



FEMA

OFFICE OF ENVIRONMENTAL PLANNING AND HISTORIC PRESERVATION
PARTNERS IN SHAPING RESILIENT COMMUNITIES



Environmental and Historic Preservation (EHP) Fact Sheet: Culverts

Environmental resources, cultural institutions, and historic assets define communities and contribute to their well-being and unique character. The Federal Emergency Management Agency (FEMA) plays a critical role in helping communities incorporate environmental stewardship and historic preservation into emergency management decisions. As disasters continue to challenge our nation and communities grapple with issues of preparedness and sustainability, FEMA offers expertise to ensure both legal compliance and informed local, State, Tribal, and national planning.

Culverts and EHP Review

FEMA's grant programs provide funding to eligible applicants for repair, replacement, upgrade, and relocation of culverts as part of post-disaster recovery or mitigation measures designed to reduce risk of future damage. While excavating, grading, and other construction activities generally only have minor, short-term impacts, they have the potential to affect the environment and/or historic properties. In some cases, the culvert may be listed in—or be eligible for—the National Register of Historic Places, or construction may impact important archaeological resources. In addition, project design must take into consideration possible impacts to surrounding fish habitats, wetlands, floodplains, and other natural resources. Before grant funding can be approved, FEMA EHP specialists must review projects to ensure that they meet all relevant environmental laws and regulations, such as the Endangered Species Act, National Historic Preservation Act, and Clean Water Act.

Considering EHP Impacts

FEMA's EHP experts carefully review each culvert project to identify potential environmental impacts and can work with the applicant to provide guidance on EHP compliance requirements. Culvert projects generally fit within one of FEMA's statutory or categorical exclusions, requiring minimal documentation to comply with the National Environmental Policy Act. However, applicants must consider effects on wetlands, endangered and threatened species, critical wildlife habitats, water quality, and other natural resources. The project must also be reviewed under Section 106 of the National Historic Preservation Act (NHPA) for its potential to affect historic properties. Applicants should contact the appropriate Federal, State, and local environmental agencies to identify permitting and other requirements. Required permits may include a Clean Water Act Section 404 permit (issued by the U.S. Army Corps of Engineers) and a State-issued Section 401 water quality certification. Applicants are responsible for obtaining all necessary permits related to project implementation.

EHP Considerations for Culverts

When planning the repair, replacement, or upgrade of culverts, FEMA advises communities to:

- Ensure that no physical actions occur before historic structures and archaeological resources are identified and environmental compliance review is complete.
- Take fish habitat, wetlands, and other downstream impacts into consideration when designing and constructing culverts.

Completing EHP Review

Culvert projects may be eligible for funding through a variety of FEMA Hazard Mitigation Assistance and Public Assistance grants. When seeking approval for a culvert project, it is important to provide complete and accurate information to facilitate EHP review and avoid unnecessary delays. As part of the grant application, communities must include the scope of work, the proposed project location (including staging sites and construction access), required permits, photographs, and other relevant information that will support FEMA's clear understanding of key project components.

Culverts: Grant Application EHP Checklist

The checklist below describes project information that FEMA requires in order to complete EHP review of a culvert project.

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| <input checked="" type="checkbox"/> | Location | State the location of the project, including the site address and latitude/longitude in decimal degrees (e.g., 38.5342° N, -77.0212° W). Provide any maps (including Flood Insurance Rate Map) with project location marked, aerial imagery, or drawings showing the location of the culvert project. |
| <input checked="" type="checkbox"/> | Description of Project Scope of Work | Provide a detailed description of the project scope of work, including staging areas, construction access, plans for grading, as well as the extent of ground disturbance and vegetation removal. Information needs to be sufficient to provide a clear picture of the scope of the action being reviewed, including upstream and downstream flood data and permitting requirements. In some cases, the applicant must meet design requirements to mitigate impacts to fish habitats. |
| <input checked="" type="checkbox"/> | Age of Existing Buildings | Provide the date of construction for the culvert and any other structures (e.g., nearby buildings, bridges, and roadways) that may be altered or affected by the project. |
| <input checked="" type="checkbox"/> | Photographs | Submit clear photographs of the existing culvert, surrounding structures, and a 360-degree view of the surrounding area. Clearly label photographs with the location and orientation of the camera relative to the culvert project location. |
| <input checked="" type="checkbox"/> | Agency Coordination | Coordinate with applicable resource agencies prior to your application to FEMA to greatly reduce EHP review time. Note any communications with resource agencies, such as the State Historic Preservation Officer, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, or State environmental management agencies, and provide copies of correspondence and permits. |
| <input checked="" type="checkbox"/> | Additional Information | Include copies of other relevant information, such as hydrologic and hydraulic studies that address proper sizing and potential downstream impacts, environmental site assessments, design requirements, permits or permit requirements, environmental mitigation requirements, historic property designations or surveys, or archaeological surveys. |

Timeframes for EHP Review

Timeframes for EHP review vary depending on a project's potential to impact resources and the complexity of the proposed project. For projects that do not affect historic properties or that do not require consultation under Section 7 of the Endangered Species Act (ESA), the review process generally takes 30 days after FEMA has received a complete project application with supporting documentation, including necessary permits. Additional consultation required to resolve impacts identified under Section 7 of the ESA or Section 106 of the NHPA will extend the review period a minimum of 60 to 90 days as it involves coordination with other agencies and stakeholders. Applicants can work with their FEMA Regional EHP contact to obtain more details on documentation requirements and best practices for expediting the review process.

EHP Best Practice: Designing a Culvert for Road Repair

When heavy rain pummeled Acton, ME, in 2007, a section of road collapsed, making repair of the road a high priority. But it was not as simple as filling and paving. The road passed over a renowned trout stream that flowed through a box culvert made of fieldstone. Since repair of the existing box culvert was not practical, the applicant had to take into consideration calculations of water flow velocity and knowledge of the behavior of fish and their habitat in designing a replacement. The old stone culvert—with its ragged stone walls—slowed down the velocity of water running through the culvert, allowing the trout to navigate the stream. A new culvert with smooth sides would create too fast a flow for trout to pass through. The project planners concluded that best management practices required a fish weir, or a fish ladder, through the new 104-foot long culvert made of reinforced concrete pipe. These design considerations helped reduce environmental impacts, met environmental permit requirements, and provided for rapid road repairs.

Additional Resources: For more information on EHP review and FEMA grant assistance, contact your State Emergency Management Agency or Tribal office or visit <http://www.fema.gov/environmental-planning-and-historic-preservation-program>.