QUALITY ASSURANCE PROJECT PLANS (QAPPs)

GOAL:

Quality Assurance of Brownfields Site Assessments and Cleanups
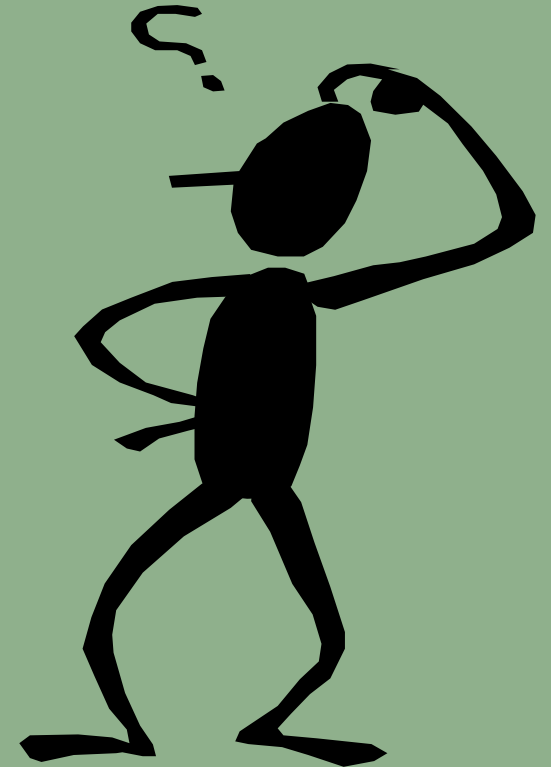
QUALITY ASSURANCE PROJECT PLANS ARE:

A key component in Obtaining Quality Site Work for Brownfield Assessment, Planning and Cleanups

Objectives of this training:

➢ **What information is required in a QA Project Plan?**

➢ **Who Writes the QA Project Plan?**

➢ **Your role and responsibility in the QA Project Plan development, review, and approval process**

What is a QA Project Plan?

A Brownfield Site Investigation typically includes collection and analysis of environmental media such as soils or water.

A "QAPP" is a document that describes the <u>technical</u> and <u>quality</u> control activities of environmental data gathering that should be implemented to ensure that the results of the work performed will satisfy the **data user's** needs.

YOU and the Tribe are the data user!

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QA Project Plans are prepared for all EPA funded projects and tasks involving environmental data gathering to include:

- ✓ Brownfields ASTM Phase II Environmental Site Assessments
- ✓ Brownfield Cleanup Processes
- ✓ Brownfields Cleanup Verification

Non-EPA organizations which receive EPA funds need to satisfy those requirements defined in the Code of Federal Regulations.

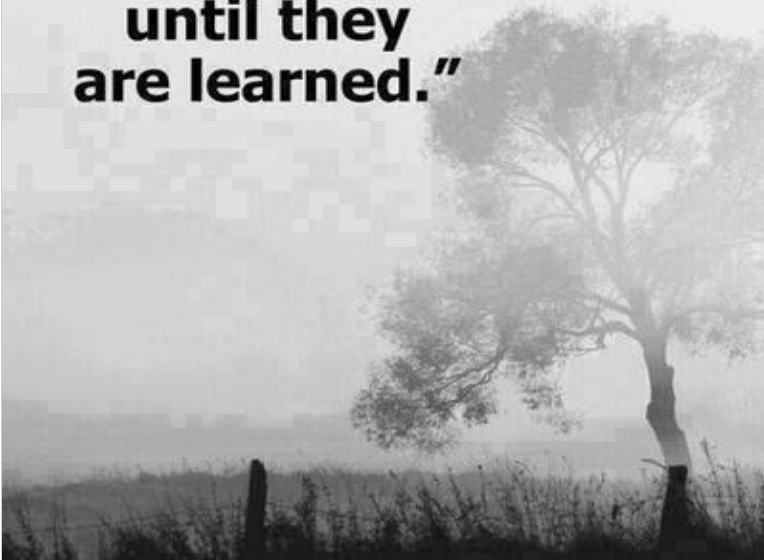| 48 CFR 46	Quality Management Plan (or equivalent) and a QA Project Plan (or equivalent)
40 CFR 30	Quality Management Plan and a QA Project Plan
40 CFR 31	Quality System must conform to the American National Standard (ANSI/ASQC-E-4, 1994). Submit a Quality Manual and a QA Project Plan
40 CFR 35	Comply with 40 CFR 31

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- ❖ Ensure the right data is gathered correctly the first time.
- ❖ Reduce time and costs of site investigations.
- ❖ Ensure detection levels and accuracy of data is adequate to support tribal decision making.
- ❖ Provide confidence in the results of sampling efforts.
- ❖ It is a good idea!!

Value and Purpose of a U.S. EPA Approved QAPP:

Doing the Right Things the Right Way the First Time!

"Lessons in life will be repeated until they are learned."

3 Basic Steps in Developing a QAPP:

PROBLEM IDENTIFICATION

Planning & Preparation

Finalizing The Plan!

Problem Definition/Background

Why is Environmental Data needed?

Typically for Brownfields it is for:

- ❖ Conducting an ASTM Phase II Environmental Site Assessment to determine what and how much contamination exists on a site.

- ❖ Conducting a Brownfield Site Cleanup

- ❖ Conducting Cleanup Verification

- ❖ Possible post cleanup monitoring of site conditions

QA Project Planning and QA Project Plan Preparation

A Team Effort:
- ✓ You & Env. Staff
- ✓ Contractor
- ✓ Other Tribal staff(s)
- ✓ Tribal Leadership/Committees
- ✓ Technical Assistance
- ✓ Other sources (state?)
- ✓ U.S. EPA

Project/QA Project Plan Development

➢ Determine the Scope of the project(s)

➢ Assemble a team and/or hire a contractor

➢ Determine "Data Quality Objectives" (DQOs)

➢ **Write the Plan**

➢ Submit the Plan to U.S. EPA for review and approval

➢ Once approved, distribute the plan as needed

➢ Start work, following the plan

➢ Revise when needed, get approval, then re-distribute the plan

Different Types of QA Project Plans

◻ **Site/Project Specific QA Project Plans**: those projects for which the environmental data gathering is task, site or project specific.

◻ **"Generic" or Programmatic QA Project Plans**: those projects for environmental data operations conducted at multiple locations and/or over a long period of time.

NOTE: Some projects have both

Contents & Format of QA Project Plans

The Typical QAPP may include:

- ✓ Field Sampling Plan*: Sampling design and rationale

- ✓ Sampling and analytical methods

- ✓ Sample handling and custody requirements

- ✓ QA/QC requirements for field and laboratory equipment

- ✓ Data documentation, format and management (software used)

Note: U.S. EPA Regions have varying requirements for the FSP to be within the QAPP or a separate document.

Contents & Format of QA Project Plans

The specific QAPP format and contents can vary by U.S. EPA Region.

Consult your Regional office for specific guidance and requirements.

QA Project Plan Review

For EPA funded projects (i.e. Brownfield 128(a) or 104(k) Grants) the grantee reviews the plan as well as the U.S. EPA Regional Office.

The Grantee/Organization (Tribe) may work with their contractor to develop the QAPP that meets their needs.

Review QAPP to ensure that:

- The plan is accurate and complete (and is for your site!),
- <u>The Data Quality Objectives (DQOs) meet the need of the Tribe</u>*;
- Sufficient data will be collected using appropriate measurement and data acquisition methods;
- There is a process to identify any limitations on the data use.

* See DQO Discussion later

Tribal Reviewers should:

- ❖ Be timely in their review,

- ❖ Have a process established to deal with any revisions needed; and

- ❖ Have appropriate training and expertise in technical areas and/or a contractor with the necessary expertise and recognize where they need advice,

- ❖ Develop a SOP for working on multiple sites.

QA Project Plan Approval

Indicates that the QA Project Plan is accurate and complete, and that it provides:

➢ sufficient detail to identify the project's technical and quality objectives.

➢ Sufficient data to make tribal decisions on the actions necessary and the short & long-term reuse of the site.

QA Project Plan Implementation

➢ Data collection may not be started until the QA Project Plan has been reviewed, approved and <u>signed.</u>

➢ The QA Project Plan should be implemented as approved.

➢ A person should be designated to ensure the Approved QAPP is utilized.

Revisions - After Approval

When changes are needed, the QA Project Plan should be revised and re-approved by the approving official(s) prior to the change being made.

Regular Reviews or Updates

"**Generic**" **QA Project Plans** for multi-year or multi-site projects should be reviewed periodically and revised when necessary.
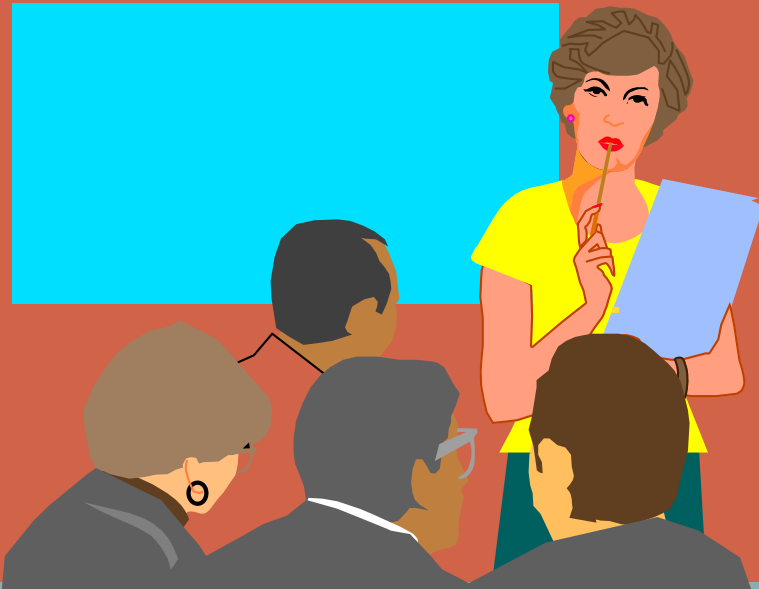
A "Generic" QAPP may also need site specific plans and/or supporting documents.

Consult your EPA Regional office and/or technical assistance providers for examples of QAPPs for similar projects and QAPP checklists.

What is a Quality Management Plan "QMP"?

The data **QMP** describes the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of the organization for data management and quality. Organizations must ensure that data collected for the characterization of environmental processes and conditions are of the appropriate type and quality for their intended use and that environmental technologies are designed, constructed, and operated according to defined expectations.

Consult your EPA Region for the current EPA requirements and guidance for QMPs.

QAPP: "DQOs"
Data Quality Objectives

What are DQOs?

A way for the QAPP writer to understand the __objectives__ of the sampling and what data and data quality is needed to make what decisions.

How are DQOs used?

- ✓ **A Sampling and QAPP Planning Tool**
- ✓ **Cost Management Tool**
- ✓ **Decision Identification**
- ✓ **Clarify Goals**
- ✓ **Contingency Planning**

Who Develops DQOs?

The QAPP writer with input from the Brownfields Grantee "Team":

- ✓ You & Env. Staff
- ✓ Contractor
- ✓ Other Tribal staff(s)
- ✓ Tribal Leadership
- ✓ Technical Assistance
- ✓ Other sources (state?)
- ✓ U.S. EPA

How are DQOs developed?

DQOs are developed by going through 7 basic steps:

Step 1:
QAPP Problem Statement:

WHAT ARE THE PROBLEMS THAT NEED TO BE ASSESSED OR RESOLVED AND THE OVERALL OBJECTIVES OF THE ASSESSMENT OR CLEANUP?

- ✓ **Confirm presence and level of contamination?**
- ✓ **Contamination exceeds background?**
- ✓ **Cleanup needed for reuse of the site?**
- ✓ **Cleanup Confirmation?**
- ✓ **Interim or long-term monitoring parameters?**

Step 2:
Identify the Decisions or Questions

WHAT SPECIFIC DECISIONS NEED TO BE MADE OR QUESTIONS NEED TO BE ANSWERED BASED ON THE DATA COLLECTED?

- ✓ **Land Acquisition?**
- ✓ **Land use or reuse planning ?**
- ✓ **Level of cleanup needed for planned reuse?**
- ✓ **Confirm if the Cleanup met goals?**
- ✓ **Safe Ground water use?**
- ✓ **Institutional Controls needed?**

Step 3:
Describe Inputs to the Decision(s)

WHAT TYPES OF DATA ARE REQUIRED, HOW WILL THE DATA BE OBTAINED & MANAGED, AND HOW WILL THE DATA BE USED TO MAKE DECISIONS?

✓ **confirm suspected contaminants?**

✓ **extent/area/depth of contamination?**

✓ **sampling or analytical costs?**

✓ **state requirements?**

✓ **Background levels?**

✓ **Community Concerns?**

Step 4:
Define the Boundaries of the Study Area

WHAT ARE THE SPATIAL (PROPERTY) BOUNDARIES OF THE STUDY AREA?

- ✓ **Property lines known?**
- ✓ **Property Access?**
- ✓ **one or multiple areas?**
- ✓ **media boundaries?**
- ✓ **Depth of sampling?**

Step 5:
Develop a Decision Rule(s)

HOW WILL DATA COLLECTED BE SUMMARIZED (REPORTED) AND USED TO MAKE DECISIONS?

- ✓ **Required format or program?**
- ✓ **Minimum detection levels?**
- ✓ **Action/Toxicity Levels to be used?**
  (MCLs, RSLs, state levels, etc.)

Step 6:
Specify Limits on Uncertainties

WHAT ARE THE CONSTRAINTS OR LEVELS OF UNCERTAINTY IN THE DATA THAT WILL BE CONSIDERED ACCEPTABLE?

- ✓ **Degree of accuracy needed?**
- ✓ **field data vs modeling?**
- ✓ **All data needs to be met?**
- ✓ **Community Acceptability?**

Step 7:
Optimize the Study Design

WHAT IS THE MOST COST-EFFECTIVE SAMPLING DESIGN THAT IS EXPECTED TO MEET THE DATA QUALITY OBJECTIVES?

✓ **Time & Budget realistic?**
✓ **Need to refine scope?**
✓ **Need to phase field work for different areas, media or season?**

Assessment Strategies:

Area 1- **Former Landfill and debris/tar pile areas**

Area 3 A – **Former Asphalt Plant**

Area 4 - **Former Petroleum Tank Farm**

You can have Multiple DQOs for large complex sites with multiple sources and/or mixed future land uses
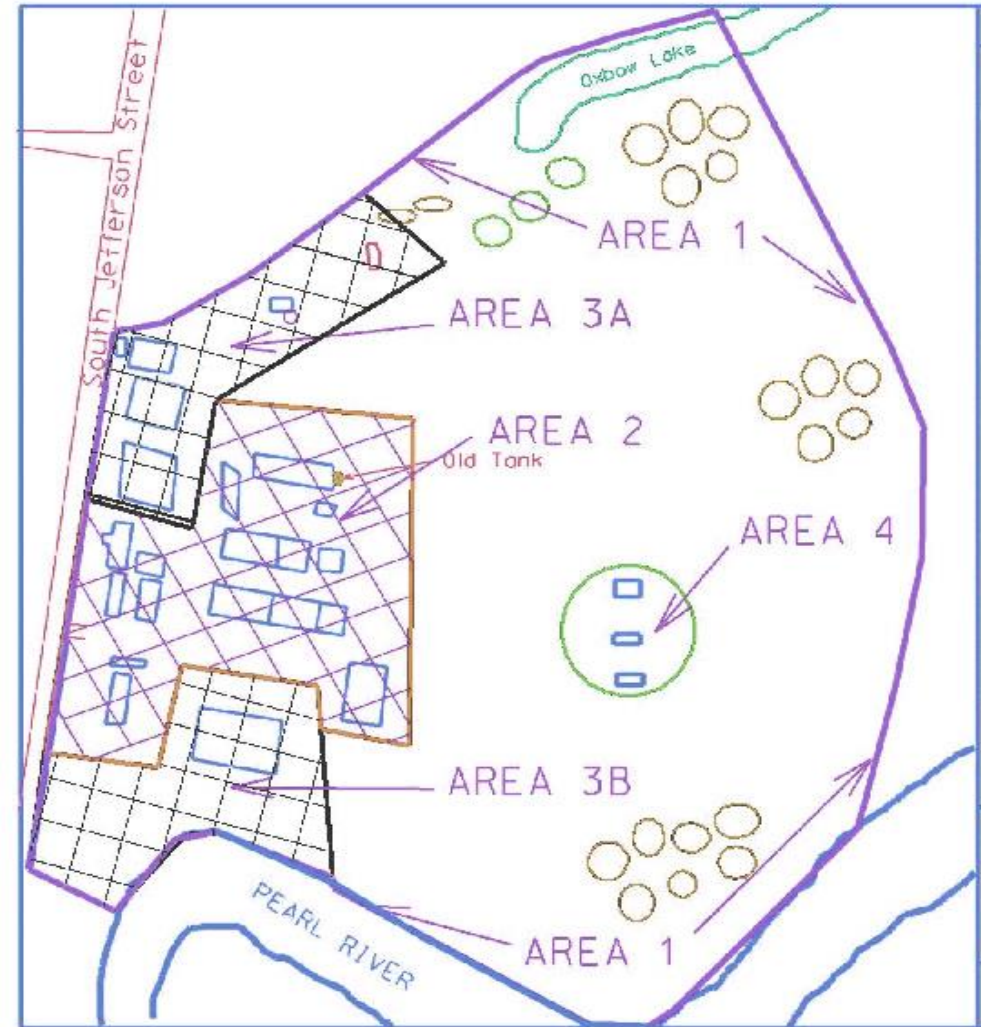
QAPP Guidance

What guidance is available ??

Please consult your U.S. EPA Regional Office for the latest EPA Guidance on QAPPs for Brownfields data gathering.

ALSO see:
"Brownfields Resources: Quality Assurance Project Plans"; Environmental Science and Technology Briefs for Citizens from the KSU Center for Hazardous Substance Research.
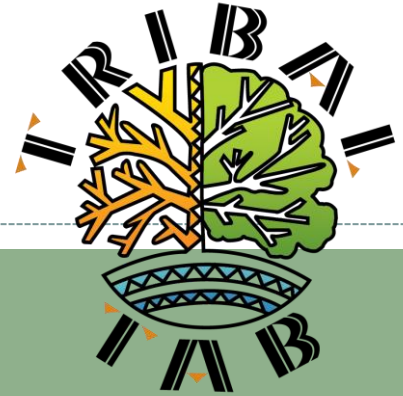https://www.ksutab.org/?ResponseView=TABResourceDownloadView&id=1261

Please contact the KSU Tribal TAB if you have additional questions.

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NO APPLICATION PROCESS, JUST CONTACT US!

"Disclaimer"