QAPP draft comments (applies to all 4 QAPPs except where noted) September 2011

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1. Please include the EPA Grant number on the title page.

00E00591-0 Kinnickinnic River

00E00592-0 Milwaukee Estuary

00E00593-0 Milwaukee River

00E00594-0 Menomonee River

1. Usability suggestions: It may be useful to number subsections and include these subsections in the table of contents. Then QAPP amendments can simply reference the subsection number and be attached and the reader can see quickly what has been updated. It may also be helpful to have a definition of terms and a list of acronyms used throughout the document. It’s likely that the QAPP will be consulted by others beyond the project team so it’s important to define terms that may be misunderstood or used differently in other areas of the country.
2. **A. 3. Distribution** Add a sentence, who is the actual distributor of the QAPP.
3. **A.4 Project organization** roles and responsibilities for WDNR and EPA should be described, particularly given that they will be involved with both technical and policy issues and need to accept the final product. Ideally this section should identify the technical team that will be involved with the biweekly calls. It’s important to identify who will make decisions when stakeholder disagreements cannot be resolved. The Organizational chart should reflect that MMSD has accountability to DNR and EPA for the TMDL development and are not in the same position as other stakeholders in this project. This also feeds into the section later at Task 4 part c) where you state: “stakeholders will participate in selecting the final TMDL scenario”. This needs more definition as to what person or agency is the final decision-maker if there is not agreement for any reason. Clarify that decisions must meet regulatory requirements. Clarify whether there may be more than one scenario.
4. **A5. Background:** Include a citation to the documentation or communication that the WQI modeling has been accepted by DNR. It would be useful to add a few observed values to illustrate the excursion above water quality standards.
5. **A5. Study Area:** For the Milwaukee Harbor Estuary, highlight the treatment of the Lake Michigan direct drainage area (white area on the map) - noted in the 8/26/2011 technical discussion.
6. **A5. Impaired Waters:** Include a couple of sentences about the process and frequency for designating waterways as impaired and status of the study area in that process (2008 list approved, 2010 list pending EPA approval, 2012 list drafted). Table 1 caption should indicate which list is presented.
7. **Figure 4.** Would it be helpful to have the PS to be included in the model be mapped along with the watershed? The map should be revised to focus only on those waters targeted for TMDL development. For example, Cedar Creek is highlighted as being impaired, but is not on Table 1 as targeted for TMDL development.
8. **P 16 A5. Water Quality Targets** Highlight that more clarity will be needed in application of the water quality standards in the transition between areas with different standards (e.g. the outer harbor and Lake Michigan) as was raised in the 8/26 technical meeting.

The text discusses observed relationships between TP and TSS. Be aware that relationships established in heavily agricultural areas may not hold for segments dominated by industrial discharges. Further, the target for TSS must be linked back to a WQS or designated use. Due to the relationships between TSS and TP possibly changing in a point source vs. nonpoint situation, detailed explanation is needed on why it is reasonable to expect that TP reductions will reduce TSS loads to the extent sufficient to achieve the designated use.

1. **TMDL Calculations -** In the third paragraph, you need to add “potential LA reductions” to the relative contribution language. Also need more explanation addressing reasonable assurance.
2. **Selected Modeling Tools –** The language “frequency of compliance” needs to be restated toward “achieving standards”. This issue has come up in other TMDLs (Rock River) and this language has caused misunderstandings and much public comment. State up front the percentile you are choosing for compliance. Omit language regarding “most flow conditions” it is implicit in the TMDL when averages are used in calculations (i.e. end the sentence on compliance frequency after “…ensure that the loading capacities are not driven by anomalously high or low flows.”)
3. **A5. Fecal Coliform to *E. coli* Translation:** If the translator only relevant to the estuary, it may be confusing to include the text in all QAPPs. As is noted in one of the draft QAPPs, more information is necessary on how the transformation will be developed, the data that will be used, and where it will be applied in the TMDL process. It’s important to have a statement of how “good” the translator needs to be to be usable.  It’s unclear where the “translator’ fits into the tasks outlined on pages 20 – 26 (Estuary QAPP) other than the Consultants will comment on the relationship between fecal coliform and other pathogens. Please identify what pathogens the consultant will be commenting on. The term “site specific” is a bit ambiguous here. Perhaps “watershed-specific” would be more descriptive or include this in the defined terms section. Clarify whether you are going to derive one single translator or are conditions such that there may be more.
4. **A6. Task 1.**  The first sentence should reference Table 1. What is the water body’s priority ranking in this context? Please add a sentence or two about bias and representativeness of data. Overall it is probably fairly sound because you have a lot of data. Also regarding available data, add that this info will be kept at the CDM office, and need a statement that when you are getting data from other agencies the data has been reviewed and complies with their SOPs and QA procedures.
5. **A6. Task 4.** “Consistent with USEPA guidance, seasonal variations….” It is not guidance it is a regulatory requirement. CWA §303(d)(1)(C) 40 CFR §130.7(c)(1)

Need more clarification that the phrase “phased approach” so is not misinterpreted. Clarify that it is a phased approach in your process, not in the actual TMDL.

How do compliance points compare with impaired segments? You state that you will use information from the WQI. Add a few criteria that were used to determine those points, not just where you got them (related to point sources, confluence of tribs, bridges, monitoring sites?) State that individual WLAs are needed for point sources in the watershed.

1. **Task 4a)  Application of Model to 2020 TMDL Baseline with Point Sources at Permit Concentration Limits.** The QAPP states that observed data will be used if there is not a permit limit.  Please identify how much actual data is needed for this, the type of data, age, etc.  Is a permit application every 5 years enough? What kind of observed data is acceptable (e.g. composite, grab, total, dissolved, etc.)? Will there be any case in which no data is available? If so, consider how this will be handled. The stated approach gives non-permitted sources much less leeway than those that already have a permit (maximum allowable vs. maximum observed).  The group should consider whether there are unintended consequences for these permit holders with lowered regulatory phosphorus limits.

Please add a clarifying sentence of what constitutes a “reasonable level of…..agricultural controls” as determined by whom?

1. **Task 4b)** “Proportionality” will also need to take into account reasonable LA reductions.
2. **Task 4c)** “The stakeholders will participate in selecting the final TMDL scenario”, as in #3 above, need stronger statement of final decision makers.

For Milwaukee only - first bullet reminder: the PS must have individual allocations, “general allocation” language may be misinterpreted.

1. **A7 Quality Objectives and Criteria for Model Inputs/ Outputs** doesn’t have clear objectives statements, they drive decisions through the process.  For instance, the TMDLs developed should fairly account for green infrastructure.  If possible, some quality expectations for establishing baseline load inputs should be set (e.g. > 85% of point source bacterial contributors are identified).  The objective besides meeting standards is to have a tool for sources to know how much they need to reduce, to help decide what mechanisms that they may need (i.e., modification to permits, modification to infrastructure, zoning modifications, credits, trading), and what is the most useable format (monthly, annual, etc.) These objectives statements become important for assessing the outcome, should be much stronger here and later in section D in reconciliation with user objectives/requirements.

Does SUSTAINS need to be mentioned/included in the process, or anything else in past SOWs or workplans?

Should a baseline per contaminant be attached?

 typo “movement”

1. **A9. Documentation and Records.**  Final TMDL report and all of the supporting files goes to EPA and MMSD.  DNR should be included.
2. **B7. Measurement and Data Acquisition. Calibration.** When you discuss the stats, would it be helpful to have a small summary table of stats for each of the 4 QAPPs/locations?

Menomonee only - Please clarify why “E” was not used in the calibration.

1. **B9 Non-Direct Measurements** The text doesn’t address this well. Virtually all of the data used in this project is a non-direct measurement.  It should include any data being used for the allocation process and modeled scenarios. This section should identify the data source, what the data is used for and how that data is evaluated for acceptability. For example, different land use data sets may have inconsistent categorizations and it may be critical to distinguish between agricultural land used for pastures from that used in active cropping or livestock production. For flow data, you may need a particular resolution (e.g. daily may not be adequate). It may be useful to use a table to present the list of data to be used. Information in B10 (UW-Milwaukee bacteria data) is actually non-direct measurements that will need to be assessed for acceptance.  For data from sources with known quality, like USGS flow data, a simple statement is acceptable.  For permit limits data, indicate how you will deal with permits that change in the TMDL development process.

Based on e-mail communications with Steve Heinz, a separate QAPP has not been developed for the SUSTAIN modeling. Because it will be used as part of this effort, quality documentation is needed. The minimum amount of information includes the list of data layers to be used in the model, their sources and documentation of any adjustments that are made to the data or model.  Until you actually do the modeling, you may not know whether it’s necessary to make adjustments to the data or the model but this information should be available when you get ready to consider it for the TMDL. Information about the SUSTAIN modeling done as a separate effort may be included in this section or as an attachment.

If you intend to use a literature search as part of the process for establishing pollutant removal efficiencies for BMPs, then there should be some quality review included to assure that the data are usable for this context. It may be addressed as simply as stating what aspects need evaluation or consideration by the technical team.

1. **B10 Data Management and Hardware/Software configuration** needs more information. If the database structure from the Rock River TMDL effort will be used, include the documentation for that as an appendix to the QAPP. It should include a description of all of the attributes or data elements. Will the database contain only data associated with the Milwaukee Estuary TMDLs or will the data from the other river systems be in the same Access database?  If a single database will be used, additional attributes may be necessary. What metadata will be retained?  Will a versioning system be used?  Will all individual data inputs and outputs be retained and available?  Document the software versions to be used (e.g. Access 2007, Excel 2003)
2. **Section C** is the part of the document where you build in the procedures for making changes or amendments to the QAPP. This is particularly important for this type of project where you will use an incremental planning and decision-making process. It should also include planned assessments that will be done by DNR, EPA, and other stakeholders.

An assessment that should be planned includes evaluating the results for river reaches that are modeled with estuary (asterisked locations in Table 1 in the river QAPPs) and the transition areas between the river and estuary models are reasonable in context with one another. Large differences between results in two locations that are in relatively close proximity to each other could indicate a problem with comparability. TMDLs in the rivers may need adjustment based on the evaluation of the results for the estuary modeling.

1. **Section C** of the QAPP should include a subsection for Reports to Management; that specifies progress reports to MMSD and the required grant reporting, and to whom. Identify how corrective actions be reported out and implemented if there are problems.
2. **Section D** is missing the section on reconciliation with user objectives, as in #18 above. This is how you determine whether you met objectives in A7. Include WLA will be per source, format that is best for permit holders, MS4s, etc.