Alternatives and Sequencing For Road Projects

Reference Guide Sections 5.2 and 5.3

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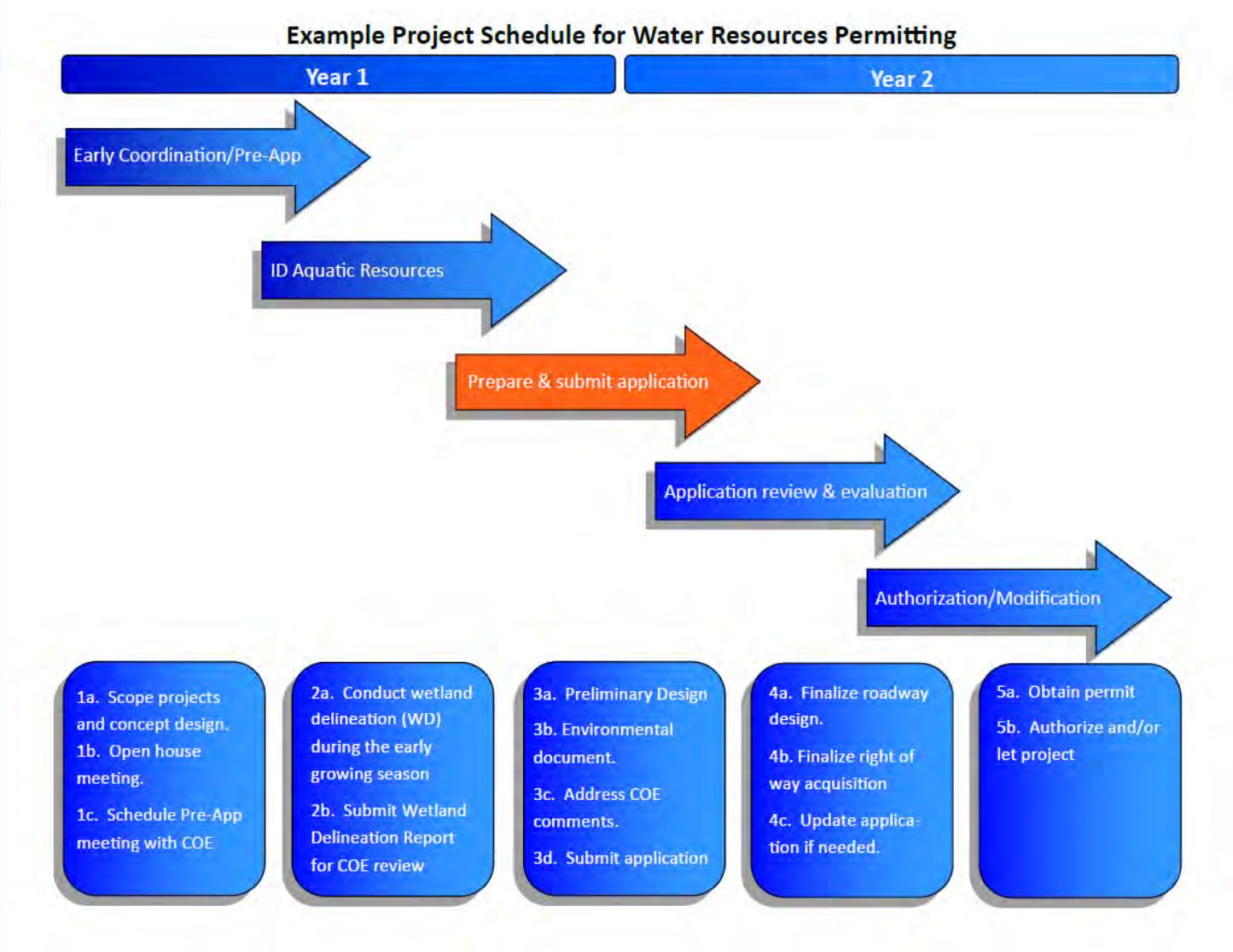
Example Project Schedule for Water Resources Permitting
Year 1
Year 2
Early Coordination/Pre-App
ID Aquatic Resources
Prepare & submit application
Application review & evaluation
Authorization/Modification
1a. Scope projects and concept design.
1b. Open house meeting.
1c. Schedule Pre-App meeting with COE
2a. Conduct wetland delineation (WD) during the early growing season
2b. Submit Wetland Delineation Report for COE review
3a. Preliminary Design
3b. Environmental document.
3c. Address COE comments.
3d. Submit application
4a. Finalize roadway design.
4b. Finalize right of way acquisition
4c. Update application if needed.
5a. Obtain permit
5b. Authorize and/or let project

Alternatives and Sequencing

- Purpose and Need is the WHAT and WHY
- Alternatives: Options for HOW to achieve the Purpose and address the Need
- Sequencing: Required steps that must be taken to ensure that activities have the least adverse impact to aquatic resources

- Alternatives:
  - Off-site alternatives (mostly for LOPs and Standard Permits)
  - On-site alternatives and configurations (all permits)

- The range of alternatives is determined by the purpose and need.

- Compare aquatic resource impacts for each alternative.

- If your preferred alternative does NOT have the least aquatic resource impact, you will need to demonstrate how the other alternatives are not practicable.

The Clean Water Act 404(b)(1) Guidelines require that…

"No discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem" (LEDPA)

- Least damaging to aquatic resources
- *Practicable* alternatives: available and capable of being done considering cost, existing technology, and logistics in light of the overall project purpose
- Applicant is required to submit necessary information for the Corps to determine compliance with the Guidelines.
- Compensatory mitigation is NOT considered in the LEDPA determination.

NEPA requires that the "No Action" alternative always be considered.

The No Action alternative is the no permit alternative (not necessarily the no project alternative) and should always be specifically discussed. When evaluating the no action alternative, you should discuss not only the difference in aquatic resource impacts, but also the consequences of other likely uses of a project site, exempt activities that could be undertaken, or negative consequences of not pursuing the proposed activity.

"The No Action alternative does not meet the project purpose" is not a sufficient discussion.

Off-site alternatives:

When an off-site alternatives analysis is required, remember that if an alternate site is less environmentally damaging, that doesn't necessarily mean that the applicant has to use that site. It means that they have to reduce the environmental effects at their proposed site so that IT is the least environmentally damaging. If they don't reduce the effects on their proposed site so that they're the least environmentally damaging, that doesn't mean that we permit the activity on the other site, it means we must deny the permit.

The Corps can only issue a permit for the

Least Environmentally Damaging Practicable Alternative

(LEDPA)

Mitigation Sequencing

- The applicant must demonstrate that they have taken all appropriate and practicable measures to avoid and minimize adverse effects to aquatic resources and must compensate for unavoidable adverse effects.

- Clean Water Act:
  - Avoid
  - Minimize
  - Compensate (compensatory mitigation)

- Wetland Conservation Act
  - Avoid
  - Minimize
  - Rectify
  - Reduce or eliminate impacts that can occur over time
  - Replace (i.e. replacement or mitigation).

Mitigation Sequencing

- The sequencing discussion for each impact should be included in the application.
- Steps to minimize impacts are required to the extent appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purpose.
- The Corps will give full consideration to the views of the resource agencies when making this determination.

Who is responsible for sequencing?

Clean Water Act:

- It is the applicant's responsibility to **demonstrate** that proposed action is the LEDPA and that all appropriate steps have been taken to minimize adverse effects to aquatic resources.
- The Corps must determine compliance with the Guidelines.
- If the proposal is not the LEDPA, or if the applicant has not supplied sufficient information for the Corps to determine if the proposal is the LEDPA, the permit must be denied.

Wetland Conservation Act:

- The applicant must **demonstrate** that sequencing has been complied with before the LGU can even **consider** a replacement plan.
- LGU (with assistance from the TEP) makes the determination that sequencing has been demonstrated.

Compensatory Mitigation Options (in order of preference):

- Mitigation Banks ("Road Bank" or private bank)
- In-lieu-fee Program (pending)
- Permittee-Responsible Mitigation

- Compensatory mitigation must be in-kind, in-watershed and in-advance. Exceptions may be approved but may require additional compensation (consult the current Corps mitigation guidance).

Examples:

Depending on the Purpose and Need, the following are examples of activities that generally don't require an off-site alternatives analysis. The applicant must still consider on-site alternatives and configurations and demonstrate that they have complied with sequencing requirements:

- Culvert repair, replacement, extension, lining
- Adding turn lanes
- Widening shoulders
- Flattening in-slopes

Example design alternatives for an intersection project:

- No Action
- All-way stop
- Signalized intersection
- Two-lane roundabout

Example design alternatives for a widening project:

- No Action
- Widen roadway to the east
- Widen roadway to the west
- Widen roadway on centerline

- Alternatives analyses for major reconstruction or new construction will likely require more detail, including an evaluation of off-site alternatives.

- The level of detail and scrutiny will be commensurate with the scope and degree of adverse effects to aquatic resources.

Examples of avoidance and minimization measures:

(Reference Guide section 5.3)

- Steeper inslopes/backslopes
- Utilize guardrails
- Broken slopes
- Reduced radius curves
- Reduced ditch widths
- Narrower shoulders
- Turn lanes instead of frontage roads
- Reduced design speed
- Construct ditches so wetland outlets are not lowered
- Ensure activities don't change the hydrologic regime of wetlands
- Use span bridge instead of culverts
- Etc.

Note:

- The Corps defers to the road authority's assessment of need and and technical transportation expertise. However, the Corps does require the information necessary to determine compliance with the Guidelines and other federal laws and regulations.

- Often the information the Corps needs does not require additional work be done, but rather that the applicant submit documentation of work that has already been done (alternatives, avoidance, minimization, etc.).

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Questions?

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