



OSAGE NATION

HISTORIC PRESERVATION OFFICE

ARCHAEOLOGICAL SURVEY STANDARDS

The following archaeological survey standards are the minimum amount of work acceptable for archaeological surveys conducted on the Osage Nation Reservation/Osage County and throughout Osage Nation ancestral territory as determined by the Osage Nation Historic Preservation Office (ONHPO). Additional archaeological work (i.e. more shovel tests or transects) or methods (backhoe trenches) can always be incorporated into the research design to help locate and identify archaeological sites depending on the area or potential for encountering significant cultural resources. Alternative, project-specific, standards may be developed in conjunction with the ONHPO for projects with unique or unusual circumstances as appropriate.

Professional Qualifications:

Archaeological investigations must be conducted by an archaeologist who meets the U.S. Secretary of the Interior's *Professional Qualification Standards for Archeology* (36 CFR Part 61; 48 FR 44716). At a minimum, all field surveyors must possess a BA or BS in anthropology with an emphasis in archaeology. At a minimum, the supervisor who is in the field and supervises the field survey, interprets the results of the field survey, determines the cultural resource recommendation, and produces the cultural survey report must possess an MA or MS in anthropology with an emphasis in archaeology. Supervisors must accompany and oversee all field surveyors during the fieldwork. With the first cultural resource survey report, include curriculum vitae for all project archaeologists and identify work performed.

Background Research:

Archaeologists must conduct a background literature search prior to field investigations. At a minimum this shall include searches of the SHPO's databases for previously recorded archaeological sites and historic properties, and previous archaeological work in the vicinity. For projects in Osage County, OK, the archaeologists would also include searches of the Osage Allotment Maps, Oklahoma Geological Survey Archives (Norman, Oklahoma) for early USGS 7.5 and 15-minute topographic maps and aerial photographs, plus the GLO map archive available online (www.glorerecords.blm.gov).

Deeply Buried Cultural Deposits:

Archaeologists must assess the potential for deeply buried cultural deposits within the block area prior to starting field investigations. At a minimum, this shall include a review of the USDA soil surveys and geologic maps. If there is a potential for deeply buried cultural deposits within the

block survey area, deeper subsurface investigations (to be determined in consultation with the ONHPO) will be required.

Survey Report:

Archaeologists must submit the results of their investigation in a report to the ONHPO that follows the Secretary of the Interior's *Standards for Archeological Documentation*. The ONHPO will complete its review within 30 days of receipt of the archaeology survey report and the SHPO review letters. For Oklahoma this would include review letters by the Oklahoma Archaeological Survey and the Oklahoma Historical Society.

Fieldwork:

Unless otherwise determined in conjunction with the ONHPO, all areas of a project's Area of Potential Effects (APE) should be subjected to subsurface investigations via systematic shovel testing. No area of the project's APE should be omitted from shovel testing due to surface visibility. The omission of areas from subsurface testing in an archaeological survey due to ground visibility is neither effective nor ethical. While the presence of artifacts on the surface of the ground can be an indication for the presence of a site, the absence of artifacts on the surface of the ground, even in conditions of 100 percent surface visibility, is not a confirmation for the absence of an archaeological site which may be buried beneath the ground's surface. Additionally, it should not be assumed that previously disturbed areas contain no significant archaeological sites or buried human remains. Those areas known to be, or thought to be, previously disturbed should also be subjected to survey in order to identify archaeological sites and to evaluate the level of disturbance which may or may not have impacted buried archaeological sites.

A. Shovel Testing

The entire APE must be subject to systematic shovel testing. Shovel tests must be conducted in intervals no greater than 30 meters in transects no wider than 30 meters. A smaller or reduced shovel test interval may be appropriate in areas with particularly high probability or potential for significant, intact archaeological deposits. Additionally, the ONHPO may require shovel test intervals be reduced to 15 meters in areas known to have a higher probability for archaeological sites or areas of significance to the Osage Nation. Shovel tests must be a minimum of 30 cm in diameter and must be dug to 20 cm beyond sterile subsoil. If portions of the APE are believed to contain subsoil at the surface of the ground, then shovel tests are to be dug to 20 cm below the surface to confirm that it is subsoil and to determine that the subsoil is sterile of artifacts and/or features. Shovel tests should be dug in stratigraphic or 10 cm levels with sediments screened through ¼-inch mesh unless high clay or water content requires that they be troweled through.

If sterile subsoil is too deep to reach via shovel testing, then selective coring/auguring should commence to determine the need for more appropriate methods to survey for deeply buried archaeological deposits. In seasonally inundated areas where the soil is very poorly drained, shovel testing should be conducted to verify soil conditions (i.e. hygroscopic soils), but shovel test intervals may be extended to a maximum of 50 meters in those areas.

Unless previously determined in conjunction with the ONHPO, the only areas within the APE in which shovel testing may be omitted are areas of a 20 percent or greater slope. Areas known to be, or

believed to be previously disturbed, including but not limited to previously developed lands, agricultural fields, and buried utilities, are not to be omitted from subsurface testing. Systematic shovel testing in the manner stated above is required in those areas to establish the presence of archaeological sites, to determine the level of ground disturbance, and to evaluate the impact of previous ground disturbance on any archaeological sites located in the area.

Notes should be kept on each shovel test documenting the shovel test location (including GPS coordinates), soil stratigraphy referencing USDA soil descriptions and actual soils encountered, soil color description (Munsell color codes if possible), depth, and the presence or absence of artifacts. A representative sample of shovel tests should be documented with photographs and profile drawings all of which should be incorporated into the survey report. The survey report will also include a shovel test log and a shovel test map that clearly depicts each labeled shovel test location.

B. Pedestrian Survey

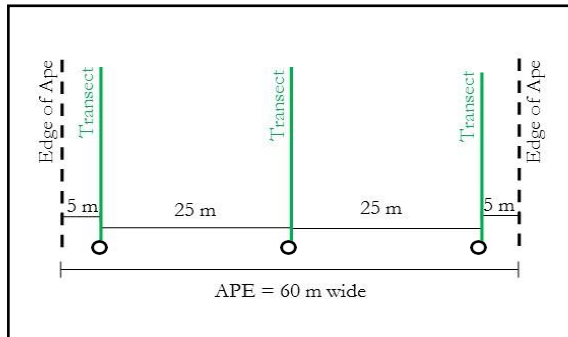
While pedestrian survey may be used in addition to systematic shovel testing, it may not be used in lieu of shovel testing in any area, except for those areas consisting of a slope 20 degrees or greater. Sloped areas exceeding 20 degrees should be investigated via pedestrian survey at intervals no wider than 10 meters.

C. Linear Projects

For linear projects exceeding 1 mile, such as power line corridors, shovel test intervals may be extended to a maximum of 100 meters. A linear project is defined as an undertaking with an APE width no greater than 30 m. Additional judgmental shovel tests, as appropriate, should be placed in areas with particularly high probability or potential for significant, intact archaeological deposits.

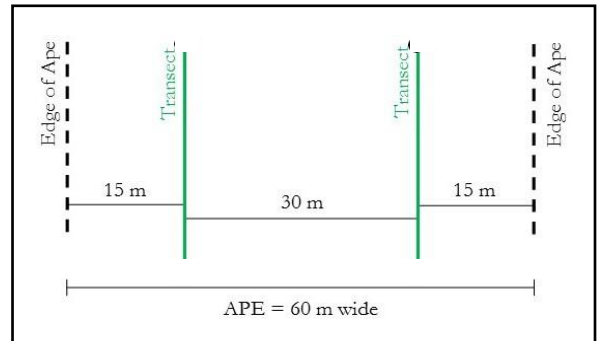
If shovel test transects parallel the edge of the APE, the transect nearest the edge of the APE should be no further than half a standard shovel test interval as defined for the project from the edge of the APE. For example, if the shovel test interval being used for a particular project is 25 m, the transects nearest the edges of the APE should be no further than 12.5 m from the edge of the APE. If the APE is 60 m wide and shovel tests are being excavated at 25 m intervals, there should be three shovel test transects, and the transects nearest the edges of the APE would be 5 m from the edge of the APE. If shovel tests were excavated on only two transects, the distance from the transects to the edge of the APE would be 17.5 m, which is greater than half of a standard shovel test interval as defined for the project, and not deemed adequate coverage for a high probability area.

Examples of Shovel Test Transect Placements (Across 60-Meter Wide Survey Corridor)



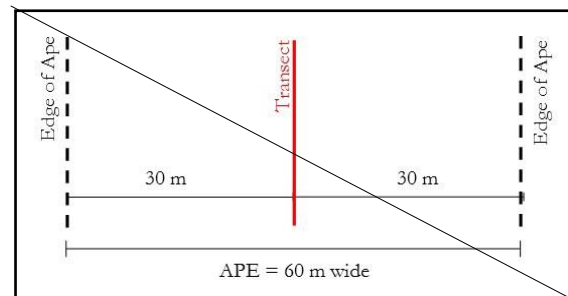
Adequate Coverage (high probability)

Three Shovel Test Transects Spaced 25 m Apart on 60-m Wide Corridor, with Shovel Tests Excavated at 25-m Intervals.



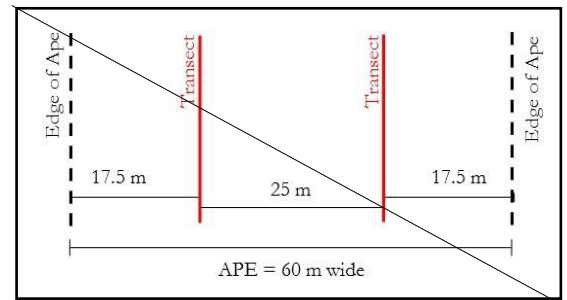
Adequate Coverage (minimum)

Two Shovel Test Transects Spaced 30 m Apart on 60-m Wide Corridor, with Shovel Tests Excavated at 30-m Intervals.



Insufficient Coverage

One Shovel Test Transect on 60-m Wide Corridor, Regardless of Shovel Test Interval on Transect.



Insufficient Coverage

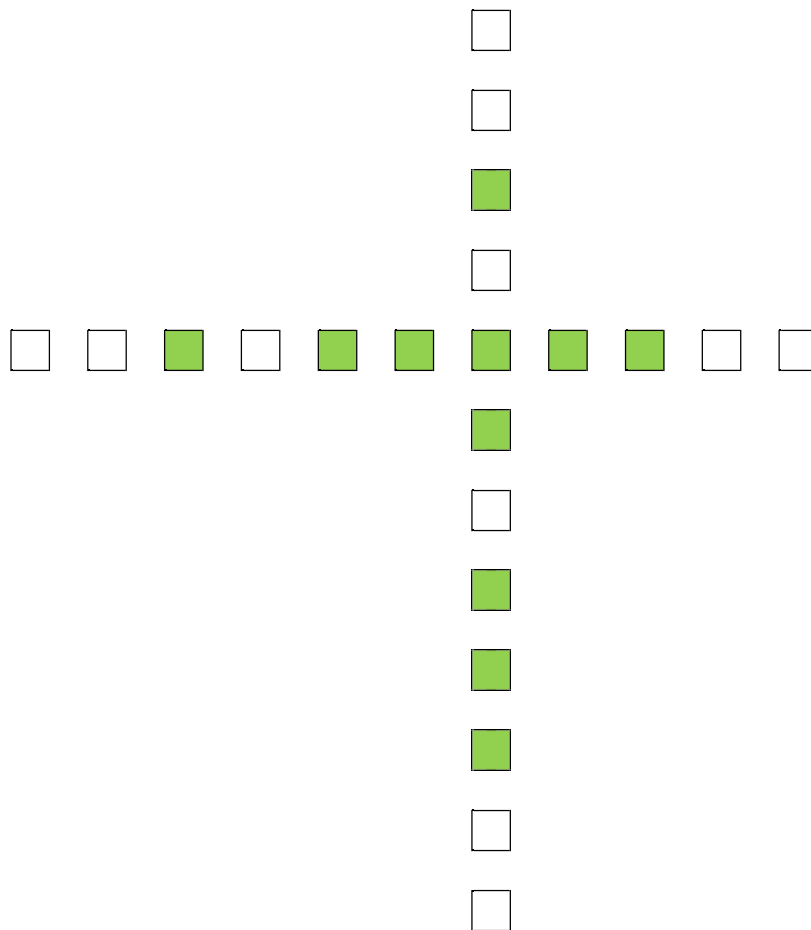
Two Shovel Test Transects Spaced 25 m Apart on 60-m Wide Corridor, with Shovel Tests Excavated at 25-m Intervals.


Determining Site Boundary:


Shovel testing is required to determine site boundaries.

A minimum of nine (9) shovel tests must be placed in a + pattern that is perpendicular extending from the center of the artifact discovery location.

A shovel test must be placed every five (5) meters until two (2) negative shovel tests are sequentially excavated in each direction. All surface finds and positive shovel tests must be bounded by radial shovel tests in this manner.



 Positive shovel test

 Negative shovel test