CHAPTER 10:

MITIGATION: RESOLVING ADVERSE EFFECTS

The outcome of the Section 106 process is not predetermined. As such, alternative approaches to traditional mitigation can typically come out of the consultation process with the OHPO, federally recognized Native American Indian tribes, and other Section 106 Consulting Parties. All involved in such consultation need to bear in mind that any such suggestions are worthy of discussion, though it may not be possible to do everything that is discussed due to fiscal constraints or other reasons. The point, though, is that the consultation process should be understood by all as a process open to any suggestions.

Once historic properties are identified and evaluated under the National Register Criteria and aspects of integrity, ODOT-OES and OHPO will consult on the undertaking’s effects on historic properties (i.e., those included in or eligible for inclusion in the NRHP). Under 36 CFR Section 800.5, ODOT-OES, in consultation with the OHPO, will apply the criteria of adverse effect. If it is determined that an undertaking will have an adverse effect upon historic properties, ODOT, OHPO, and FHWA will begin the process of evaluating measures to mitigate the undertaking’s adverse effect.

Mitigation measures developed through the Memorandum of Agreement (MOA) or project specific Programmatic Agreement consultation process provide ways to resolve adverse effects to historic properties impacted by projects. These mitigation measures are carried through as commitments in environmental documents which must be completed and accounted for with OHPO and FHWA. The MOA is not closed until all stipulations are fulfilled. A failure to meet all stipulations can potentially jeopardize project funding or other agreements or projects. This accounting of the mitigation measures is conducted in the PDP Environmental Engineering Phase and documented in the NEPA document as environmental commitments. These commitments are carried forward through the PDP Final Engineering and Construction Phases (refer to Chapter 12).

A plan for mitigating an adverse effect is site/property specific and requires a separate research design or approach for each historic property impacted by the project. It should be based on the context development and refinement from the preceding Phase I and Phase II work. Mitigation measures may involve a variety of methods including, but not limited to:

- aesthetic treatments
- avoidance
- archaeological data recovery
- “creative” mitigation approaches
- salvage and re-use of historic materials
- informing/educating the public via displays, brochures or short films
- Historic American Buildings Survey (HABS) documentation
- Historic American Engineering Record (HAER) documentation
- Historic American Landscapes Survey (HALS) documentation
- Cultural Resources Geographic Information Systems (CRGIS) documentation

Approaches vary widely depending on the type of historic property, the qualities that enable the property to meet the National Register Criteria, the location of the historic property with respect to the project, etc.

Mitigation plans are developed in consultation with ODOT, OHPO, FHWA, consulting parties, federally recognized Native American Indian tribes, and on occasion, the ACHP. ODOT and/or FHWA are responsible for all consultation tasks when federally recognized Native American Indian tribes have been identified as consulting parties. The owner of a historic property will be part of this consultation even if they do not identify themselves as a Section 106 Consulting Party.
“Creative” mitigation

While it could be argued that all mitigation should be ‘creative,’ the intent of this section is to make it clear that there is a nearly limitless range of possibilities to consider ‘non-traditional’ mitigation approaches beyond the more typical approaches of HABS/HAER/HALS documentation for architectural and landscape properties, and archaeological data recovery for archaeological properties. ODOT, FHWA and OHPO have endorsed non-standard, innovative approaches on many projects in order to resolve adverse effects. Such approaches can provide solutions that are better for a project, and community and historic preservation goals, and can supplement or be done in place of, standard mitigation.

For example, instead of excavating a site that has been determined to have an adverse effect from a project, states have done regional models in areas with little or no archaeological site information in order to direct future surveys/research in those areas. A history of a neighborhood can be done to mitigate loss of a property. An article in a professional journal and/or a presentation at conference could be done instead of a traditional mitigation report. Public education displays of artifacts from archaeological excavations are certainly always good to include in projects, whether as a result of data recovery or other excavations. Combinations of approaches like these can be considered.

A mitigation option could be the development of a local historic preservation plan and/or ordinance. A property could be purchased for preservation; an archaeological site could be preserved by including it in a conservation easement of some kind. Sometimes small, single component archaeological sites will be excavated at the Phase II evaluation level of survey and the ‘mitigation’ – i.e., the negotiated outcome from the consultation process – could include public and professional publication of results, artifact displays, etc.

Cultural resource management consultants should also consider the creative inclusion of key professionals or institutions with particular expertise, research or academic interests in the data recovery on the resource being mitigated. As an associate Principal Investigator on a project, these key professionals could be an asset in designing the approach, in the recognition of important resource attributes, refining background research, and aid in the preparation of a more meaningful final report.

A negotiated outcome on a historic bridge could be to salvage important features of a bridge and create a public display of that information. Establishing an exhibit in a local museum and/or creating a web site can be considered for both above and below ground resources in order to illustrate the importance of a historic property in a community’s and/or region’s historical development.

Another option that could be considered for certain situations, is the production of short films showcasing research being conducted and posting those short films on agency websites and on YouTube. (For an example, go to http://www.youtube.com/watch?v=Cj_B_YwRKql.) Such short films could serve to inform the public and Section 106 Consulting Parties about project research, and enhance public education and public involvement activities. “Virtual artifact curation” is another use of recent technology that might be appropriate in certain instances for public education and public involvement opportunities. As with other mitigation measures discussed in this chapter, these two examples of use of recent technology could be combined with other mitigation approaches as appropriate for a project.
HABS/HAER/HALS/CRGIS Recordation

HABS/HAER/HALS recordation documents buildings, engineering structures (such as bridges), and landscapes, respectively, that are included in or eligible for inclusion in the NRHP. In Ohio, the OHPO requires Level 2 documentation for HABS/HAER/HALS recordation. Level 2 archival documentation consists of large-format (4’x5”) black-and-white negatives and prints, a written historical report, and photographs or photographic reproductions of selected existing drawings.

The purpose of the CRGIS program is to institutionalize the use of Geographic Information Systems (GIS) and Global Positioning Systems (GPS) technologies into historic preservation and architectural surveys. CRGIS undertakes projects that illustrate how these technologies work in historic preservation. As such, cultural resource specialists can then see ways to adapt such technologies not only to their cultural resource survey methodologies but also to strategies for mitigation.

All such documentation must follow Secretary of the Interior’s standards as appropriate for specific properties; information is available online at:

HABS/HAER/HALS/CRGIS website: [http://www.nps.gov/history/hdp](http://www.nps.gov/history/hdp)

HABS/HAER standards:
[http://www.nps.gov/history/hdp/standards/standards.pdf](http://www.nps.gov/history/hdp/standards/standards.pdf)

HABS Historical Report Standards
[http://www.nps.gov/history/hdp/standards/HABS/graphics/h-outfmt.PDF](http://www.nps.gov/history/hdp/standards/HABS/graphics/h-outfmt.PDF)

HABS/HAER/HALS Documentation Standards in the Federal Register

HABS/HAER/HALS Photography Guidelines

HABS guidelines:
[http://www.nps.gov/history/hdp/standards/habsguidelines.htm](http://www.nps.gov/history/hdp/standards/habsguidelines.htm)

HAER guidelines:
[http://www.nps.gov/history/hdp/standards/haerguidelines.htm](http://www.nps.gov/history/hdp/standards/haerguidelines.htm)

HALS guidelines:
[http://www.nps.gov/history/hdp/standards/halsguidelines.htm](http://www.nps.gov/history/hdp/standards/halsguidelines.htm)

CRGIS guidelines:
[http://www.nps.gov/history/hdp/standards/crgisguidelines.htm](http://www.nps.gov/history/hdp/standards/crgisguidelines.htm)

HABS documentation does not take place until PDP Final Engineering Phase, after ODOT acquires the property or has a contractual agreement with the owner to acquire the property. HAER documentation may occur as early as PDP Environmental Engineering Phase since HAER recordation is typically on a bridge and access is not an issue. Though ODOT has not done HALS recordation, it is presumed that such documentation would likely take place in either Environmental Engineering Phase or Final Engineering Phase.

The State Library of Ohio now collects HABS- and HAER-format documents for their Ohio Documents Collection. These records of demolished buildings and bridges may be of interest to researchers and historians. Should ODOT participate in HALS documentation, it is presumed
that documentation will follow the same process. When ODOT, OHPO, and FHWA negotiate a MOA that includes the preparation of a HABS-, HAER-, or HALS-format document, the standard process is that two bound copies (an original archival document and a digital copy) will be produced and delivered to the State Library of Ohio. These measures will be project specific and stipulated in a project MOA. The State Library will make the documents accessible through online cataloging and available to library visitors and interlibrary borrowers.

Archaeological Data Recovery

Phase III archaeological data recovery investigations are intended to mitigate the adverse effect to sites included in or eligible for inclusion in the NRHP. Data recovery is achieved through intensive excavations and/or through detailed analyses and interpretation of all pertinent archaeological information in order to increase understanding of a particular aspect of the archaeological record. Archaeological data recovery plans are developed in consultation with ODOT-OES and the OHPO. The results of all data recovery investigations are summarized as a technical report that are reviewed and approved by ODOT-OES and the OHPO. Completion of the fieldwork and the final report of findings are considered an environmental document commitment. Approval of the final report generally fulfills the agency’s responsibility for the commitment.

Data recovery plans are developed on a case-by-case basis and are designed to recover appropriate types of pertinent information related to the context which makes the sites significant. Field investigations and analyses are problem oriented and are designed to answer specific questions regarding the site and its context. Data recovery plans specifically outline the site context and formulate hypotheses how site research can address these hypotheses. The plans also outline field procedures and propose methods needed to record a site’s physical context and any structural elements related to the resource. Each plan should also outline approaches to better recover data and devise analytical methods to best describe and interpret all associated artifacts and features likely to be encountered.

The final data recovery mitigation report should include a summary of the approach from the data recovery plan along with the findings of the excavation in order to address how the recovered assemblage relates to the site’s historic/cultural context. Ways to publicly disseminate the results of data recovery investigations are also considered to be an important part of any mitigation plan. Detailed comments regarding Phase III archaeological data recovery investigations can be found in the Archaeology Guidelines (OHPO 1994: 20-21 and 87-89).

On December 20, 2012, Ohio Governor John Kasich signed House Bill 458 into law. The bill contains language that revises Ohio’s current damage prevention law (ORC 3781.25-32 and 153.64). The new legislation, which became effective March 27, 2013, is designed to increase public safety by enhancing communications and cooperation amongst stakeholders.

By law, everyone MUST contact the Ohio Utilities Protection Service, 8-1-1 or 1-800-362-2764, at least 48 hours but no more than 10 working days (excluding weekends and legal holidays) before beginning ANY digging project. Please refer to www.oups.org for more information.

For scoping purposes, project managers must include the preparation and delivery of a Management Summary document as a contract deliverable, in addition to the tasks required for the data recovery field excavation, analyses, and preparation of a final mitigation report. ODOT’s process requires the Management Summary to be developed so that, once approved by ODOT-OES and OHPO, the location of the excavated archaeological site(s) on a project may be cleared for construction activities. The Management Summary documents that ODOT and OHPO agree that the data recovery fieldwork has been executed appropriately and that no more fieldwork is necessary on the site(s).

For project management and planning purposes, the start of archaeological mitigation work would be timed to follow the purchase of the site property so the mitigation work could commence well
before there is a need to begin construction activities on the site property. The site property should be scheduled for purchase as early as possible in the right-of-way acquisition process. The intent is to have the site area fieldwork done (and the Management Summary approved) prior to the construction need for the same property area. Construction can certainly begin in other areas of the project, but project and construction managers need to plan for this mitigation work. Site areas undergoing data recovery would be off limits until excavations are considered complete by ODOT-OES and the OHPO, and the management summary mentioned above completed and approved by both offices.

This approach is designed to ensure there is State control of the site area, the excavations, and the artifact collections. A construction plan note should be used which states that the mitigation area is off limits to the contractor until the fieldwork and management summary is complete. If the work needs to be completed earlier, the site owner would have to be signatory on any project programmatic agreement or memorandum of agreement, and would have to sign off on artifact collections deed of gift, relinquishing ownership of the artifacts to the State.

Examples of mitigation actions:

Public installation of important engineering components salvaged from historic bridge, along with descriptive plaques with renderings of engineering drawings.
Close up view of descriptive plaques for historic bridge.

Close up view of salvaged engineering component of historic bridge.
New and original bridge plaques installed on a replacement bridge.

Commemorative plaques installed on replacement bridge.
Installation of pole-mounted historic bridge plaque.

The next four photos are examples of archaeological site mitigation:
1938 bridge plan from HAER documentation report
Information pamphlet created for public, documenting historic bridge.

(upsidedown view due to how pamphlet will be folded)
The following three photographs show a 3-D model created of the Chieftain Drive Bridge for a museum display.
This view shows the detail of the underside of the bridge model through a viewing portal at one end of the model, revealing the Art Moderne stylistically detailed piers.

Working with an experienced model designer, digital copies of the bridge were scaled to first produce a paper mock-up model. The scale of the model was one inch of model equaling ten feet of the bridge. With approval of the mock-up, the process of producing the actual model was started. A digital copy of the original hand drafted plan of the bridge was replicated in AutoCAD to provide historical accuracy right down to the neoclassical railings. From that file the model was then laser cut from Plexiglas, assembled, and secured to a wooden base which included a laser cut title. The model was then reviewed, approved, and painted.
Example of photographic documentation from HAER report.
Example of design plan sheet for commemorative pole mounted plaque.

Example of plaque mounted in bridge abutment.