 cm</u>

1. Locate an undisturbed area of ground
2. Carefully remove the top 15 cm of the soil in a square area approximately 20 cm by 20 cm using a spade.

Follow steps 3. to 10. for Bulb Planter sample "topsoil" (above).

- Following collection of 5 x satisfactory Bulb Planter "topsoil" and 5 x satisfactory Bulb Planter "subsoil" samples, record end time.

<u>Excavation pits "topsoil" 0 – 15 cm and "subsoil" 15 – 30 cm</u>

1. Select an area of flat ground
2. Gently remove / clip vegetation and any fresh litter from soil surface, taking care not to move decomposing litter beneath.
3. Use a small trowel to excavate soil within an exactly 15 x 15 cm area (this can be marked with a frame), to a depth of exactly 15 cm.
4. Place all soil removed into one or more labelled zip-lock bags.
5. Line pit with waterproof liner, ensuring no holes or damage to the liner.
6. Using a graduated container with a known volume of water, fill hole with water to the soil surface, ensuring no water is split. Record the volume of water used by reference to the water remaining in the container.
7. Remove and recover water (using a cup and/or sponge) and remove liner, ensuring that water remains well away from the excavation pit. Ensure that the liner is fully dry before re-use.
8. Widen the topsoil hole to approx. 40 cm square and 15 cm deep and put the spoil on a plastic sheet well away from the pit.

9. Excavate a further 15 cm by 15 cm square hole to a depth of 30 cm from the original soil surface, and place all soil removed into one or more sealed zip-lock bags in cool storage.
10. Repeat lining and filling, and noting the volume of water used.

Labelling of samples – suggested scheme

Date
Fieldworker initials
SiteName X ReplicateNumber X Method X Depth

Sample storage

Samples should be stored in a cool, dark place, prior to analysis.

Soil Sample Analysis

For each sample, entire sample collected should each be assessed using, where possible, UKAS approved method for:

- % gravimetric water content following drying at 105^{o}C
- % stone volume (volume of mineral particles >2 mm diameter) and weight (g).
- dry bulk density g cm^{-3}
- fine earth bulk density (dry bulk density of non-stone material)

For the larger samples obtained from the exaction pits, the soil should be dried in similar sized subsamples to the 5 cm diameter cores to avoid incomplete drying in the centre of the soil mass. This will require dividing up the samples into multiple pieces and using a large number of drying trays.

Deliverables

All results (including co-ordinates of sampling locations, descriptions of sampled soils, field records of sample collections, timings and lengths of cores obtained, and specified laboratory analyses) should be supplied to Natural England in the form of Excel spreadsheets. Advice can be given on the format, units or analysis required. Time required for fieldwork, sample analysis and data collation should be identified and costed as part of the tender.

Data should be accompanied by a brief report describing field observations from use of the ‘bulb planter’, including which methods were selected to remove the planter from the soil / the rationale for those, and any observations on timing or advantages / disadvantages of the method not covered by the testing protocol described above. No in-depth statistical analyses are required; however, the contractor will be asked to attend a post project meeting to describe their experiences and offer opinions about the methods used.

Prices

Prices must be submitted in £ sterling, indicating whether VAT is applicable, and inclusive of any VAT.

Quotation Submission and Evaluation

We will award this contract in line with the most economically advantageous submission as set out in the following award criteria:

- Price – 50%
- Quality – 50%

Assessment against the quality criterion will be based on scores for tenders received, weighted in accordance to the importance of the following criteria, as indicated in the following table:

Criteria	Weighting	To include:
Proposed delivery methods	45	To include: • A clear explanation of any proposed sampling locations and their soil types, and detailed outline of sampling programme. • A clear explanation of lab protocol and plans for processing samples, and any appropriate quality assurances applied. • Identification of any critical issues relating to the proposed methods to be used, with suggestions for overcome these.
Delivery Capability	25	To include: • A description of the project's management, showing who will have responsibility for different elements of the project. • A project risk assessment identifying potential threats to the delivery of the project, (such as problems with equipment, staffing, access to facilities) and mitigation strategies to overcome these. • A general description of the laboratory facilities available to deliver the project

		• A description of how you will manage any risks to health and safety, in relation to both fieldwork and laboratory analyses.
Expertise	20	To include: • Brief descriptions of how the training, qualifications and experience of key staff members will enable them to deliver the project. • C.V.s of all key staff members.
Sustainability	10	To include: • A description of how environmental impacts relating to the project will be minimized including reference to protocols for safe disposal of reagents, sustainable reuse or disposal of waste materials, and any other actions you will take to minimize environmental impact of the project.

The scoring of submissions will be follow the rationale outlined in the table below:

Score	Justification
For a score of hundred (100):	Excellent - Response is completely relevant and excellent overall. The response is comprehensive, unambiguous and demonstrates a thorough understanding of the requirement and provides details of how the requirement will be met in full.
For a score of seventy (70):	Good - Response is relevant and good. The response demonstrates a good understanding and provides details on how the requirements will be fulfilled.
For a score of fifty (50):	Acceptable - Response is relevant and acceptable. The response provides sufficient evidence to fulfil basic requirements.
For a score of twenty (20):	Poor - Response is partially relevant and/or poor. The response addresses some elements of the requirements but contains insufficient / limited detail or explanation to demonstrate how the requirement will be fulfilled.
For a score of zero (0):	Unacceptable - Nil or inadequate response. Fails to demonstrate an ability to meet the requirement.

Contract Management

This contract shall be managed on behalf of the Authority by Matthew Shepherd

It is expected that the contractor or contractors will liaise with Natural England by e-mail, and in telephone/webinar meetings to:

- Agree and finalise the project timetable and logistics
- Run through soil sampling methods prior to the sampling taking place.
- Report progress and discuss any issues arising during field sampling.
- Review project on completion.

All progress meetings required will be held during the course of the contract by teleconference/webinar/videoconference.

The **Nominated Officer** for this project is:

Dr Matthew J Shepherd
Senior Environmental Specialist – Soil Biodiversity
Natural England, Sterling House, Dix's Field, Exeter, EX1 1QA
Tel: 07866 680786
E-mail matthew.j.shepherd@naturalengland.org.uk

This contract is to run until 24th March 2022.

The following project milestones are envisaged but will be subject to final agreement between the successful contractors and Natural England.

Table 2 Milestone dates.

Milestone	Date
Initial call	w/c 12th Dec 2022
Run-through of sampling methods / receipt of bulb planter	Early Jan 2023
Soil sampling and laboratory analyses	Jan / Feb 2023
Collation of results and reporting	March 2023
Final project feedback meeting	Late March 2023
Final invoice submitted	24h March 2023

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

Payment will be following a single invoice at the end of the contract, on or before 24th March 2023.

Disclosure

All Central Government Departments, their Executive Agencies and Non Departmental Public Bodies are subject to control and reporting within Government. In particular, they report to the Cabinet Office and HM Treasury for all expenditure. Further the Cabinet Office has a cross-Government role delivering overall Government policy on public procurement, including ensuring value for money and related aspects of good procurement practice.

For these purposes, the Authority may disclose within Government any details contained in your quotation. The information will not be disclosed outside Government during the procurement.

In addition, the Authority is subject to the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, which provide a public right of access to information held by public bodies. In accordance with these two statutes, the Authority may be required to disclose information contained in your quotation to any person who submits a request for information pursuant to those statutes.

By submitting a quotation you consent to these terms as part of the procurement.

Disclaimers

Whilst the information in this RFQ and any supporting information referred to herein or provided to you by the Authority have been prepared in good faith the Authority does not warrant that this information is comprehensive or that it has been independently verified.

The Authority does not:

- make any representation or warranty (express or implied) as to the accuracy, reasonableness or completeness of the RFQ;

- accept any liability for the information contained in the RFQ or for the fairness, accuracy or completeness of that information; or

- accept any liability for any loss or damage (other than in respect of fraudulent misrepresentation or any other liability which cannot lawfully be excluded) arising as a result of reliance on such information or any subsequent communication.

Any supplier considering entering into contractual relationships with the Authority following receipt of the RFQ should make its own investigations and independent assessment of the Authority and its requirements for the goods and/or services and should seek its own professional financial and legal advice.

Protection of Personal Data

In order to comply with the General Data Protection Regulations 2018 the contractor must agree to the following:

- You must only process any personal data in strict accordance with instructions from the Authority
- 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.

General Data Protection Regulations 2018

For the purposes of the Regulations the Authority is the data processor.

The personal information that we have asked you provide on individuals (data subjects) that will be working for you on this contract will be used in compiling the tender list and in assessing your offer. If you are unsuccessful the information will be **held and destroyed within two years** of the award of contracts. If you are awarded a contract it will be retained for the duration of the contract and destroyed within **seven years** of the contract's expiry.

We may monitor the performance of the individuals during the execution of the contract, and the results of our monitoring, together with the information that you have provided, will be used in determining what work is allocated under the contract, and in any renewal of the contract or in the award of future contracts of a similar nature. The information will not be disclosed to anyone outside the Authority without the consent of the data subject, unless the Authority is required by law to make such disclosures.