

**Florida Department of Health
Onsite Nitrogen Reduction Strategies Study**

Contract CORCL

Task B Draft QAPP Recommendation for Process Forward Meeting
October 11, 2010
1:00 p.m.
Teleconference

MINUTES

Attendees:	Dr. Daniel Smith	AET
	Damann Anderson	Hazen and Sawyer
	Josefin Hirst	Hazen and Sawyer
	Elke Ursin	FDOH
	Dr. Eberhard Roeder	FDOH

I. Draft Task B QAPP

The Task B Draft QAPP (Task B.3) was the focus of the call, with the objective of going through comments on the draft QAPP from FDOH and the RRAC. The comments on the draft QAPP and the response from the project team are summarized below. These revisions will be incorporated into the Final Task B QAPP (Task B.5).

II. Response to Comments

Section 1

Comment: General comments that didn't fit in specifically:

- 1.) Page, 1-1. Comment: I think I understand from the progress report document that Task B field testing is not included in any of the work authorized for this state fiscal year. Is that correct?

Response: For the first funding cycle, there were no funds allocated to Task B. With the new funds appropriated in this year's state budget, we are including several parts of Task B for this current funding year.

- 2.) Comment: Understandably, this QAPP has to remain rather general, but what is the estimated number of technologies to be tested and at how many sites?

Response: Current budget is for 8 sites and 8 technologies. Additionally, there is also testing that will take place at the GCREC test facility under more controlled conditions.

- 3.) Comment: Is there a general time line that could be added to the document, not necessarily laying out specific months but giving the readers an overall idea of what happens when?

Response: The timeline is outlined in the contract based on deliverable schedule.. A general statement will be added that some of homeowner agreements will be established and shortly thereafter systems will be installed.

- 4.) Comment: Will the ground water and lysimeter monitoring be included under a separate QAPP?

Response: We believe you are talking about Task C, which is the soil and groundwater testing. That is a different QAPP and can be viewed on our brand new nitrogen webpage:
<http://www.doh.state.fl.us/environment/ostds/research/nitrogen.html>

- 5.) Comment: Finally, this is probably minor, for the reactive media alternatives I think it would be important to measure the mounding of water above the reactive media to evaluate mechanical clogging over time. Where would that fall? Under O&M monitoring?

Response: Yes, it would fall under O&M monitoring program and will be monitored by either a vent or observation port. We will clarify within report in the monitoring section, Table 2-3.

- 6.) Section 1.4 Comment: It is not clear after reading this who belongs in each class: field vs. key personnel vs. Task B leaders and team leaders.

Response: Section will be rewritten. Damann Anderson and Daniel Smith are the co-principal investigators for the FOSNRS project, and Daniel Smith is the Task B Leader. Personnel from H&S and other subcontractors will be assigned to each site. Key Task B personnel relates to the Task B leader and field team leaders. Field team leaders will be established for each site depending on the location.

Section 2

- 7.) Section 2.0 Comment: Sequence of activities implies that vendor agreements will be established after homeowner agreement. Instead, vendor agreements could already be established prior to (and informing) the homeowner agreement.

Response: It did imply that but there is no specific order and report has been rewritten to state this. Not meant to be sequential for activities prior to installation. Holding certain activities up by working through a sequence will not occur.

- 8.) Section 2.0 Comment: 2.0 is only this paragraph.

Response: We will revise text to clarify.

- 9.) Section 2.1.1 Comment: Was this supposed to be in South Florida?

Response: Task C field site testing is where spreading the systems around the state is important. Technology testing is not necessarily dependent on the region of the state. However, we will revise to north Florida, central Florida, and south Florida.

- 10.) Section 2.1.1 Comment: This would not be a passive system. Issues: energy use, reliability of nitrification, cost definition.

Response: This sentence will be removed, however the priority list for testing from Task A recommendations list includes different types of systems, not only passive systems. Suspended growth is a lower priority. This language was reflecting retrofits or upgrades to existing systems. We could add on a passive component to non-passive (suspended growth) system. We will monitor the entire system.

- 11.) Section 2.1.3 Comment: Including permit fees, design & engineering fees, and maintenance entity fees?

Response: During the study all these fees will be paid for by the project. Text will be revised to reflect this. All project payments will terminate upon site closure.

- 12.) Section 2.2 Comment: Numbering scheme is unclear.

Response: Numbering scheme follows Table 2.1 sequence.

- 13.) Section 2.3.1 Comment: What is surfacing?

Response: We will revise to leveling.

- 14.) Section 2.3.2 Comment: By licensed personnel?

Response: Vendor systems will be installed by vendor recommendations. Question arose whether septic tank contractors will install systems? Yes, a licensed septic tank contractor will be used to install the systems, unless vendor is able to install.

- 15.) Table 2.3 Comment: In the “Product” column, “Update” probably should be “Updated”, since it is an adjective and not a verb (action).

Response: We will revise to clarify.

- 16.) Table 2.3 Comment: It isn't clear to me that “spreadsheet entry” belongs in the “Actions” column instead of or in addition to the “Product” column. The following line states “make spreadsheet entry”. That seems to be a clear action. Perhaps that same wording should be included for the second task.

Response: We will revise to clarify.

- 17.) Table 2.3 Comment: In the “Product” column, “Update” probably should be “Updated”, since it is an adjective and not a verb (action).

Response: We will revise to clarify.

- 18.) Table 2.3 Comment: By maintenance entity?

Response: Maintenance entity requirements will be dependent on the type of system. The project team will likely perform most maintenance, but a maintenance entity may be hired if a certain element requires maintenance which is above ability of project team. Most likely, both maintenance entity and project team will be performing maintenance. For a research project, it is in the best interest of the project to have the researchers be involved as much as possible, and in this case documenting the O&M costs.

- 19.) Table 2.3 Comment: In the “Product” column, “document” probably should be “documented”, if it is referring to what would appear in the log entry following non-routine maintenance actions.

Response: We will revise to clarify.

- 20.) Table 2.3 Comment: In other places this was in the Actions column too.

Response: We will revise to make uniform.

- 21.) Table 2.3 Comment: is there any criteria for minimum time between the full monitoring events? Do we have something somewhere that says that the events won’t occur within X number of weeks of each other?

Response: Clarification will be provided that criteria will be once a month. However, understanding is that initially following start-up monitoring will typically be more frequent and the monitoring frequency will gradually decrease as determined to be required throughout the project.

- 22.) Section 2.4.1 Comment: Is there an advantage to measuring STE vs. treated effluent?

Response: The text will not change, and ultimately it will depend on the system installed. We need to monitor flow to and from the system, and will determine if and how this is possible on a site by site basis.

- 23.) Section 2.4.3 Comment, 1st paragraph: How? Basin? Trash tank?

Response: Similar to PNRS II, samples will be manually collected from the system. Collection ports will be built into the system if possible. The question was asked if sample ports used for PNRS II are scalable to a larger system. Plumbing will be modified at the home sites and clarification will be added to the report. Some type of sampling port will be needed in line from primary tank to treatment system. However, method will be determined by site

applicability. A collection device on a tee on the line can be used which fills up and overflows back to the system.

- 24.) Section 2.4.3 Comment, 1st paragraph: Depends on technology, may not be the case in recirculation system.

Response: Recirculating systems that recirculate to the septic tank may require site specific requirements. The sample collection methodology will be determined on a site by site basis.

- 25.) Section 2.4.3 Comment, 2nd paragraph: Is this incorrect? In the table on the next page it lists NH₃-N, which I think (but am not sure about) is ammonia nitrogen. Which is correct? The text should match up with the table in this regard.

Response: We will make all references to Ammonia consistent.

- 26.) Section 2.4.3 Comment, 2nd paragraph: Why this? [VSS]

Response: VSS is a portion of TSS, typically considered the organic matter portion. This represents the biological or organic matter in wastewater suspended solids.

- 27.) Section 2.4.3 Comment, 2nd paragraph: Total or ortho?

Response: Total phosphorus will be measured. Initially total phosphorus and orthophosphate will both be measured, however if orthophosphate results are within anticipated range, it will no longer be measured.

- 28.) Section 2.4.3 Comment, 3rd paragraph: I think the method of beginning sampling at the downstream point and working upstream for sampling is an excellent protocol.

- 29.) Section 2.4.3 Comment, 3rd paragraph: intermediate

Response: We will add clarification to text that an intermediate sample bottle will be used to fill the sample containers.

- 30.) Section 2.4.3 Comment, 3rd paragraph: Move this section to below the DEP SOP's in this paragraph. Would it help to refer to DEP SOPs to cover sampling details?

Response: Mentioned later in the document under section 3.0.

- 31.) Section 2.4.3 Comment, 3rd paragraph: Analyses?

Response: Yes, revised.

- 32.) Table 2.4 Comment: Should this have a hyphen?

Response: No, revised in final document as CBOD₅

- 33.) Section 2.5 Comment: This paragraph may benefit from a massive change in the punctuation. I am not positive where a colon would best be placed, because meaning is altered dependent on the placement. I think it would be best to add it between “will” and “enable”. Then a semi-colon should replace the commas throughout the rest of the sentence. To make sense of the entire sentence with the colon and semi-colons, “enable” will need to be added before “determination” on the third line. I think “costs” in the last full line should be singular in this particular use. Lastly, a comma should be added before “which” in this same sentence.

Response: Paragraph has been rewritten.

- 34.) Section 2.5.3 Comment: A word is missing in the fourth line after “also”, perhaps “will”.

Response: We will revise.

- 35.) Section 2.6, 1st paragraph Comment: Not sure whether the data evaluation and performance assessment are being monitored or whether the process includes monitoring, data evaluation, and performance assessment. This is confusing. Comas to be put in correct places to make this clear.

Response: Revised to clarify progression.

- 36.) Section 2.6, 1st paragraph Comment: The last sentence in the first paragraph of the section doesn't have a strong feeling by using the word “felt”. A suggested change is to delete “only if they would be felt advantageous” and add “only if they were believed (or thought) to be advantageous”.

Response: Reworded.

- 37.) Section 2.6, 2nd paragraph Comment: perhaps “analysis” in the fourth line would be more precise if changed to “analyses”.

Response: Revised.

- 38.) Section 2.6, 3rd paragraph Comment: Who's work?

Response: The work refers to members of the field team, the system, and performance of the project at each individual house. We will revise text to clarify.

- 39.) Section 2.6, 3rd paragraph Comment: Should this go someplace else?

Response: Moved to section 2.5.

Section 3

- 40.) Section 3.0 Comment: There are no QC targets listed for each parameter for accuracy or precision.

Response: We will either add a table or include in Table 3.3.

- 41.) Section 3.1, 1st paragraph Comment: Is something missing on the third line, or has the structure of the sentence (order of words) made it seem to not make sense? Was the point to say that the two referenced SOPs will be used, but otherwise FDEP SOPs will be used if they are available?

Response: We will revise to clarify.

- 42.) Section 3.1, 3rd paragraph Comment: Is “QA” the proper term to use at the end of the fourth line, or should it be “QC”? I admit to not knowing.

Response: QA is correct, no change.

- 43.) Section 3.1, 3rd paragraph Comment: It appears that one or more words are missing in the full sentence at the top. After “both” at the end of the first line, it seems that something, such as “in the”, needs to be added to make better sense.

Response: We will revise to clarify.

- 44.) Table 3.1, Comment: The list is accurate based on the FDEP QA web page list of SOPs.

- 45.) Table 3.1, Comment: Add ORP SOP.

Response: There is not a FDEP SOP to reference for ORP.

- 46.) Section 3.2.1.1, 1st paragraph Comment: Should this be Eh? It’s called Eh in the tables.

Response: Eh and ORP are essentially the same measurement. We will make it consistent throughout the document using “ORP”.

- 47.) Table 3.2, Comment: The “Analytes” column needs to be the same as the one on page 2-10 along with any revisions that may occur following incorporation of draft review comments in the final QAPP report.

Response: We will make all the tables and paragraphs consistent.

- 48.) Section 3.2.1.1, 2nd paragraph Comment: How exactly? What locations? How to assure representativeness?

Response: Clarification on methods of sampling will be provided. The locations of final system effluent sample, STE and intermediate points will be determined by type of system

installed. A pump may be used to pump into an intermediate container. Where we can, we won't use pumps. Text will be revised to clarify. The way we sample will take care of representativeness.

- 49.) Section 3.2.1.2, 2nd paragraph Comment: Needs to be in wet ice. DEP has made this comment on other projects. Samples must be stored in wet ice. Blue ice is not acceptable per FDEP SOPs.

Response: Revised text to be in wet ice.

- 50.) Section 3.2.1.3, 2nd paragraph Comment: Second Paragraph and Other Reference Citations – At the end of the first sentence delete “for microbial analyses”, as this is duplicative of the wording toward the beginning of the sentence. Just below the middle of this paragraph at “24 hours”, end the sentence there and start a new sentence with “The system...”. The current write up is a very long, run on sentence. The last sentence on the page is unclear in its reference to “the above method”, because two methods appear in the text above, one at 45° and one at 35°. Lastly, there appears to be inconsistencies in the citations. I don't know which way is correct off the top of my head. Commas are used to separate names and dates sometimes, but not other times. I haven't been noticing this before, so all citations throughout the report should be checked.

Response: Revised text to clarify. Citations will be made consistent throughout the document.

- 51.) Table 3.3, Comment: Need to add sulfate and H₂S. What methods are to be used for sulfate and H₂S?

Response: We will add to the tables per laboratory methods.

- 52.) Table 3.4, Comment: Is the holding time missing for the second preservation method for NO_x-nitrogen?

Response: We will fix this error.

- 53.) Table 3.4, Comment: Need to add sulfate and H₂S

Response: We will add to the table.

- 54.) Table 3.5, Comment: This table is a distance from the text that explains what it is. Would it be okay to add a footnote that basically says the same thing as the text about total samples to be analyzed for a single test site?

Response: Footnote will be added. Objective is one full year of monitoring, and monitoring no less than 1 month apart. Table will be corrected for 8 sampling events.

- 55.) Table 3.5, Comment: Eh?

Response: Revised to ORP.

56.) Table 3.6, Discussion: Decision was made to remove split sample from the table with the understanding that some of the field duplicates will be laboratory splits. Laboratory split samples are, samples from the same collection bottle sent to two separate laboratories as a check. Overall, the number of QA/QC samples collected will be 10% of the total samples collected. We will rotate through parameters for the duplicates, and most often duplicates will be for just nitrogen.

57.) Section 3.2.2, Comment: This is the first time I'm seeing this. What is it exactly? Another form of ORP?

Response: We will revise document to be consistent.

58.) Section 3.2.2, Comment: Calibration of field instruments should conform to FDEP SOPs for field testing FT-1000 and applicable parameter specific SOP.

Response: We revised document to state this.

59.) Section 3.3, 1st paragraph Comment: At the end of the first line the word "which" is used. If it is appropriately used, then add a comma before it. If that is the more appropriate word, please make the change. "Which" is used for incidental information that is not necessarily needed to make sense of a sentence. That may not be the best way of saying that, but it's the best I can come up with now.

Response: We will revise text to clarify.

60.) Section 3.3, 1st paragraph Comment: Is this to allow the UF lab at GCREC to perform the sampling?

Response: Yes, just in case GCREC will be used to perform analytical services for even one parameter throughout the entire study.

61.) Section 3.3, 4th paragraph Comment: What results are acceptable?

Response: Additional columns to Table 3.3 will be added to identify performance acceptability for duplicates as provided by the laboratory based on the methods. This sentence will be removed.

62.) Section 3.3, 4th paragraph Comment: Where are performance standards and table (10% might be too tight).

Response: Additional columns to Table 3.3 will be added to identify performance acceptability as provided by the laboratory based on the methods.

Section 4

- 63.) Section 4.1, 1st paragraph Comment: The first paragraph references Appendix C. The table of contents only indicates one appendix, and the draft QAPP report only contains one appendix. Are there to be additional appendices that we are not seeing during this review?

Response: This is a typo and will be revised to Appendix A.

- 64.) Section 4.1, list Comment: Or is there an item #6 that's missing?

Response: This is a typo and will be revised.

- 65.) Section 4.1, 2nd paragraph Comment: At the end of the second paragraph, the phrase "whenever possible" appears. This is contradictory to the first control measure on the sheet in Appendix A that states that all work will be performed during daylight hours. It is also contradictory to the word "solely" as used in the same sentence. I haven't a resolve. I have mixed feelings about how to proceed with that issue.

Response: This will be revised to be consistent throughout the entire document stating that work will only be done during daylight hours.

- 66.) Table 4.1, Comment: Why are there blanks in the table? Is the information not known or available? Perhaps a code or a note in the footnotes could be added to cover the "missing" information.

Response: NA will be used for the blanks within the table and will be defined as not available.

- 67.) Table 4.2, Comment: The text lines in the center box under "Disease Caused" are off by a space for the last five items. Coxsackie virus should not have anything next to it, as it is part of the description for enteroviruses. Shouldn't a footnote or other indicator be added to the blank spaces? It seems odd not to have any symptoms shown for some of the diseases.

Response: The table will be revised as suggested.

- 68.) Section 4.1, 4th paragraph Comment: The first sentence in the cold and heat section read funny. Because of the use of "monitoring" twice. If "field" is added in front of the second "monitoring", I think it makes a good distinction between the types meant (even if it's obvious without a change). I'm going for readability.

Response: We will revise to clarify..

- 69.) Section 4.1, 6th paragraph Comment: The word "lifts" on the third line doesn't really say much relative to a person "lifting", my preference for wording. Someone might think the reference is to elevators or some other mechanical device.

Response: We will revise to clarify..

- 70.) Section 4.2, 1st paragraph Comment: This is the only place that hard hats are mentioned. Perhaps that is an item that should get more emphasis in appropriate places, such as Appendix A.

Response: Hard hats will be added to Appendix A table.

- 71.) Section 4.2, 2nd paragraph Comment: Environmental risks are mentioned in the second paragraph along with public risks. Ways to potentially reduce public risks are the only ones mentioned, though. Were environmental risks intentionally not mentioned further?

Response: Environmental risks will be removed from the sentence. The sentence will be revised to state public health risk associated with the project.

Section 5

- 72.) Section 5.0 Comment: Some of the entries are left justified and others are justified evenly. Be consistent. I think left justified looks better.

Response: We will fix justification to be consistent.

- 73.) Section 5.0 Comment: Anderson and Other Citations – I suggest deleting the comma after “Lewis” in this particular citation, since there is not a string of names, just two. Otherwise, go back and make all citations consistent. Either have a comma between all names that have “and” between them or don’t have the comma.

Response: We will revise to be consistent throughout the document.

Contract Amendment Comment

- 74.) Discussion: Sampling events described in Task B and Task C are confusing. Task B based on one sampling event for all sites. Question was made if we can split up sampling event deliverable by event, by site?

Response: The cost is based on being able to mobilize to a region and perform sampling of multiple sites. The cost to perform monitoring of just one site will be better established after first event. We suggest waiting to amend the contract budget until we are able to establish the cost involved to perform the sampling events based on locations selected.