



U. S. DEPARTMENT
OF TRANSPORTATION

Pennsylvania Division

228 Walnut Street, Room 508
Harrisburg, PA 17101-1720

**Federal Highway
Administration**

April 25, 2005

**In reply refer to:
HEV-PA.1**

Section 106 Consultation
Level of Effort Regarding
Archaeology

Mr. Gary L. Hoffman, P.E.
Deputy Secretary for Highway Administration
Pennsylvania Department of Transportation
Harrisburg, Pennsylvania

Dear Mr. Hoffman:

The Federal Highway Administration has responded to several PennDOT inquiries concerning the level of effort necessary to undertake specific identification, evaluation and mitigation activities under the National Historic Preservation Act for Areas of Potential Effect (APE) with deeply buried intact soils which could contain archaeological resources, or deeply buried known archaeological sites. Because of the complex and often controversial nature of this issue, and because of their advisory role in the implementation of the Section 106 regulations, the FHWA consulted with the Advisory Council on Historic Preservation (Council). The following three questions frame the issues and the enclosed responses provide guidance or direction. Please ensure that this information is shared with appropriate staff to ensure consistent decision-making when deeply buried intact soils or archaeological sites are encountered or when the scope of a project will not extend into buried soils or sites.

- How does FHWA reasonably identify the vertical APE for a project in situations with deeply buried intact soils or where known sites will be encapsulated with fill as part of the project?
- How should the Criteria of Adverse Effect be applied to the encapsulation of intact soils, potential sites or known sites where the APE does not vertically extend to the depth of the soils or site?



- Does an obstruction to an archeologist's access to an eligible archeological site constitute an "effect" under Section 106?

The enclosed reply is not Council policy, but rather guidance and direction that the Pennsylvania Division of the FHWA intends to apply to Federal-aid undertakings. The response is practical in its direction and is consistent with the implementing regulations as it relies on the consultative process in decision-making.

An assessment of site condition and realistic project scope (including the anticipated depth of construction disturbance) should be used to establish vertical limits on APE in addition to the horizontal boundaries. The extent of the APE boundaries will provide a rationale for a reasonable level of effort for identification, evaluation and any warranted mitigation or minimization measures. As further noted in the enclosure, through consultation there may be physical site conditions and project scopes where the encapsulation of intact soils, potential or known archaeological sites will not result in a finding of adverse effect. We will need to establish a protocol to ensure the participation of the FHWA when considering these issues.

Thank you for your continued effort to ensure compliance of the Federal-aid program in Pennsylvania with the National Historic Preservation Act. If you have any questions, please contact Deborah Suci Smith at 717-221-3785 or Karyn Vandervoort at 717-221-2276.

Sincerely yours,

/s/ Karyn Vandervoort

James A. Cheatham
Division Administrator

Enclosure

cc: Jean Cutler, PHMC - SHPO
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Don Klima, Advisory Council on Historic Preservation

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FILED: 580.420



-----Original Message-----

From: Laura Dean [mailto:ldean@achp.gov]

Sent: Thursday, March 24, 2005 5:31 PM

To: Suci.Smith, Deborah; Vandervoort, Karyn

Subject: Three little questions

The Federal Highway Administration in Pennsylvania (FHWA) recently posed the following questions to the ACHP's staff archaeologists:

- How does FHWA reasonably identify the vertical APE for a project in situations with deeply buried intact soils or where known sites will be encapsulated with fill as part of the project?
- How should the Criteria of Adverse Effect be applied to the encapsulation of intact soils, potential sites or known sites where the APE does not vertically extend to the depth of the soils or site?
- Does an obstruction to an archeologist's access to an eligible archeological site constitute an "effect" under Section 106?

Drs. Tom McCulloch and Laura Dean have drafted the following response. This is not a formal policy of the Advisory Council on Historic Preservation (ACHP) on these matters.

Determination of vertical dimension of Area of Potential Effects

After the Federal agency has determined that its undertaking is the "*type of activity that has the potential to cause effects to historic properties*" [36 CFR Part 800.3(a)], the agency then decides what steps are necessary to identify historic properties that may be affected. Before identification can take place, the Federal agency must first "determine and document" the area of potential effects (APE). The APE is defined in the ACHP's regulations as:

"the geographic area(s) within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking" [36 CFR 800.16(d)].

Determination of the APE is prospective. That means that it is done by the Federal agency in consultation with the SHPO prior to initiating any survey for historic properties. Since an undertaking's effects are not restricted to the horizontal dimension, in delineating the APE a Federal agency also must consider the potential for the undertaking's effects to occur vertically as well. If the undertaking's effects might extend below the ground surface then the APE's vertical dimension and boundaries must be determined. The APE, then, is a three-dimensional construct within which the Federal agency conducts the identification and evaluation of historic properties. *This is important, for it follows that historic properties that lie to the side of or below the APE are outside of the geographic area to which Section 106 applies.*



In determining the extent of the APE, the Federal agency must consider all the undertaking's possible effects. The initial determination of the APE done by the Federal agency in consultation with the SHPO occurs before historic properties have been identified [See 36 CFR § 800.4(a)]. For this reason, Federal agencies should initially establish an APE that is reasonably broad enough to capture the full geographic extent of the undertaking's effects. As more is learned through identification and consultation about the undertaking and its effects, and the qualifying characteristics, and integrity of historic properties, it may often be necessary to adjust the APE's horizontal and vertical boundaries.

The input of consulting parties is crucial to the appropriate revision and further development of this geographic construct throughout the remainder of Section 106 review. By consulting with Indian tribes and others, the Federal agency can ensure that due consideration is given to all aspects of a property's National Register significance and integrity. This may be especially important when constructing the APE for archaeological properties of religious and cultural significance to Indian tribes or other properties that may be eligible for the National Register under criteria other than criterion "d."

In setting the APE's lower or vertical limits, the Federal agency should use scientific or engineering analyses as the basis for defining a depth beyond which no alterations can reasonably be expected to occur. These analyses should demonstrate that any archaeological deposits, if they are present, will not be compacted or distorted in a damaging way by the undertaking carried out above it, or that soil chemistry is unlikely to be affected by changes in leaching/percolation due to the undertaking. Remember, however, that effects to archeological sites may not be solely physical.

Federal agencies should always leave a soil "buffer zone," sufficient to prevent loss or distortions of integrity, between the lowest level of project impacts and that area where sites may be likely to occur. This zone, of course, will need to be adjusted according to local soil and other conditions.

After the APE is defined, the ACHP's regulations [36 CFR 800.4(b)(1)] require the Federal agency make a "reasonable and good faith effort" to identify historic properties within it. Because the APE defines the limits of Federal agency responsibilities for purposes of Section 106 review, archaeological surveys necessary to identify and evaluate historic properties are carried out within the confines of the APE.

Consideration of effects to historic properties outside of APE

An adverse effect occurs when:

"an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association."

As noted above, when Section 106 review begins, the Federal agency, in consultation with the SHPO/THPO, delineates the APE. At that time, the agency may know quite a bit about the



undertaking's likely effects, but often has gathered little or no information about whether historic properties actually are present within the APE. Because the scope of the APE is defined by the undertaking's effects, not the mere presence of historic properties or the potential for artifact-bearing deposits in the vicinity, it follows that potentially significant archaeological properties may lie below an undertaking's APE but need not be examined during the course of Section 106 review. This could occur, for example, with the construction of a river levee, parking lot, bridge abutment, or even a building foundation.

Some archaeologists have advanced the concept that this potential "denial of access" to areas that may contain archaeological sites is an adverse effect under the ACHP's regulations, as any such sites are removed for a time from the universe of archaeological resources potentially available for study. This argument claims that such "denied access" results in an inability of a site eligible under criterion (d) to yield "*information important in prehistory or history*" and is, therefore, an adverse effect. Following such logic, this argument then concludes that Federal agencies have an obligation to search below any reasonable APE for such deeply buried sites, and evaluate them if found.

Under the ACHP regulations, the Federal agency has a responsibility to make a "*reasonable and good faith*" effort to identify historic properties that may be affected. Since the APE identifies the limit of effects, it defines the geographic area in which Section 106 review is conducted. The Federal agency does not have an obligation under Section 106 to investigate archaeological sites that lie outside of a properly drawn APE. In those cases where the archaeological resources which are listed or eligible for the National Register may be known to exist, but the Federal agency can clearly document, using appropriate studies, that the undertaking will not alter them, a determination of "**no historic properties affected**" would be appropriate and reasonable. If the undertaking is conditioned upon avoiding impacts to a known historic property (see below) a finding of "**no adverse effect**" may be more appropriate.

Even though one may recognize and appreciate the importance of understanding as much as possible about archaeological resources, the extent of the undertaking's effects define the geographic scope of Section 106 review. Accordingly, confirmed existence of Pleistocene or other archaeologically sensitive soils are not sufficient, in and of themselves, to prescribe the depth of archaeological investigation under Section 106.

Effects of intentional site burial

Likewise, it should not be assumed that the deposition of fill over a listed or eligible archaeological site would necessarily cause adverse effects from compaction, changes in the site's chemical or hydrological microenvironment, or vibration from heavy equipment. The Federal agency should rely on appropriate scientific or engineering analyses to determine how the deposition of fill over an eligible archaeological site (or filling in general) may or may not affect the integrity of those characteristics that qualify the property for listing in the National Register. The critical point is that all of these factors must be explicitly considered, and the outcome of that assessment documented, before a determination of effect can be made with confidence. It is recommended that in most cases, burial of a known listed or eligible archaeological site should include the placement of filter matting to clearly mark the undisturbed



deposits.

However, Federal agencies need to keep in mind that under certain circumstances intentional burial of an archaeological site may have more than purely physical effects. If a site proposed for burial is eligible for the National Register because of its traditional religious and cultural significance to an Indian tribe or Native Hawaiian organization, burial under fill could very well diminish aspects of its integrity, such as its feeling and setting. For this reason, it is critical that a Federal agency consult with others in its efforts to clearly identify, document and appreciate a known historic property's qualifying characteristics, and the applicable aspects of its integrity throughout Section 106 review, especially when applying the criteria of adverse effect.

If the deposition of fill over an archaeological site will not diminish the applicable aspects of integrity in a manner that alters the property's qualifying characteristics, then it is not an adverse effect. The site may be buried more deeply, but it is still capable of yielding important information. While it may be more challenging to access such a site in the future, recent archaeological excavations, for example, at the African Burial Ground in New York City, clearly demonstrate that archaeologists are more than capable of accessing these resources now and into the future.

tm/ld: 3/25/05



Tom, Carol and Laura

The Pennsylvania Division is presently faced with several situations where we have questions regarding the level of effort appropriate to evaluate the potential for, or establish the presence of, buried archaeological resources where anticipated ground disturbance or impact would not penetrate fill. The first question is how to establish the vertical limits of the Area of Potential Effect (APE) of a project. This is a particularly important question in areas of existing fill, deeply stratified soils or where the scope of the project includes the deposition of fill. The second question is how the Criteria of Effect apply to sites that are buried or will be encased by a construction project. Our concern is that if a proposed project does not impact buried intact soils and any potential sites they may contain, a determination of Adverse Effect with subsequent time consuming and destructive archaeology may be inappropriate.

Notwithstanding those areas where the potential for human remains is likely, it appears that if PennDOT can define a depth of soil beyond which it is not reasonable to assume impacts will occur, then that depth should be considered a vertical boundary for a project APE. In fact, if fill can be placed over a site or if fill is present in such a quantity and/or consistency that it can be reasonably argued that no significant impacts will occur to lower soils, a determination of No Historic Properties Affected may be appropriate under the Section 106 regulations. However, in those areas where project scope ascribes most of the project impact to occur within fill, but a point or location is identified where intact soils may be impacted (such as a pier location), the APE and resulting Section 106 consultation at that point or location must reflect that potential impact.

Some of our concerns stem from repeated arguments that the removal of a site or potential site from the access of professional archaeologists to examine it is an Adverse Effect to the site (or potential site). These arguments rest on several assumptions. First, that deeply buried intact soils could contain a site that through excavation may provide information important to our understanding of history and therefore encapsulation under fill is a Section 106 Adverse Effect. Second, that the encapsulation of a known site below fill is a Section 106 Adverse Effect because the research value (information important to our understanding of history) will no longer be readily available to research. These arguments are always followed by the assumption that excavation as mitigation is warranted. These arguments suggest that the intent of Section 106 of the NHPA is to fund research or ensure the availability of research opportunities. It is our opinion that the purpose and intent of Section 106 and its enabling legislation is clear; for Federal Agencies to consider the impacts of Federal projects on historic properties. If the argument of no access = Adverse Effect were followed to a reasonable conclusion, recently uncovered urban sites such as the African American cemeteries in Philadelphia or New York would not be eligible because they were inaccessible for so many decades. Clearly this would be an inappropriate determination.

On the other hand, it appears to us that when a tribe assesses that a site may possess religious or cultural significance and where access is important to the significance, the APE might extend beyond the physical area of impact. The Criteria of Adverse Effect might apply to the encapsulation of this site type. An example of this situation may be if intact human remains were anticipated or known to exist in or adjacent (either vertically or horizontally) to the APE.

In order to responsibly meet our obligations as prescribed in the National Historic Preservation Act and its implementing regulations, as well as acknowledging our public trust responsibilities, we are requesting clarification and guidance from the ACHP regarding this issue and these questions. To reiterate:

- How do we reasonably identify the vertical APE for a project in situations with deeply buried intact soils or where known sites will be encapsulated with fill as part of the project?



- How should the Criteria of Effect be applied to the encapsulation of intact soils, potential sites or known sites where the APE does not vertically extend to the depth of the soils or site?
- Does the Section 106 Effect of a Federal undertaking on a site, rest on the access archaeologists have to it?

Thank you for your attention to these issues. We regret the urgency of the request, however, we have several projects that are currently under review and Section 106 consultation where these issues are a key outstanding concern in the Federal decision making process. If you have any questions, please call either myself at 717-221-3785 or Karyn Vandervoort at 717-221-2276.

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