ATTACHMENT G
QUALITY ASSURANCE REQUIREMENTS

1. All sampling and analyses performed under this Contract must conform to the requirements set forth in Chapter 62-160, Florida Administrative Code (F.A.C.) and "Requirements for Field and Analytical Work performed for the Department of Environmental Protection under Contract" (DEP-QA-002/02), February 2002.
2. **LABORATORIES**
   a. The GRANTEE shall ensure that all standard laboratory testing activities are performed by laboratories certified by the Florida Department of Health Environmental Laboratory Certification Program (DoH ELCP) for all applicable matrix/method/analyte combinations to be measured. For non-potable water matrix, the certification requirement is considered satisfied if the laboratory is certified for the contracted analyte in at least one method that uses the same analytical technology as the contract-proposed method.
   b. If the laboratory is not certified for some or all of the proposed test measurements, the laboratory shall apply for certification within one month of Contract execution. Within six months of Contract execution, the laboratory shall be fully certified for all applicable matrix/method (or analytical technology)/analyte combinations to be performed. Regardless of when the laboratory receives certification, the laboratory must implement all applicable standards of the National Environmental Laboratory Accreditation Conference (NELAC) upon Contract execution.
   c. Laboratories shall maintain certification as specified in item 2.a above during the life of the Contract. Should certification for an analyte or test method be lost, all affected tests shall be immediately sub-contracted to a laboratory with current DoH ELCP certification in the appropriate matrix/method/analyte combination(s). The GRANTEE shall notify the DEP contract manager in writing before any change to a sub-contracted laboratory is made.
   d. A copy of the DoH ELCP Certificate and the associated list of specific fields of accreditation for each contracted or sub-contracted laboratory shall be provided to the DEP contract manager upon Contract execution or upon receiving DoH certification (see items 2.a and 2.b above).
   e. The GRANTEE shall ensure that an acceptable initial demonstration of capability (IDOC), as described in Appendix C of Chapter 5 of the NELAC Standards is performed. Each laboratory that performs any of the proposed matrix/method (or analytical technology)/analyte combination(s) must have the requisite IDOC documentation and supporting laboratory records. IDOCs shall be performed and shall meet the contract specified requirements for precision, accuracy, and the method detection limit (MDL) and/or practical quantitation limit(PQL) before the test procedure is used to generate data for this Contract. If requested by the Department, documentation that supports the IDOC shall be made available for review.
   f. When performance test samples are not required by DoH ELCP for certification, the laboratory shall obtain, analyze and evaluate performance test samples, standard reference materials (SRM) or other externally assayed quality control (QC) samples, hereinafter known collectively as quality control check (QCC) samples.
      (i) The laboratory shall ensure that the selected QCC samples(s) represent all matrix/method/analyte combinations that are not subject to certification requirements.
      (ii) These samples shall be analyzed at six-month intervals and the results shall be within the acceptable range established by the QCC sample provider.
      (iii) Before providing analytical services for this Contract, the laboratory must provide to the DEP contract manager the results of the QCC sample(s) and the associated acceptable range(s) as established by the QCC sample provider. The submitted results must be from QCC samples that have been completed within the previous six months prior to the submission date.
   g. Any non-standard laboratory procedures or methods that are proposed for use (i.e., those not approved by DEP for standard environmental analyses) shall be submitted for review and approval in accordance with DEP-QA-001/01, "New and Alternative Analytical Laboratory Methods," February 1, 2004. These procedures or methods shall be approved by the DEP contract manager before use under this Contract and must be cited or described in the required planning document (see Section 6).
   h. The GRANTEE shall ensure that Practical Quantitation Limits (PQLs) and Method Detection Limits (MDLs) are listed in the planning document (see Section 6).
   i. The GRANTEE shall ensure that the selected laboratory test methods listed in the planning document can provide results that meet the Contract data quality objectives.
   j. The GRANTEE shall ensure that all laboratory testing procedures follow the analytical methods as approved in the planning document (see Section 6).

k. The GRANTEE shall ensure that the all laboratory quality control measures for standard methods are consistent with Chapter 5 of the NELAC standards.
l. In addition, the GRANTEE shall ensure that the quality control requirements specified in the attached addenda are followed.
m. The GRANTEE shall ensure that all sample results are calculated according to the procedures specified in the analytical methods approved in the planning document.

3. **FIELD ACTIVITIES**
   a. "Sample" refers to samples that have been either collected or analyzed under the terms of this Contract.
   b. The GRANTEE shall ensure that all sample collection and field testing activities are performed in accordance with applicable Department "Standard Operating Procedures for Field Activities" (DEP-SOP-001/01, March 1, 2014). The specific standard operating procedures (SOPs) to be used for this Contract shall be cited in the planning document (see Section 6). SOPs for field sample collection or testing not included in the Department's SOPs shall be included or cited in the planning document.
   c. Any non-standard field procedure shall be submitted for review and approval to the DEP contract manager. All non-standard procedures and methods must be approved by the DEP contract manager before use under this Contract and must be cited or described in the planning document.
   d. Per the quality control measures outlined in DEP SOP FQ 1000, the GRANTEE shall ensure that the following field quality controls (and any additional quality control measures specified in the addenda) are incorporated into the project design for applicable test methods:
      (i) Matrix-Related Quality Controls - The GRANTEE shall ensure that the laboratory is provided with sufficient sample volume to analyze at least one set of matrix spikes and either matrix spike duplicates or laboratory duplicates as follows:
         (1) The first time a sample from a sample collection matrix (see Table FA 1000-1 in DEP SOP FA 1000) is collected;
         (2) One in each additional 20 samples of the sample collection matrix, after the first 20 samples; and
         (3) The last time samples are collected for the sample collection matrix.
      (ii) Field-Generated Quality Control (QC) Blanks – Blanks associated with field activities as defined in part FQ 1210 of DEP SOP FQ 1000 shall be collected according to the requirements of part FQ 1230.
         (1) If an analyte detected in the sample is also found in any field-generated QC blank that is associated with the sample, the GRANTEE shall investigate and attempt to determine the cause of the QC blank contamination. The outcome of this investigation shall be reported and shall include a discussion of the corrective measures taken to minimize future occurrences of QC blank contamination.
         (2) If an analyte detected in the sample is also found in any field-generated QC blank that is associated with the sample, the GRANTEE shall ensure that the analyte in any affected sample is reported as estimated ("G" data qualifier code, with a narrative explanation), unless the analyte concentration in the blank is ≤10% of the reported concentration in the associated sample.

4. **REPORTING, DOCUMENTATION AND RECORDS RETENTION**
   a. The GRANTEE shall ensure that all laboratory and field records applicable to the Contract, as outlined in Rules 62-160.240 and .340, F.A.C. are retained for a minimum of five years after the generation or completion of records.
   b. All field and laboratory records that are associated with work performed under this Contract shall be organized so that any information can be quickly and easily retrieved for inspection, copying or distribution.
   c. The GRANTEE shall ensure that all laboratory reports for standard methods are issued in accordance with NELAC requirements. These reports shall be submitted to the DEP contract manager and shall include the following information:
      - Laboratory sample identification (ID) and associated Field ID
      - Analytical/test method
      - Parameter/analyte name
      - Analytical result (including dilution factor)
      - Result unit
      - Applicable DEP Qualifiers per Table 1 of Chapter 62-160, F.A.C.
      - Result comment(s) to include corrective/preventive actions taken for any failed QC measure (e.g., QC sample, calibration failure) or other problem related to the analysis of the samples
      - Date and time of sample preparation (if applicable)

- Date and time of sample analysis
- Results of laboratory verification of field preservation
- Sample matrix
- DoH ELCP certification number for each laboratory (must be associated with the test result(s) generated by the laboratory)
- MDL, LOD or other defined limit of detection
- PQL, LOQ or other defined limit of quantification
- Sample type (such as blank type, duplicate type)
- Field and laboratory QC blank results:
    - Laboratory QC blank analysis results as required by the method, NELAC Chapter 5 and the planning document (see Section 6 below);
    - Field quality control results including field blanks, equipment blanks, and field duplicates (or replicates) as specified in the planning document (see Section 6)
- Results of sample matrix spikes, laboratory duplicates or matrix spike duplicates, as applicable
- Results of surrogate spike analyses (if performed)
- Results of laboratory control samples (LCS)
- Link between each reported quality control measure (e.g., QC blanks, matrix spikes, LCS, duplicates, calibration verification) and the associated sample result(s)
- Acceptance criteria used to evaluate each reported quality control measure

d. The GRANTEE shall ensure that the following field-related information is reported to the DEP contract manager:
    - Site name and location information
    - Field ID for each sample container and the associated analytes (test methods) for which the container was collected
    - Date and time of sample collection
    - Sample collection depth
    - Sample collection method identified by the DEP SOP number, where applicable
    - If performed, indicate samples that were filtered
    - Field test measurement results:
        - DEP SOP number (FT-series), where applicable
        - Parameter name
        - Result
        - Result unit
        - Applicable Data Qualifiers per Table 1 of Chapter 62-160, F.A.C.
    - Narrative comments discussing corrective/preventive actions taken for any failed QC measure (e.g., blank contamination, meter calibration failure, split sample results), unacceptable field measurement or other problems related to the sampling event.

e. The Department reserves the right to request some or all of the laboratory or field information in a specified format.

5. The GRANTEE shall submit the data electronically using the format identified in QAPP
6. **AUDITS**
    a. AUDITS BY THE DEPARTMENT – Pursuant to Rule 62-160.650, F.A.C., the Department may conduct audits of field and/or laboratory activities. In addition to allowing Department representatives to conduct onsite audits, the GRANTEE, upon request by the Department, must provide all field and laboratory records pertinent to the contracted field and laboratory activities. If an audit by the Department results in a determination that the reported data are not usable for the purpose(s) or do not meet the data quality objectives specified by the Contract, the DEP contract manager shall pursue remedies available to the Department, including those outlined in Section 8 below.
    b. PLANNING REVIEW AUDITS –
        (i) Initial: Prior to the completion of the sampling and analysis events and after the second completed sampling and analysis event but no later than fourth, the GRANTEE and all associated subGRANTEEs shall review the planning document (see Section 6 below) relative to the completed field and laboratory activities to determine if the data quality objectives are being met, identify any improvements to be made to the process, and refine the sampling and/or analytical design or schedule. Within one month of the review, a summary of the review, including any corrective action plans or

amendments to the planning document, shall be sent to the DEP contract manager and a copy shall be maintained with the permanent project records.

(ii) Ongoing: Planning reviews as described in item (i) above shall occur annually, if applicable.

c. QUALITY SYSTEMS AUDITS – The GRANTEE and all subGRANTEEs shall ensure that any required laboratory and field quality system audits are performed according to the respective quality manuals or other relevant internal quality assurance documents for each contracted and sub-contracted entity. These audits shall be documented in the GRANTEE's and subcontractors' records.

d. STATEMENTS OF USABILITY – As a part of the audit process and the final report, the GRANTEE shall provide statements about data usability relative to the Contract Data Quality Objectives and Data Quality Indicators specified in the planning document, this attachment and the addenda.

(i) The GRANTEE shall ensure that all applicable data quality acceptance and usability criteria are listed in the planning document.

(ii) The GRANTEE shall ensure that the results of all quality control measures are evaluated according to the acceptance criteria listed in the planning document GRANTEE.

(iii) The GRANTEE shall ensure that all sample results are evaluated according to all applicable usability criteria specified in the planning document.

7. **PLANNING DOCUMENT**

a. The GRANTEE shall submit the planning document identified below to the DEP contract manager no later than 120 days prior to the commencement of field and laboratory activities. Failure to submit the planning document in this required timeframe shall result in a delay of approval to begin work until the document has been submitted to the Department and approved by the DEP contract manager. The document shall be submitted as a Quality Assurance Project Plan (QAPP). The plan shall be consistent with the EPA Document EPA-QA/R-5, EPA Requirements for Quality Assurance Project Plans, dated March 2001.

b. The GRANTEE and subGRANTEEs may submit a version of the planning document to the Department for approval no more than three times. If the GRANTEE fails to obtain approval for the planning document after the third (final) submission to the Department, the DEP contract manager may suspend or terminate the Contract.

c. The DEP Contract number shall appear on the title page of the submitted planning document. Within forty-five (45) days of receipt of the properly identified planning document by the Department, the Department shall review and either approve the planning document or provide comments to the GRANTEE and affected subGRANTEEs as to why the planning document is not approved. If further revisions are needed, the GRANTEE shall then have fifteen (15) days from the receipt of review comments to respond. The Department shall respond to all revisions to the planning document within thirty (30) days of receipt of any revisions.

d. If the review of the planning document by the Department is delayed, through no fault of the GRANTEE, beyond sixty (60) days after the planning document is received by the Department, the GRANTEE shall have the option, after the planning document is approved, of requesting and receiving an extension in the term of the Contract for a time period not to exceed the period of delayed review and approval. This option must be exercised at least sixty (60) days prior to the current termination date of the Contract.

e. Work may not begin for specific Contract tasks until approval (or conditional approval) has been received by the GRANTEE from the DEP contract manager. Sampling and analysis for the Contract may not begin until the planning document has been approved (or conditionally approved).

f. Once approved, the GRANTEE shall follow the protocols specified in the approved planning document including, but not limited to:

- Ensuring that all stated quality control measures are collected, analyzed and evaluated for acceptability;
- Using only the protocols approved in the planning document; and
- Using only the equipment approved in the planning document.

g. If any significant changes in procedures or test methods, changes in equipment, changes in subGRANTEE organizations or changes in key personnel occur, the GRANTEE shall submit appropriate revisions of the planning document to the DEP contract manager for review. The proposed revisions may not be implemented until they have been approved by the DEP contract manager. If the GRANTEE fails to submit the required revisions, the DEP contract manager may suspend or terminate the Contract. These amendments shall be

(i) Documented through written or electronic correspondence with the DEP contract manager and incorporated into the approved planning document.

8. **DELIVERABLES**
   a. The following lists the expected schedule for the deliverables that are associated with the Quality Assurance requirements of this Contract:
      (i) Copy of DoH ELCP Certificate(s) and the associated list(s) of specific fields of accreditation, per item 2.d above.
      (ii) Copies of the QCC sample results per item 2.f. above.
      (iii) Non-standard laboratory or field procedures – The GRANTEE shall submit to the DEP contract manager all required information necessary for review of non-standard procedures per items 2.g. and 3.c. above.
      (iv) Reports of planning review audits as specified in item 5.b. above.
      (v) Statements of Usability as specified in item 5.d. above.
      (vi) Planning document per Section 6, above.
9. **CONSEQUENCES**
   a. Failure to comply with any requirement of this attachment may result in:
      (i) Immediate termination of the Contract.
      (ii) Withheld payment for the affected activities.
      (iii) Contract suspension until the requirement(s) has been met.
      (iv) A request to refund already disbursed payments.
      (v) A request to redo work affected by the non-compliant activity.
      (vi) Other remedies available to the Department.

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