



August 7, 2023

Ms. Kay Grosinske  
Air Force Civil Engineer Center  
Joint Base San Antonio  
Lackland, TX 78236

Subject: Review of *Uniform Federal Policy – Quality Assurance Project Plan*  
Former 440<sup>th</sup> Air Reserve Station, 300 E. College Avenue, Milwaukee, WI  
BRRTS #: 02-41-583232, FID #: 241176980

Dear Ms. Grosinske:

On June 2, 2023, the Wisconsin Department of Natural Resources received *Uniform Federal Policy – Quality Assurance Project Plan* (UFP-QAPP), dated June 2023, submitted on behalf of the Air Force Civil Engineer Center by Aerostar Environmental and Construction LLC. The UFP-QAPP was submitted with a technical assistance fee for DNR review and response.

#### UFP-QAPP Review

The DNR has reviewed the UFP-QAPP in terms of Wis. Admin. Code ch. NR 716, which defines site investigation requirements, including field work and scopes of work. The DNR generally concurs with the scope of work outlined in the UFP-QAPP and provides the following comments:

#### Soil Incremental Sampling Methodology (ISM)

- QAPP Worksheets #15a and #15b, Project Action Levels and Laboratory-Specific Detection/Quantitation Limits:
  - Project action levels for soil are in part taken from the May 2022 United States Environmental Protection Agency (EPA) risk screening level calculator outputs. Check for updated values, as several values have been updated since May 2022. The updated values should be considered for project action levels and included on the appropriate tables.
- Section 17.1.2.1 – Surface Soil Sampling:
  - The approach described for ISM does not follow accepted Interstate Technology and Regulatory Council (ITRC) and EPA guidance in some regards. DNR recommends the following changes to the methodology:
    - Only two exposure units (EUs) are selected for triplicates, and several are selected for duplicates. Triplicates (not duplicates) are necessary to assess the potential data variability and determine if the number of increments is sufficient to account for the variability within the EU, and to determine if the EUs are sized appropriately. At least three samples are needed to calculate the appropriate statistics. DNR recommends collecting triplicates at four EUs at a minimum, including at least two EUs in the Fire Training Area and two EUs that represent other source areas/releases.
    - Regarding decision criteria, using a relative standard deviation (RSD) of 30% is not recommended, as 30% is indicative of high variability. DNR suggests using 25% or lower for RSD to determine if the results are acceptable.

- Section 17.1.2.2 – Subsurface Soil Sampling:
  - Adjust the number of increments for each EU to a minimum of 30. 15 or 20 increments is not acceptable for ISM.
  - DNR recommends that the number of increments for the subsurface samples be the same as for the surface samples. There is insufficient rationale to limit or reduce the number of subsurface increments.
  - The above comments on the need for triplicates (not duplicates) at more EUs also apply to the subsurface EUs.
  - Further explanation is needed for the distribution of plugs taken along the length of a core. “30 plugs spaced evenly along the length of the core” may not distribute plugs appropriately due to recovery in each specific core. Provide additional detail in the standard operating procedure (SOP) that better describes the sampling methodology for the subsurface samples. For example, does the sampling intend to collect plugs along the entire length of the cores collected from a particular boring or from the length of a specific split spoon?
  - This section states that replicates are not being collected for samples collected at depth. However, 4.2.3 of the SOP says replicates will be collected from the same core. DNR recommends collecting core replicates from subsurface samples to assess the variability that could be a result of this core subsampling methodology across each depth interval.
  - The above comment on using a 30% RSD also applies to the subsurface samples.
- Section 17.2.5 – Field Readiness Review, Soil:
  - This section states that soil samples will be sent to the lab for further processing. The following SOP is referenced for sample preparation and subsampling (SGS Orlando SOP OP046.7; Appendix A). Worksheet #23A: Analytical SOPs also references prep method OP046 for ISM soil sample processing (ISM Samples via Ring and Puck Mill, Discreet Samples via Mortar and Pestle). DNR has concerns about the use of this prep method for subsampling of ISM soil samples to be analyzed for per- and polyfluoro alkyl substances (PFAS).
    - The SOP is specific to analysis of soils for nitroaromatics and nitramines. Consider preparing a modified SOP that discusses how this SOP is also appropriate for PFAS analysis. This SOP includes references to Teflon tools used in the subsampling, as well as Teflon-lined caps on sample vials. Discuss the appropriateness of this subsampling method or suggested modifications to the method.
    - DNR recommends collecting replicates to assess the subsampling methodology to identify any potential problems with the laboratory subsampling of the bulk sample.
- Section 17.2.6 – Sediment:
  - Provide additional detail regarding sampling tool selection. Explain the criteria to select the appropriate sampling tool. Several potential methods are listed, and more detail is needed to understand how the appropriate tool will be selected to achieve the study objectives.
- Section 17.2.9.1 – Pore Water Sampling and Lysimeter Studies:
  - When able, please provide information on lysimeter studies from other similar sites, as DNR would like to understand how this data will be used at this site.

### Groundwater

- The DNR understands that the groundwater samples will be analyzed using the draft Method 1633. It is also the DNR’s understanding that the 6 identified PFAS will be compared to project action levels and displayed on data tables. The DNR requests that all analytes within the draft Method 1633 be displayed on data tables. This would apply to all media sampled with the draft Method 1633.
- Consider including hydraulic profiling tool (HPT)/vertical aquifer sampling (VAS) locations near the previously installed monitoring wells, including MW2001, MW4001, and MW6002.

- The DNR would like to request the ability to provide input on the proposed monitoring well placement after HPT/VAS data is assessed.

#### Surface Water/Sediment

- Consider incorporating surface water sampling data from the General Mitchell International Airport investigation as appropriate.
- At the fire training area, consider collecting surface water and sediment samples upstream and downstream adjacent to the groundwater seep location.
- Off-site surface water sampling should occur in the tributary that leads to Oak Creek, as well as upstream and downstream in Oak Creek. Consider discussing this sampling with General Mitchell as a joint effort. This data should be used to complete an evaluation of impacts to receptors, including the surface water and sediment and humans and animal/aquatic species that come in contact with the affected media.

The site investigation can be an iterative process. Additional sampling may indicate that further assessment is needed to define the degree and extent of contamination in all affected media.

The DNR appreciates your efforts to address the contamination at these sites. If you have any questions regarding this letter, please contact me, the DNR Project Manager, at (414) 750-7030 or via email at [riley.neumann@wisconsin.gov](mailto:riley.neumann@wisconsin.gov).

Sincerely,



Riley D. Neumann  
Hydrogeologist/Project Manager  
Remediation & Redevelopment Program

cc: Gary Kihn, Aerostar  
Sabina Chowdhury, Booz Allen Hamilton  
Ken Brown, AECOM  
Jeff Maletzke, CTI