

General Avoidance & Minimization Measures Meeting

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OVERVIEW

The Avoidance and Minimization Measures Meeting (A3M) is activity #20937 in the P6 schedule. The A3M process was developed to ensure environmental subject matter experts (SMEs) and designers discuss avoidance and minimization measures (AMMs) to avoid or reduce resource impacts. It also ensures that these measures are recorded and tracked. The A3M Flowchart (Figure 1) in this guidebook offers a depiction of the various stages of the A3M process for Environmental, Design, and Project Management.

This guidebook is focused on the environmental aspect of the A3M process. It will explain the A3M, describe its steps, provide tips for a successful A3M, and offer a list of avoidance and minimization approaches.

THE A3M PROCESS EXPLAINED

Why hold an A3M?

The A3M process provides a regular and predictable checkpoint in the project schedule for environmental SMEs and designers to collaborate. Through collaboration, the project team members:

- > Ensure the accuracy of Environmentally Sensitive Area (ESA) delineations on plans.
- > Discuss avoidance and/or minimization of potential ESA impacts; and
- > Record the avoidance and minimization effort for use in other environmental consultation documents and permit applications.

The A3M process was developed to standardize and streamline existing avoidance and minimization efforts and requirements. It also facilitates the completion of the

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Environmental Resource Impact Table (ERIT) and Environmental Commitments Table (ECT) through the early determination of potential impacts and steps that may be needed to avoid and minimize resource impacts.

When is the A3M held?

Generally, the A3M is held after Resource ID activities are completed. These activities are considered complete upon approval of the Ecology Resources Survey Report, the Historic Resources Survey Report, and the archaeology survey and necessary reporting. Any A3M held prior to Resource ID completion is considered at-risk and is not recommended (see inset).

The A3M process occurs in the early Preliminary Plans Phase after preliminary cross sections have been developed. This allows for plans that are developed enough for environmental SMEs to determine likely impacts, but not advanced so far that design changes are difficult.

If no environmental resources are present, the A3M is waived.

Where is the A3M held?

An A3M can be held virtually or in-person. Regardless of meeting platform or location, adequate advance preparation of meeting materials should be made by all parties. SMEs should be familiar with all resources and should be prepared to share images as necessary to illustrate potential impacts. If a meeting is virtual, plans and images can be shown through the virtual meeting platform. If a meeting is in-person, a combination of hard copies and electronic files may be used.

Who should be invited?

The following is a list of individuals who should generally be invited to the A3M. Other parties may be included by the Environmental Analyst and Project Manager (PM) depending on the project's resources and complexity.

- > PM
- > Roadway Designer
- > Bridge Designer
- > Construction
- > Utilities
- > Environmental Analyst (OES and consultant)

What is "at-risk"?

In this context, risk is defined as an "uncertain event or condition that holds a chance of failure and if failure occurs, future objectives are affected." If A3M proceeds on an uncertain condition (i.e., prior to resource identification approval) and the results prove to be different than anticipated (i.e., the uncertain condition "failed"), preliminary design and the start of environmental technical studies will be affected.

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- > Archaeologist (OES and consultant)
- > Ecologist (OES and consultant)
- > Historian (OES and consultant)
- > Noise Analyst (OES and consultant)

STEPS FOR CONDUCTING A SUCCESSFUL A3M

This A3M Guidebook focuses on the responsibilities of the Environmental Analyst and SMEs, but an A3M with successful outcomes requires coordination between environmental personnel, designers, and the PM. Environmental personnel responsibilities are detailed in the following section. Designers are responsible for working to avoid or minimize resource impacts and for using the A3M Tracking site to record avoidance and minimization efforts. The PM is responsible for scheduling the A3M and updating the related P6 activity. See the “Avoidance and Minimization Measure Meeting (A3M) Checklist” for a more complete list of designer and PM responsibilities:

Avoidance and Minimization Measures Meeting Checklist
GDOT Office of Environmental Services

The following steps are to be completed by the Environmental Analyst and SMEs prior to, during, and after the A3M.

Before the A3M:

Environmental Analyst

Alert PM and Design when all Resource ID activities are complete by providing the “Schedule P6 Activity: A3M” Memo.

Coordinate with PM regarding which SMEs should attend the A3M.

Environmental SMEs

Enter resources in the A3M Tracking site. Users should be aware that the site can be tricky, and newly entered resources may not appear in a search immediately.

Provide design with Environmentally Sensitive Area (ESA) delineations and details (DGN files) and copy the Environmental Analyst and PM.

The process for establishing ESAs for archaeology is separate from the Resource ID process and is completed in consultation with the OES reviewer. The Archaeology ESA Letter should be completed prior to the A3M.

Review plans to ensure ESAs are depicted and labeled correctly, identify potential impacts to resources, formulate plan of action for mitigation of impacts.

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During the A3M:

Environmental Analyst

Guide the A3M, ensure that all resources are discussed, and that all avoidance and minimization efforts are recorded. Discussion should include community resources, although these are not shown as ESAs on plans. Throughout the meeting the primary approach should be avoidance with minimization used secondarily as required.

Environmental SMEs

Be prepared to discuss why individual ESAs need to be avoided or minimized (include issues of consultation, schedule impacts, and permitting).

Participate in A3M to develop avoidance and minimization efforts for resources.

Be prepared to discuss potential design modifications to avoid or minimize ESA impacts (slopes pulled in, narrow medians, etc.).

Consider the following activities in the discussion:

- > Clearing/grubbing;
- > Construction (grading, cut, fill, trenching, heavy equipment movement, etc.);
- > Demolition of structures (demolition easements);
- > Erosion Control (trenching for silt fence, etc.);
- > Staging (vehicular activity, material storage, trailers, temporary access, etc.); and
- > Utilities (relocations)

After the A3M:

Environmental Analyst

P6 activity 13417, “Receive Preliminary Plans to Begin Technical Studies” (i.e., post-A3M plans) along with the updated A3M Tracking list.

Submit the post-A3M plans to SMEs with a request to complete Technical Studies.

Environmental SMEs

Review post-A3M plans to ensure avoidance and minimization measures have been included as determined in the meeting.

Coordinate with Environmental SMEs to determine if further avoidance or minimization is required, and if a follow-up meeting is required.

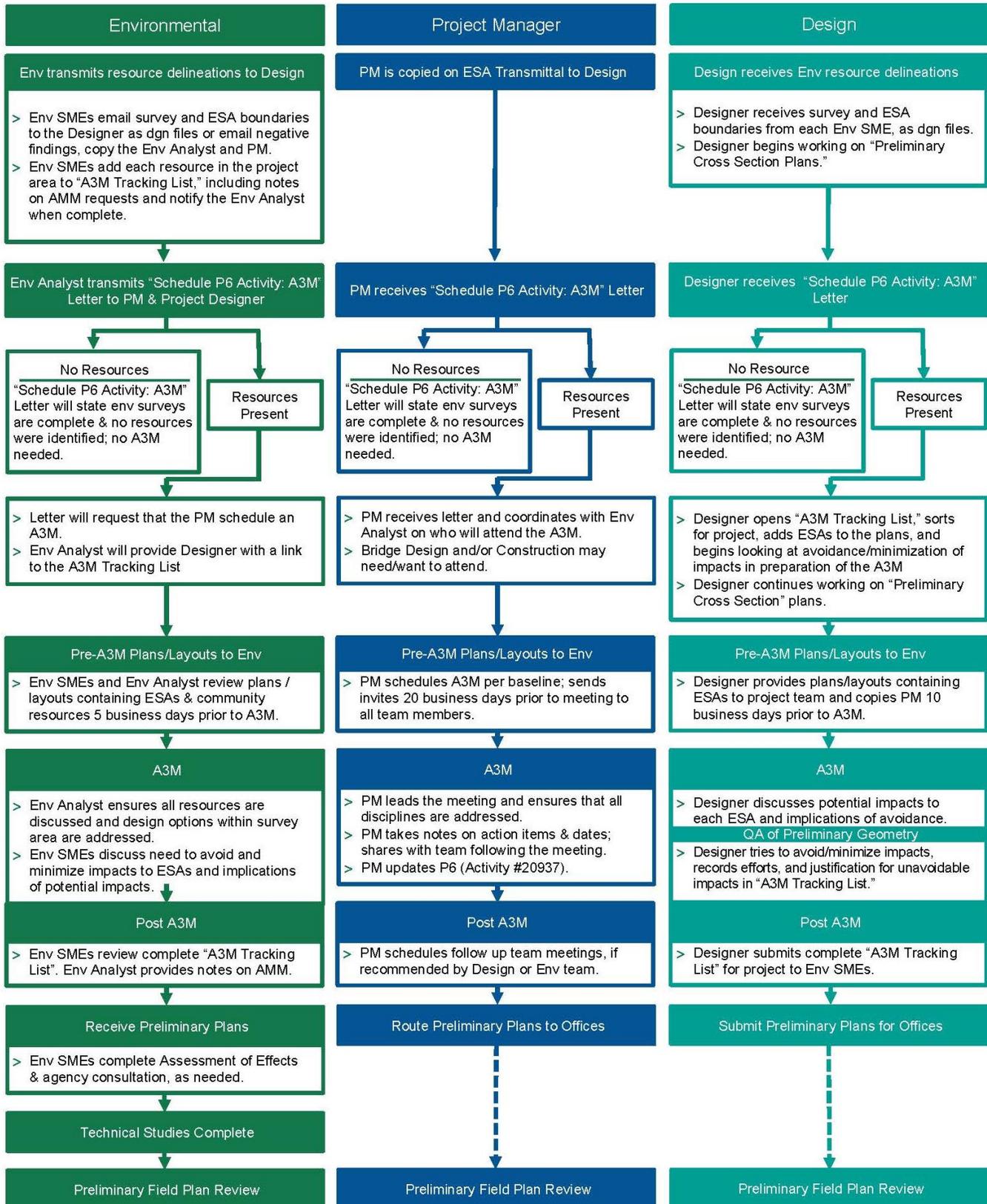
Begin writing Assessment of Effects Reports using post-A3M plans.

Roles and Responsibilities Summary

The following figure summarizes the roles and responsibilities of the project team members through each step of the A3M.

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Figure 1 – A3M Roles and Responsibilities Flowchart



TIPS FOR A SUCCESSFUL A3M

All Environmental SMEs

Bring all Resource ID documentation that could be needed to illustrate project impacts. This could be the resource report document as well as additional photographs of resources. For virtual meetings, have these documents open and ready to share with meeting participants. For in-person meetings, hard copies and electronic copies can be used.

When adding resources or resource information to the A3M Tracker, remember that columns can be sorted and filtered to show a specific project, particular resource types, location, etc.

Noise analysis for Type I projects can result in the inclusion of noise barriers. This determination often does not occur until technical studies (post-A3M). If noise analysis recommends the inclusion of noise barriers, design, SMEs, and the environmental analyst may need to have additional discussions to avoid or minimize the impacts of barriers on resources. Air Specialists generally do not have a role in the A3M.

For Environmental Analysts

Ensure that all SMEs both OES and consultant are invited to the meeting, primarily for disciplines that have resources.

It is helpful for the Environmental Analyst to guide the discussion, while a second person records all avoidance, minimization, or mitigation discussed for each resource. It is difficult for one person to effectively perform both tasks.

For projects with many resources, creating a table listing all resources and including space to record the discussion can be useful.

For Archaeologists

If there is a cemetery, ensure that designers are aware of state laws regarding removal of burials. It is preferable to stay out of cemeteries entirely.

For eligible archaeological sites, be able to explain why a site is significant and why avoidance is preferable. Be able to explain the archaeology-specific ESA process and eligibility in general.

Photographs of sites as well as artifacts and features can be useful.

For Historians

Be sure that ESAs on plans correctly reflect National Register-eligible boundaries. This is especially important for visual boundaries that may not follow legal parcel boundaries.

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Be familiar with all contributing features of a resource (walls, trees, signage, etc.) that may be impacted by a project. Even if a resource's primary structure is not impacted, effects to other features could still be adverse.

For Ecologists

Does the project require new culverts, culvert extensions, or replacements in perennial streams? If so, discuss USACE permitting requirements (for example: existing/proposed longitudinal profiles, cross sections).

For Noise Specialists

Noise Specialists often aren't involved in the A3M unless the project is classified as a Type I (involves full modeling and determination of noise receptor impacts) and has the potential to utilize noise barriers. If a Type I project has been identified, the Noise Specialist should attend the A3M with potential locations and sizes of barriers, to aid the discussion of potential impacts to resources. Follow-up communications and/or meetings may be required once barrier design is more advanced.

AVOIDANCE AND MINIMIZATION APPROACHES

The following list includes avoidance and minimization approaches that are often employed during A3Ms. A third section includes special considerations for bridge projects. This list should guide, rather than restrict, the A3M discussion, and other avoidance or minimization approaches may be possible.

Avoidance

What would it take to avoid the resource completely?

- > Is there any way to change the arc of the proposed alignment in order to avoid the resource completely?
- > Can we remove the proposed easement or required ROW from the resource boundaries (do we absolutely need it)?
- > Is there any way to reduce cut/fill lines throughout the corridor? (e.g., extend guardrail, tighten slopes, design variances)
- > Are any design alternatives feasible (open existing channel vs box culvert, using existing alignment vs new location, temporary detour bridge vs closing the road/offsite detour)?

Minimization

If the resource cannot be completely avoided, the following may apply:

- > What are the engineering/design reasons that prevent avoidance?

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- > Can we hand clear/grub around and/or inside sensitive areas?
- > Can the required ROW be reduced?
 - Narrower lanes? Will the speed limit allow for narrower lanes?
 - Can we use an Urban Section (curb and gutter) as opposed to Rural Section (34' to 44' grass median)?
 - Can sidewalks be removed or reduced if they are not part of the need and purpose?
- > Can the slope degree be changed in order to minimize easement or ROW required?
- > Should a wall be used in lieu of slopes?
 - How much will use of a wall reduce required fill?
 - If a wall is used rather than slopes, how tall will the wall be? How will it look from the road? How will it look from the resource? Will the wall require the use of tiebacks that will extend back into ground within the resource (important for cemeteries)? What other type of wall construction is possible?
 - If a wall is used and viewshed or setting is a concern, can a context sensitive design be employed?
- > Can the easement be reduced – especially if the cut and fill lines are some distance from the limits of the easement?
- > If a ROW line/easement appears very near a cut/fill line – is there adequate room for construction activities and erosion control within the reduced area? (To minimize potential for needed easement later.)
- > If design standards do not allow for further avoidance/minimization – what design variances/exceptions can be considered?
- > Is it feasible for the required ROW to end abruptly at the resource?
- > If there is a noise impact, can a berm be employed?
- > If a contributing tree is located adjacent to the required ROW, will the root system be affected?
- > Can the width of the sidewalk be reduced to reduce impacts to a resource?
- > Can an alternative design be used for driveway aprons to prevent impacts to adjacent contributing retaining walls?

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- > Can lighting be reduced at roundabouts to minimize light pollution and to minimize the intrusion of new poles?
- > Does the lighting or clearing from construction activities affect the security of the resource?
- > What subsurface activities will take place within the ROW/easements shown within/adjacent to archaeological sites?
- > What are the contributing features of the historic resource – what specific construction activities will take place within those locations? Is there a portion of the resource/site that may be impacted without adverse effect?
 - Can the limits be reduced?
 - Can activities be moved to the other side of the road?

Special considerations for bridge replacements

- > If a bridge is being replaced within a historic district, can a context sensitive design be employed?
- > Can existing bents be removed by pulling them out from existing road surface or cutting them off at the mud line? If no, how will bents be removed?
- > Can piles be driven for new bridge?
- > Can the new bridge clear span the stream (to avoid placing piles in the stream channel)?
- > Will temporary access be needed in the stream? If yes, how will access be gained?
 - If temporary access to the stream is needed, will it constrict any more than 33% of the waterway at any given time?
- > Does the stream provide suitable habitat for protected species? If so, can scupper/deck drains be avoided?
- > Are bottomless culverts feasible?

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Guidebook Revision History

Revision Description	Relevant Sections	Revision Date
Initial Publication	All	6/16/2021