

# MEMORANDUM

## State of Alaska

Department of Transportation & Public Facilities  
Design and Engineering Services

TO: Design Group 2

DATE: July 25, 2022

TELEPHONE NO: (907) 465-1796

FROM: James Brown   
Design Group Chief  
DOT&PF

SUBJECT: Pre-Environmental Design  
Review Guidance

Although we already have been using the Pre-Environmental Review (PER) in the office on a few projects, I want to make a push to use these on all of our projects as they can be used as a tool to identify scope of work, design, or constructability issues early in a project's design life.

Generally, enough information is known to start project development after a reconnaissance review and the draft PMP has been initiated. Any adjustments to the project scope of work should also be discussed with support groups and planning staff and changes made if necessary to its scope at this time. An average project requires 25% to 50% of its design completed to finalize an accurate environmental document. There are cases where this percentage could be higher. FHWA guidance for boundaries of preliminary project development in advance of the environmental document can be found at [FHWA Order 6640.1A](#).

The PER review for preventative maintenance projects should generally be completed within approximately 10 months of project assignment. Rehabilitation and more complex projects could require significantly more time to have their environmental impacts defined.

A draft version of the PMP, Design Criteria Checklist, and Environmental Memo and Impacts Table should also be submitted with the project plans to the review engineer. Design and Environmental coordination for the review is as follows:

### Design/Production PER Guidance

#### Plans for the Review are to Include:

1. Index and Title Sheet.
2. Typical Cross Sections  
note: include cross sections for any culvert or bridge work

3. 'F' Sheets depicting:
- i. Existing topography
  - ii. Existing ROW locations
  - iii. Beginning and End of Project
  - iv. Design Horizontal Alignment (e.g., horizontal curve data, PC, PI, PT, bearings)
  - v. Design Vertical Alignment and its relationship to grade controlling features (culverts, etc)
  - vi. Drainage Design including new ditch profiles
  - vii. Construction limits and area of ground disturbance including acreage for CGP determination
  - viii. Preliminary Public-Road Approach and drive locations
  - ix. Guardrail replacement locations
  - x. Drainage ditch relocation or construction areas
  - xi. Known wetland and Waters of the US locations
  - xii. Anadromous streams directly adjacent to the project / within project limits
  - xiii. Proposed staging areas
  - xiv. Material Sites (FAA)
  - xv. Contaminated Material sites
  - xvi. Proposed waste disposal sites
  - xvii. Lighting (viewshed)
  - xviii. Project Area of Potential Effect (APE) Boundaries
  - xix. Known eagle nest locations
  - xx. Known 4(f) properties (public parks, recreation areas, wildlife and waterfowl refuges, historic sites)

#### **Traffic Maintenance Details**

- i. The conceptual traffic-maintenance strategy and phasing should be detailed.

#### **Hydraulics and Hydrology**

- i. Copies of preliminary hydraulic analysis for each mainline culvert.

#### **Waters of the US - Fill / Fish Passage Design Detail Sections**

- i. Fish Passage sections depicting volume of fill below OHW.
- ii. Locations of impacts to other bodies of water known as Waters of the US and fill quantities (cubic yards) that will be placed below OHW or HTL/MHW levels.
- iii. Estimated area of wetland involvement (acres).

#### **Cross Sections (as necessary pending improvement type) Including:**

1. Templates of the typical sections placed on the existing cross sections.
2. Profile grade elevations.
3. Mainline drainage structures.
4. Existing ROW limits

**Preliminary Material Recommendations:**

These may be as simple as an email summarizing general field findings and recommendations.

1. Preliminary Pavement Recommendations.
2. Preliminary Slope Repair Recommendations.
3. Fish Passage Locations and Culverts > 48" requiring repair.
4. Areas involving repair or construction of retaining walls.

**Environmental Coordination:**

1. Contact the environmental analyst to go over known historic resources in the project vicinity prior to beginning design on the PER planset. An overview graphic of historic resources located within the project area should be developed in the early stages of project development if resources are present. The intent of this graphic is to assist the design and environmental team in development of the APE for the project and where a higher level of design will be necessary to determine the impacts of the project to them going into the PER.
2. Contact the environmental analyst to review known waters of the US or wetlands located within the project limits. Impacts to these resources are to be designed to the point they are defined going into the PER. A graphic of these resources overlaid onto the project limits should also be developed at this time.
3. Contact the environmental analyst to review known 4(f) resources located within or adjacent to the project limits. Knowing where 4(f) resources are in relation to project activities is important for identifying whether there might be a use of a 4(f) resource or exception to 4(f). Each of these require coordination with the Official(s) with Jurisdiction and a use would need specialized public notice efforts.
4. Contact the environmental analyst assigned to the project a minimum of two weeks prior to PER submittal to request the Environmental Memo and Impacts Table.
5. Before submittal of the PER package review the Environmental Memo and Impacts Table for consistency with the current design and provide any comments to the environmental analyst so they can be addressed in advance of the PER submittal.

**Utility Coordination:**

1. Contact should be made with existing utilities for work to be coordinated with the project and areas where work is anticipated to impact utilities.
2. Provide a summary of anticipated utility work if not shown on the plans.
3. If known, a description of any utility "work by others".

### **Bridge Coordination:**

1. Contact should be made with the Bridge section if there are bridges on the project. Include fill quantities below OHW or HTL and MHW and pile quantities, including anticipated temporary piles. Depending on the project scope review documents may include: work items from the latest inspection reports; Bridge 3R analysis; Type, Size, and Location (TS&L) memo, etc.

### **Estimate**

1. If you want comments on the budget, provide an estimate. At this point a detailed estimate may not be available. Major items with a contingency is acceptable.
2. Provide quantity calculations for major work items.

### **Construction Limits**

Definition: A shrink-wrapped, closed polyline that encompasses the edge of all permanent construction work. Where two items are near the edge of construction, the outermost one will prevail. Examples of entities to encompass include but are not limited to:

- Lines of cut and fill
- Clearing limits
- Outer edge of grading
- Paving limits
- Joints, and locations where the project ties back into existing
- Concrete pads and back of sidewalk
- Utility installation or improvements and replacements
- Sign posts bases, fences, and similar improvements
- Around culverts following the outer edge of pipe
- Temporary access roads and bridges
- Other physical elements permanently incorporated into the project.

Examples of entities that should not be included inside construction limits are items such as:

- Contractor access beyond finished work for equipment and worker movement or staging during work. (These areas will be addressed through coordination between ROW and Construction Division during the ROW process).
- Excavation limits for pipe / culvert work trenches
- Staging areas
- Field Offices
- Stockpile locations

Temporary stabilization, dewatering, sediment control BMP's and other measures not permanently incorporated into the project. These items still must fall within ROW or easement either existing, or prepared and incorporated into the project.

It is typical for the construction limits to surround the complete perimeter of a project, also including the beginning and end of the project.

## **Environmental Analyst PER Guidance**

The Pre-Environmental Design Review will typically be conducted before the public notice and agency scoping have been completed. This is so that ambiguities in project scope can be addressed prior to issuing public notice or beginning collaboration with outside agencies. For very simple projects or projects that have had proper field recon, an exception to this order of operations may be acceptable. The environmental analyst should consult the project manager for which direction to proceed. The intent of providing an Environmental Memo and Impacts Table at this stage is to ensure that impacts from the project are identified.

The Environmental Impacts Memo will include the project description, any anticipated environmental concerns, and schedule impacts so that constructability or timing issues can be identified early on. The Impacts Table is similar to that included with a standard Class of Action. Fill the table out with the most up to date project information and have the Project Manager review in advance of the PER submittal.

CC: Greg Weinert, Right-of-Way Chief  
Ben Storey, Regional Environmental Manager

Attachments: Environmental Impacts Table

## Environmental Impacts Table

- Project Description
- Date of Scoping & Notice
- Anticipated Environmental Concerns
- Schedule Impacts (time sensitive needs; ex: timeframes for consultation or a consultation can't be started until design is at a certain level)

Summary of resources that could be significantly impacted and mitigation/permitting requirements		
CE Resource Category	Possible Impact	Possible Mitigation/ Permitting needed
ROW		
Social/neighborhood cohesion		
Travel patterns/accessibility		
Access control		
School boundaries etc.		
Elderly, handicapped etc.		
Local Indian tribe		
Economic		
Land Use/Trans Plans		
Historic Properties		
Wetlands		
Water Body		
Wild and Scenic River		
Fish		
Wildlife (eagles etc.)		
T&E		
Hazardous Waste		
Invasive Species		
Air Quality		
Floodplain		
Noise (type 1 project?)		
Water Quality		
Construction		
Section 4f/6f		
23 CFR 771.117(b)(2): Is there substantial controversy on environmental grounds ?		
23 CFR 771.117(b)(3): Significant impacts on Section 4f or Section 106 protected properties?		
23 CFR 771.117(b)(4): Are there inconsistencies with Federal, state, or local laws, etc?		