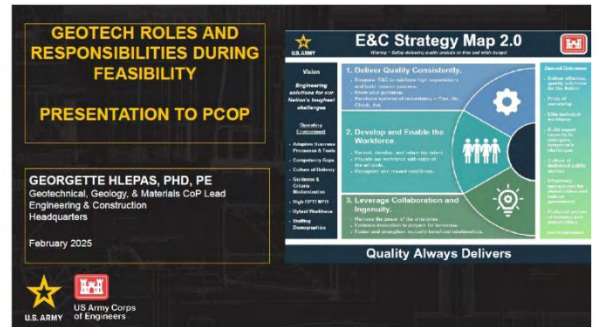


This PCoP Webinar, presented by Dr. Georgette Hlepas (HQUSACE Geotechnical, Geology, and Materials CoP Lead), covered the geotechnical roles and responsibilities in the feasibility phase of a project. The presentation highlighted the importance of understanding subsurface conditions and the role of the geotechnical professional in ensuring the right level of investigation and risks associated with insufficient investigations.

This summary of the Question/Answer session of the webinar is not a transcription; questions and responses have been edited and reordered for clarity.



Geotech Procedures and Best Practices for Study Teams

When in the study timeline should geotech scoping take place?

A geotech should be brought onto the project during the scoping phase.

How much geotechnical information is needed at each phase of the study?

This decision relies on engineering judgement by the geo-professional. A geotech professional should determine the minimum required information needed at each phase and then identify additional investigations that may be needed later. The subsurface investigation needs, and the risks associated with not obtaining them, should be well communicated with the study team and in the risk register. The risk register should be updated as additional data is gathered.

What is the best method for teams to engage geotech in studies?

The best approach is to consult your Geotech Chief to ensure the right geotechnical professional is assigned to the project. If geotech is not involved, the Engineering Technical Lead and Project Manager should elevate the issue. Ensuring the study team has the appropriate level of geotechnical experience for the project's complexity is crucial for success.

How does gathering background geotech information before scoping fit into the planning process?

This falls under the scoping phase, where gathering background information is key before diving into developing alternative solutions. During this phase, the geotech on the study team should look for available data, such as U.S. Geologic Survey maps and existing information in databases, and should conduct site visits to assess relevant details that may inform the investigation process.

Are the American Association of State Highway and Transportation Officials (AASHTO) requirements used as a guide to determine the number of borings for USACE projects?

No. AASHTO's guidance was developed specifically for transportation and highway projects, while USACE focuses on a variety of structures: dams, levees, and other watershed infrastructure and civil works projects. Although the AASHTO standards can serve as a reference, they should not be the sole justification for determining the number of borings. Geo-professionals must assess each project's scope and complexity, and should evaluate project-specific variables—such as scale, depth, etc.—to determine the appropriate depth, number of borings, types of borings, types of subsurface investigation needed, and so on.

What can be done to control the trend of cost increases and delays in construction due to inadequate geotechnical investigation?

USACE teams are not collectively recognizing cause and effect between inadequate subsurface investigation and cost/schedule issues. The issue stems from a combination of factors, including pressure to complete projects faster with limited funding. Study teams need to advocate for appropriate schedules and budgets, clearly explaining their necessity and ensuring effective communication with the vertical team to get the scope approved. If a decision is made to forgo subsurface investigations, it must be documented, and the associated risks must be acknowledged.

Geotech Guidance and Resources

What geotech databases are available to study teams?

Open Ground Cloud is a software program available to USACE [using this link](#). Another program called GeoDataOne will be available in June 2025. For further guidance, consult the geotech in your district for direction and assistance.

What is the primary geotechnical guidance related to the feasibility phase of a project?

Key resources include [Engineer Regulation 1110-2-1150: Engineering and Design for Civil Works Program](#) and [Engineer Manual 1110-1-1804: Geotechnical Investigations](#), which is currently being updated. For an advanced copy of the 2025 version of EM 1110-1-1804, contact Dr. Hlepas. Geotechnical teams also follow Civil Works cost engineering guidelines to develop cost estimates ([Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering](#) and [Engineer Regulation 1110-2-1302: Civil Works Cost Engineering](#)).