



THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION

GUIDELINES FOR CONTRACTORS ON ARCHAEOLOGICAL INVESTIGATIONS AND REPORTS

2007

Attached is the Mississippi Department of Transportation (MDOT) *Guidelines for Contractors on Archaeological Investigations and Reports*. MDOT guidelines address specific requirements and standards of Section 106 and the state of Mississippi's Antiquities Law to insure compliance by the contracted engineer and/or cultural resource management (CRM) firms. Adherence to the MDOT guidelines will ensure conformance with the Mississippi Department of Archives and History (MDAH) requirements. Included in the text are guidelines for Phase I, II, and III archaeological projects to insure that the products of compliance-related archeological investigations will lead to the location, identification, evaluation, and appropriate mitigation of important archaeological resources.

Due to time delays often associated with property acquisition and access needed to conduct Phase II testing, and unless Phase I investigations have already determined sites to be ineligible for National Register of Historic Places (NRHP), MDOT approaches all other archaeological sites as eligible for listing on the NRHP under Criterion D of Section 106. With the exemption of Phase II testing, data recovery will include an initial "testing stage" that will allow the contracted engineer and/or CRM firm(s) to better evaluate the extent and character of the cultural deposits at the site. Once the "testing stage" has been completed, there are two outcomes:

- 1) The site is determined to be ineligible and no further work will be recommended, because further work is considered unlikely to yield important information that will provide significant insights into the prehistory and/or history of the region; or
- 2) The site is determined to be eligible and a full scale data recovery will be in order because the site possesses the potential to yield important information that can significantly contribute to the understanding of the prehistory and/or history of the region.

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I. INTRODUCTION

The Mississippi Department of Transportation (MDOT) Guidelines for Contactors on Archaeological Investigations and Reports has been written to assist agency administrators, principal investigators, archaeologists, field and lab technicians, and other professionals with the development and implementation of research designs and reports for MDOT-contracted archaeological investigations. Digression from the guidelines without prior consultation with the MDOT Environmental Division shall be grounds for rejecting reports and/or requiring additional field, laboratory, or background research.

Consistent submission of poor quality, unacceptable, late, incomplete, and/or uncorrected reports; fraudulent documentation of fieldwork or laboratory analyses; inadequate field or laboratory work; failure to respond to request(s) for additional information; failure to adhere to the highest standards of professional archaeological standards and ethics may result in additional sanctions.

MDOT guidelines are directed by federal and state laws, regulations, and standards on cultural resource management and responsibilities [see list in Appendix A]. The guidelines include the basic techniques to be applied to each cultural resource investigation and should be expounded according to the correlating scope of work.

To promulgate uniformity, definitions, as stated in the Protection of Archaeological Resources, (43 CFR 7, Part 7, Section 7.3, pg.170-171), and in the Native American Graves Protection and Repatriation Act, as amended, (25 U.S.C. 3001, Sec. 2), are included as Appendix A.

II. Professional Qualifications

MDOT requires that the personnel of contracted engineer and/or CRM firm(s) meet the minimum professional qualifications published in the Code of Federal Regulations, 36 CFR 61. The qualifications, also stated in the *Federal Register* (48 FR 22716, Sept. 1983), define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending on the complexity of the task and the nature of the historic properties involved (*Federal Register* 48:190 [Part IV] pg. 44738-44739).

The *principal investigator*:

- 1) must have a graduate degree in anthropology, archaeology, or closely related field;
- 2) must have demonstrated an ability to successfully implement Phase I, II, and III archaeological investigation and research;
- 3) must have prepared technical reports that meet state and federal guidelines;
- 4) must have experience with, but not necessarily specialization in, Mississippi prehistory, as well as possess a working knowledge of Southeastern archaeology.

The *field director(s)* must:

- 1) have a graduate degree in anthropology, archaeology, or a closely related field;
- 2) have considerable experience in a supervisory capacity;
- 3) have formal training and considerable experience in archaeological theory, methods, analysis, interpretation, research, and report preparation; and
- 4) be able to recognize and evaluate both prehistoric and historic cultural features and artifacts.

Note: Prospective field director(s) without a graduate degree in anthropology, archaeology, or a closely related field must be approved by the MDOT Environmental Division *prior* to the initiation of field investigation.

The *field crew personnel* must:

- 1) have an undergraduate degree in anthropology, archaeology, or a closely related field;
- 2) have considerable experience; and
- 3) be able to recognize and evaluate both prehistoric and historic cultural features and artifacts.

Note: Prospective field crew personnel without an undergraduate degree in anthropology, archaeology, or a closely related field must be approved by the MDOT Environmental Division prior to the initiation of field investigation.

The *architectural historian* must:

- 1) have a graduate degree in architectural history, historic preservation, or a closely related field with coursework in American architectural history;
- 2) or have a B.A. in architectural history, art history, historic preservation, or a closely related field with a concentration in American architecture.

Note: Prospective architectural historians not meeting the requirements must be approved by the MDOT Environmental Division *prior* to the initiation of field investigation.

The *contracted engineer and/or CRM firm(s)* must have access to:

- 1) adequate field and laboratory equipment to conduct the survey, excavation, and/or other research; and
- 2) adequate facilities to properly treat, analyze, and temporarily curate recovered cultural materials in a secure, safe, and stable environment to prevent loss of significant data.

III. Phase One Investigations

Note: MDOT requires blank copies of all forms used in the investigation(s) conducted by the contractor/Principal Investigator to be included in the Proposal of Work submitted for all phases of investigations.

During Phase I investigations, archaeological sites are located through a progression of steps:

- 1) Preliminary documentary research must include, but should not be limited to:
 - a. records at the Mississippi Department of Archives and History of previously recorded sites, associated reports and maps;
 - b. previous survey results and associated reports;
 - c. local or regional syntheses;
 - d. documentation of historic architecture, individuals/families, events, or sites associated with or within the project area or area of potential effect (APE);
 - e. interviews with persons knowledgeable about the archaeological resources of the project area; and
 - f. the following aspects of the project area must be investigated:
 1. known burial sites
 2. geomorphology
 3. known previous disturbances
 4. soils
 5. geology
 6. fauna
 7. flora
 8. climate
 9. hydrology
 10. culture history, which can be drawn from:
 - site records and associated reports
 - current references/reports and projects in the region
 - historical archives/records and maps, which may be found at/in:
 - a. county seats
 - b. historical societies
 - c. libraries
 - d. universities and colleges
 - e. county histories, atlases, and related cartographic sources
 - f. site and structure inventories
 - g. avocational/informant interviews
 - h. other collections, public and private

- 2) Surface collection during field reconnaissance:
 - a. the field crew organizes in linear survey units across the designated area and walks over the region to perform surface inspection and collection in areas with at least 30 % of ground visibility;
 - b. transect spacing of 10-15 meter intervals maximum is recommended;
 - c. transect spacing justification (e.g., ground visibility, density of archaeological sites, severely disturbed areas, inaccessibility) must be included in the Phase I report;
 - d. additional information to be recorded at this time includes soil and vegetation description and proximity to water. Record previous land alterations (e.g., plowing, timber activities, borrow and gravel pits, construction, erosion) in the project area; and
 - e. the distance between two distinct sites should be based on the combined results of preliminary research and field reconnaissance efforts, and should generally be at least 60 meters apart.

- 3) Shovel testing is required in areas where surface visibility is inadequate to obtain information on site depth, composition, and integrity. When surface visibility is adequate, excavation of at least two shovel tests must also be conducted at the site to assess depth and presence/absence of intact cultural deposits and/or features. For any area that is not shovel tested, the Principal Investigator must justify the decision not to shovel test.
 - a. shovel tests should be approximately 30 cm in diameter and excavated to sterile subsoil or 100 cm, whichever occurs first;
 - b. shovel tests should be spaced on an interval no greater than 30 meters along each transect;
 - c. shovel testing is not routinely required on slopes greater than five percent vertical gradient and in waterlogged or severely disturbed areas;
 - d. systematic sampling at fixed intervals may not yield optimal survey results; therefore, a combination of systematic and judgmental shovel testing may produce a more efficient survey method for site location;
 - e. all excavated matrix must be screened through 6.35 mm (1/4") mesh, except when subsoil is encountered at or near the surface;
 - f. if soil conditions preclude mesh screening, alternate recovery procedures must be approved in advance by the MDOT archaeologists;
 - g. following a positive shovel test, the testing interval must be reduced to no less than 5 meters in the same grid pattern until two consecutive negative shovel tests are encountered in order to determine the horizontal site dimensions and boundaries of the site; this may be accomplished by excavation of shovel tests in a cruciform pattern or at radial patterns from positive shovel;
 - h. following a positive shovel test, the location of both negative and positive shovel tests must be recorded;

- i. recordation of positive shovel test must include the number and types of artifacts recovered from each shovel test;
 - j. must have recordation of detailed soil descriptions and evidence of any disturbance for each identifiable stratum using the Munsell color chart to record soil colors and the USDA soil texture classifications to characterize soil texture;
 - k. positive shovel tests must be labeled consecutively with a unique designation;
 - l. artifacts recovered must be recorded to at least the general depth of occurrence, minimally “above” or “below plowzone” if observable;
 - m. artifacts must be bagged and labeled with the same unique designation as the positive shovel test from which they originated; and
 - n. all shovel tests, excavation units, auger tests, backhoe trenches, or other ground disturbances must be refilled upon completion of the project, unless consultation with participating agencies and/or landowners has produced an agreement to forego filling.
- 4) While in the field, survey crews should make a reasonable effort to enter all areas necessary to adequately cover the project area (1997 Statute from Mississippi Code of 1972, SEC. 65-1-335 grants the right to lawfully enter land for the purposes of conducting surveys or “environmental assessments,” (i.e. cultural resources studies). The Environmental Division will provide survey crews with copies of this statute as well as with correspondence informing landowners about the nature of the project, what the survey crew is doing and how they do it, the landowner’s right to refuse work, and contact names/numbers for question referrals.
- 5) If investigators are required to survey outside the proposed project area for the purpose of site boundary determination, the survey crew should make a reasonable effort while in the field to locate and advise landowners prior to conducting archaeological survey work outside the proposed project area.
- 6) Depending on project size, accessibility, and nature, evolving technologies (remote-sensing, et al.) may be included at the Phase I survey level to augment but not replace more traditional survey methods.
- 7) When using predictive modeling to identify archaeological sites for large scale survey areas, the survey model must be defined and verified through field testing of at least 10% of the identified low probability areas.
- 8) Written records and photographs must be maintained throughout the Phase I investigation.
- a. field notes are to be kept on all aspects of the investigation, including the size, depth and spacing intervals of subsurface testing;
 - b. records should be written or copied onto acid-free paper;

- c. test units, features, soil profiles, and other identified anomalies must be photographically recorded (for more information on photography recordation, see Appendix C);
 - d. photographs must be taken of representative environments where different survey strategies are utilized;
 - e. all identified sites must be photographed for inclusion in the report;
 - f. the entire survey area and site(s) locations must be depicted on 7.5' USGS topographic maps;
 - g. where possible, the perimeter and center of all sites should be documented using a Global Positioning System (GPS) receiver capable of a 3 meter or better accuracy. A single set of coordinates of the site's center will suffice on sites less than ¼ acre (1000 m²) in size.
- 9) Representative artifact collections (i.e., all artifact types, not just diagnostics) must be made from archaeological sites identified within the project area for the purposes of determining the site's temporal and cultural affiliations, as well as the functional and technological aspects of the assemblage.

10) On historic sites:

- a. *if* the Principal Investigator or Field Supervisor is thoroughly familiar with the ages and functions of historic artifacts, then thorough collections of artifacts of recent origin (less than 50 years old) need not be made;
- b. if there is any doubt as to the age, function, or information potential of artifacts, collections should be made for identification purposes;
- c. a decision not to collect must be justified and approved by MDOT archaeologists prior to the initiation of fieldwork or at a point during the fieldwork when a situation arises that requires a revision;
- d. the exception to this is in the category of large amounts of architectural/construction items; artifacts such as bricks, concrete blocks, and other construction debris do not need to be collected, unless there is something diagnostic (e.g., manufacturer's mark, name or place stamped on an artifact, artifact has relevant functional information) about them or if the research design delineates such methodology for a specific study (e.g., early nineteenth century brick manufacturing);
- e. artifacts not collected must be noted and described, densities estimated, counted, and/or weighed;
- f. all standing structures within the APE are to be photographed and evaluated;
- g. plan documentation and representative photographs of eaves or foundations of historic standing structures, building, or features are required; and
- h. photographs of modern structures, including modern subdivisions or structures are required.

- 11) All previously recorded sites within the project area must be revisited during the Phase I investigation. Information on these sites must be included in the analysis and interpretation, and updated on new site cards, if warranted, and filed with MDAH.

- 12) Appropriate field documentation for sites identified during a Phase I investigation:
 - a. data on cultural affiliation (culture and period)
 - b. site type
 - c. presence and type of deposits
 - d. features and subsurface deposits (if detected through testing)
 - e. how sites were discovered
 - f. how data was recovered
 - g. surface visibility and how determined
 - h. factors affecting visibility
 - i. site dimensions and how determined
 - j. artifacts and materials collected
 - k. method of recovery
 - l. illustrations of diagnostic artifacts
 - m. areas of artifact concentrations
 - n. site maps
 - o. recordation of structures
 - p. site integrity
 - q. location and physical environment(See Appendix C for detailed instructions on how to complete the hard copy site form)

- 13) Previous land alterations (e.g., plowing, timber activities, borrow and gravel pits, erosion) in the project area must be recorded.

- 14) Principal investigators should conduct limited deep subsurface reconnaissance, as warranted, utilizing cores, augers, backhoes, or approved remote sensing methods to locate and insure proper coverage of cultural deposits buried beneath alluvium, colluvium, and/or water.
 - a. This level of investigation may require the use of small excavations, including trenches, to discover, define and assess the nature of buried deposits.
 - b. Such excavation projects must conform to current OSHA *Standards for Excavation Safety* (29 CFR 1926 Subpart P and appendices).
 - c. Consultation with a geomorphologist or pedologist is required if the principal investigator is not trained in or familiar with the geomorphology of the area.
 - d. All subsurface reconnaissance must be continuously monitored by a professional archaeologist.

- e. Features must not be left exposed for any more than a short period of time, so as to minimize damage to the deposit by the elements.
- f. All artifacts encountered during the subsurface investigation must be collected and bagged by provenience.
- g. Backfill must be inspected as it is excavated and prevented from falling back into the trench.
- h. A smooth-edged bucket must be used to excavate trenches.
- i. Backhoe trenches need to be excavated in a controlled manner (ca. 10-15 cm layers), according to soil types and condition, to allow for inspection of horizontal surfaces.
- j. Trenches must be hand-scraped to identify cultural deposits and related stratigraphy.
- k. Documentation of trench walls must be completed immediately after excavation.
- l. Materials recovered from subsurface investigations must be bagged by trench/level or other relevant provenience.
- m. Any material identified in the trench walls must be labeled and keyed to material inventoried either in the report or described with the profile map.
- n. Detailed soil descriptions, including the nature of any cultural inclusions, texture, Munsell color, evidence of pedogenesis, bioturbation, and other disturbance must be presented for each identifiable stratum and keyed to a trench profile map.
- o. Trench datums must be shown on maps.
- p. A permanent site datum must be established if buried deposits are discovered.
- q. Flotation samples must be collected from each discrete feature identified.
- r. Carbon and other samples must be retained and processed as appropriate.

15) Artifacts recovered during Phase I investigations must be treated according to current standards of archaeological documentation. (See the *MDOT Archaeological Collections Curation Guidelines* in Appendix C).

In general:

- a. artifacts should be classified into defined categories to be used in artifact analysis;
- b. raw materials, technical/functional type, and alterations must be included;
- c. summary tables tabulating artifacts by count (including percentages), and/or weight must be included in the report;
- d. when appropriate, cultural/chronological types, metric data, and named material types for lithic artifacts should be used;
- e. when in doubt, under specify, for an unambiguous general label is preferable to an unsupported or questionable specific label;
- f. photographs and/or illustrations must be provided for all diagnostic, unique or unusual artifact, and for artifacts which may be identifiable, but which the researcher cannot identify;

- g. floral and faunal material must be identified and tabulated by taxon, provenience, weight and size of sample(s) analyzed (relative densities), if possible; and
- h. for historic artifacts, analysis must specify and tabulate:
 - 1) ceramics by type, ware, decoration, and manufacturer, if possible;
 - 2) metal by type and manufacturing technique;
 - 3) glass by color and type;
 - 4) whenever possible, date ranges will be determined and stated in the report; and
 - 5) representative samples of diagnostics, which are unique and unusual and/or unidentifiable by the researcher, must be photographed and/or illustrated.

IV. Phase II Investigations

Phase II testing should be sufficient to evaluate site significance and integrity and, if necessary, further refine site boundaries. Specific methods and techniques must be developed on the basis of site conditions, Phase I results, and background research.

Certain goals will be common to all Phase II investigations as defined by the National Park Service (1982):

- 1) to define the category of the archaeological resource, usually as a site or as a district;
- 2) to establish horizontal and vertical site boundaries;
- 3) to determine if the archaeological resource has integrity; and
- 4) to establish the historic context for evaluating the archaeological resource.

An explicit research design must govern all archaeological investigations and research:

- 1) research designs must have a sound, well-supported theoretical basis and may vary from the standard guidelines in order to address the needs of a particular investigation;
- 2) research questions appropriate to the endeavor must be developed in consultation with MDAH and will be used to guide archaeological excavation;
- 3) site-specific research questions must be developed to direct the research and fieldwork at the site, and include applicability of the work to regional research questions;
- 4) the research design must reflect the Scope of Work (SOW) submitted by MDOT on such things as the area to be investigated and the type of data to be recorded;
- 5) research designs must include but not be limited to the following:
 - a. a summary of previous archaeological research at the site and at comparable sites in the immediate vicinity;
 - b. a detailed description of proposed research and analytical methodologies including:

- 1) site definition
 - 2) surface collection
 - 3) hand excavation and coring/auguring methods
 - 4) mechanical soil removal procedure
 - 5) feature excavation methods
 - 6) analytical procedures
 - c. release of interest in artifacts by landowner;
 - d. agreement with MDOT Environmental curation guidelines;
 - e. a proposed time-limit for project;
 - f. a plan to handle human remains if encountered;
 - g. a copy of property owner's permission;
 - h. an evaluation of results against the original proposal; and
 - i. a review should be made of the design before each phase of fieldwork to ensure there have not been any changes regarding areas of impact.
- 6) Phase II archival and background research is necessarily more intensive and specific than the Phase I background research. The additional information should add to the body of knowledge regarding the site, and ultimately assist in determining whether or not the site meets the criteria for the National Register of Historic Places. The following information should be used to supplement the sources listed in the Phase I guidelines, as necessary:
- a. early photographs and lithographs
 - b. court records (i.e., deeds, mortgages, etc.)
 - c. real property records
 - d. transportation records
 - e. wills, probate inventories, family papers, etc.
 - f. census data (i.e., agricultural, population, industrial)
 - g. tax records
 - h. plat maps
 - i. other relevant cartographic sources
- 7) Phase II documentary research should address the following considerations:
- a. a more in-depth understanding of the character of the project or APE, including occupation, land-use, and development;
 - b. a more in-depth review of the previous archaeological work conducted at the site and a synthesis of work on related site types in the region;
 - c. site-specific documentary data on historic sites to be examined by archaeological field testing in order to have the empirical data derived from testing interpreted more fully within context; and
 - d. additional research may be required after the completion of fieldwork, specific to features discovered as part of the study.

- 8) Phase II field methods and techniques documentation:
 - a. describe and justify data collecting techniques, sampling, horizontal and vertical controls, size of intervals, grid, and units, and artifact retrieval procedures;
 - b. indicate datum/data used and permanent datum/data on a site or project map and supplement with GPS coordinates for each temporary and/or permanent datum for later relocation if required;
 - c. illustrate the probability zones, if established, on a project map (USGS);
 - d. describe grid, probe, unit, trench, feature, provenience, etc. designations;
 - e. describe screen size and method of screening;
 - f. include documentation of approval from MDOT archaeologists on any deviation from the methods, guidelines, or the use of heavy equipment for subsurface reconnaissance; and
 - g. document daily environmental (e.g., weather and surface) conditions during the investigations and their effects on testing methods/results.

- 9) Phase II field methods must adhere to the requirements of the Phase I guidelines as applicable and the following:
 - a. all tested sites with contextual deposits must be marked with at least two permanent data that are clearly indicated on site maps and may be relocated after completion of Phase II work;
 - b. all subsequent data must be tied to these primary data;
 - c. the Principal Investigator must develop and maintain a system for identification and recording of artifacts and their provenience in both horizontal and vertical contexts;
 - d. the Principal Investigator must insure the amount of work proposed is related to the question(s) addressed in the MDOT project plan;
 - e. justification of test unit(s) spacing and placement must be explicitly stated;
 - f. power machinery may be used to expose cultural deposits as long as MDOT archaeologists have been consulted;
 - g. hand excavations must be used to determine that no buried features or intact cultural deposits will be adversely affected by power machinery prior to its use;
 - h. if not accurately determined in the Phase I investigation, site boundaries and artifact concentration areas, or changes/refinements in boundaries and artifact concentrations, must be confirmed during Phase II testing through systematic shovel testing and/or controlled surface collection;
 - i. if disking or plowing during investigation is warranted, the affected area must be well rain-washed before surveying;
 - j. artifacts that are clearly relocated due to erosion, mechanical cultivation, and/or uninhabitable surfaces should not be considered to be within the site's boundaries; and
 - k. cultural materials recovered *in situ* or in undisturbed contexts, specifically features and middens, must be fully documented.

10) Phase II test/excavation units must adhere to the following:

- a. test units, and, where appropriate, controlled surface collection, must constitute the basis of early investigation and be used to guide the use of mechanical soil stripping, if applicable;
- b. prior to the use of power machinery, the Principal Investigator must consult with MDOT archaeologists;
- c. any use of power machinery must be justified in the Phase II report;
- d. all areas of the site and associated landforms must be sampled through hand-excavated units prior the implementation of mechanical soil stripping, if applicable;
- e. test units should minimally provide information on stratigraphy, depths of deposits, range of material culture, and feature potential;
- f. test units must minimally extend 10 cm into culturally sterile soils and must be augmented by soil cores at the lowest excavated level;
- g. other non-destructive techniques (e.g., soil resistivity, magnetometer) must be considered as an adjunct to test pits;
- h. all excavation units must be troweled for identification and mapping of features and strata in both plan and profile views;
- i. excavation units must be kept moist when recording features and strata for accurate recording;
- j. distributions of archaeological material in subsurface contexts must be accurately mapped (e.g., plan and profile illustrations, artifact piece plotting);
- k. justification for alternative field strategies or methods must be in proposed methodology;
- l. an adequate sample of the surface and plowzone deposits must be collected to determine the range and nature of the archaeological materials;
- m. all soil from test units must be screened thorough 6.35 mm (1/4") mesh and, where appropriate, through 1.58 mm (1/16") fine hardware cloth;
- n. all features must be completely excavated, unless otherwise determined through consultation with MDOT archaeologists, and collection of smaller, complex samples from these contexts (e.g., soil, pollen, fauna, floral, samples to be dated) is expected;
- o. the sampling strategy for Phase II testing must be approved by the MDOT archaeologists (*details specific to individual projects, as contained in the MDOT Request for Proposals and MDOT Scope of Work, supercede guidelines provided herein*);
- p. all artifacts, including samples for dating and further study, must be carefully packaged and preserved in the field to insure that provenience and physical data are not lost; and
- q. preservation of collected data must be insured through all phases of analyses, curation and delivery to MDOT.

V. Phase III Mitigation

The same fieldwork techniques applied to Phase I- and II- level efforts must be used and expanded upon to answer questions posed in the Data Recovery Plan, and assist in future archaeological research, as the mitigation phase is to record and preserve information which will be lost due to construction. Treatment approaches must be designed on a case by case basis. Each project has its own characteristics and needs, as do the historic properties involved. Efficient and cost effective measures must be employed to maximize recovery of the data necessary to achieve the desired goals, yet minimize costs.

The objectives of Phase III archaeological investigations must include:

- 1) the description of the site, and the characteristics which make it eligible for the National register;
- 2) the maximum retrieval of important data relevant to the defined research questions;
- 3) the determination of the site's characteristics and variability, including inter- and intra-site patterning; and
- 4) education and interpretation of the data recovery results for the public and interested parties:
 - a. public interpretation plans should be developed in consultation with MDAH;
 - b. without impeding the project schedule, public interpretation may be implemented during fieldwork or upon completion of analysis and reporting;
 - c. public education should be aimed at increasing public awareness and sensitivity to archaeological resource protection with examples of actions that are appropriate safeguards against vandalism, etc.
 - d. public education/interpretation can include the following:
 - public open house to view fieldwork results
 - videotape to be distributed to local schools, etc.
 - development of a WEB page
 - newspaper articles/press day
 - signage on site
 - pamphlets discussing excavations
 - tours for school groups
 - slide talks to schools, public interest groups
 - exhibits or displays

Research should focus on summarizing previous investigations from Phase I and II, the analysis of existing collections from the site, refining the research questions and clarifying the methods necessary to address those research questions.

Analysis of the cultural materials recovered in Phase III investigations must entail:

- 1) the interpretation of site activities, functions, time span, and contexts; and
- 2) the study of the research questions addressing the site's local and regional significance.

Monitoring of the site during the initial phase of the construction must be performed by professional archaeologists as the last step in the investigation. This procedure should include supervised removal of the topsoil to expose potential features and identify the significance of exposed cultural materials. Monitoring should include procedures for periodic halts in construction to allow examination of exposed soil and investigation of exposed cultural materials when applicable.

Deviations from the techniques and methods provided in the Memorandum of Agreement (MOA) must be approved prior to fieldwork and/or as the situation arises where changes are deemed necessary. It is advisable to develop a plan for addressing unexpected discoveries that may arise during construction. The discovery plan may be included as a stipulation of the MOA or a component of data recovery program. The Advisory Council's regulations (36 CFR 800.11) include provisions for considering properties discovered during project implementation.

In the absence of an approved discovery plan, an agency must provide the Advisory Council (for federal projects) with an opportunity to comment when a previously unidentified property that may be eligible for listing on the National Register is discovered during project implementation. Federal historic preservation laws do not require the agency to stop all work on the undertaking during discovery stipulations. However, the agency should make a good faith effort to avoid or minimize harm to the historic property until it has completed consultation or implementation of the discovery plan provisions.

VI. Report Guidelines

Phase I – Report Guidelines

- 1) The report must be in narrative form and completely address the questions proposed in the research design.
- 2) Reports must be submitted on acid free paper.
- 3) Sixteen hard copies and three electronic copies in Adobe PDF format must be submitted with the original report.
- 4) The reports must provide the number of personnel that participated in the fieldwork, lab analysis and curation.
- 5) Reports must provide descriptions of field conditions (e.g., visibility, weather conditions, etc.) for both underwater and terrestrial archaeological investigations.
- 6) Reports must provide total area surveyed in both acres and hectares.
- 7) Reports must provide detailed information of field methods and results, explicitly addressing negative and positive results. In addition, when predictive modeling is utilized, the criteria used to define probability areas (i.e., low, moderate, and high) must be discussed in the report and graphically illustrated.
- 8) All maps, photographs, and illustrations must be clear and easily discernable.
- 9) Reports must include copies of all sections of 7.5' USGS topographic quadrangle maps included in the project area with the precise locations and boundaries of the

- areas surveyed, and the precise location, form and size of the sites discovered prior to and during the investigation.
- 10) USGS 7.5' topographic maps and/or aerials must clearly demarcate the proposed project Right of Way (ROW) in its entirety.
 - 11) USGS topographic maps must be clearly labeled with the quadrangle name.
 - 12) Any possible pre-World War II standing structures located in the project area must be reported and the location recorded on the corresponding 7.5' USGS topographic quad. Use the state of Mississippi's site number(s) (i.e., 22HO504) when referring to archaeological sites in the report.
 - 13) A completed or updated copy of the state archaeological site card for each site must be submitted as part of the report.
 - 14) Site cards may be submitted to MDAH prior to report preparation.
 - 15) Descriptions of sites must include sufficient information on location, setting, extent (e.g., length, width, and depth), regional chronological positions and cultural affiliations, intact deposits recorded, and degree and types of disturbances observed to evaluate whether additional investigation is warranted to determine National Register eligibility. A statement must be made on how further investigations could lead to a better understanding of the archaeological record of the area or region.
 - 16) All sites, including previously recorded, must be illustrated in the report. These illustrations should include a northing arrow and scale, topographic features, identifiable landmarks, level of effort (i.e. positive and negative shovel test locations, surface finds/concentrations, relevant cultural surface features, etc.), and the spatial relationships of the above to the project area (i.e., with respect to the proposed project ROW boundaries, station markers, etc.). This can be in the form of edited aerial overlays of the project area.
 - 17) Cultural materials must be analyzed with the intention of characterizing the temporal and functional ranges represented by the assemblages and should include tabulations of all artifacts, archaeobotanical, and zooarchaeological remains.
 - 18) Correlations with known diagnostic artifact types, if applicable, should be attempted, with an appropriate sample of said diagnostic artifacts illustrated.
 - 19) The determination of the site's function (e.g., village, quarry, camp) must be included in the report, or an explanation for the lack of determination.
 - 20) The report must include an evaluation of the effects of the project on each site.
 - 21) The report should include alternatives to avoid or mitigate effects to any potentially eligible or eligible site(s) that will be affected by the project.
 - 22) The report must be signed with the business address and telephone numbers of the principal investigator and field director(s).
 - 23) No fonts less than 10 pt may be used in the report. All figures and tables must be legible and keyed for interpretation and clear photocopying. For matters of style refer to the "Style Guide" for *American Antiquity* (2000).

Phase II – Report Guidelines

Phase II report guidelines include those of Phase I with the addition of:

1. Reports must provide testing commencement and termination dates, as well as the actual number of days in the field.
2. Reports must provide the percentage of the site tested, as well as a justification for the sampling strategy.
3. USGS 7.5' topographic maps and/or aerials must show location of testing. In addition, reports must include a large scale topographic map of the site with all controlled surface collection, shovel testing, excavation units, backhoe trenches, and any other investigative method located and depicted in relation to the permanent datum.
4. Reports must include plan and profile illustrations of two adjacent walls for all excavation units and features encountered, where possible.
5. All proposed mitigation plans must be justified. If mitigation is recommended, a research design must be provided with detailed specific research questions to be addressed, along with citation of relevant literature supporting the importance of these questions. If the site is reported as ineligible, reasons supporting this conclusion must be included.

Phase III – Report Guidelines

Phase III report guidelines include those of Phase I and Phase II, including the rationale for the mitigation project. All research questions should be addressed in specific detail, along with citations of relevant literature supporting the significance of these questions and findings in relation to the current body of anthropological knowledge. (See Appendix D for an example report outline)

For more information on in-depth reporting standards, see the Secretary of the Interior's "Standards and Guidelines," *Federal Register* 48, pg.44734-44737; and Bense et al. (1986).

VII. Reporting Requirements

Progress Reports – Brief, weekly progress reports are to be provided to MDOT in written format. These reports should be faxed or emailed to the MDOT Environmental Engineer and Chief Archaeologist each Monday morning, beginning the first week after notification of the award of the contract and ending one week after the completion of fieldwork. The progress reports may be brief, but should provide enough information to keep MDOT current on the progress and results of the Phase II investigations.

Management Summary – Three copies of a written Management Summary summarizing the results of the fieldwork and proposed cultural resources management recommendations must be submitted to MDOT within 30 days of completion of the

archaeological fieldwork. The Management Summary must include sufficient information and adequate documentation for MDOT and MDAH to:

- 1) assess the location and nature of the cultural resources within and immediately adjacent to the proposed ROW;
- 2) evaluate the National Register eligibility of each cultural resource pursuant to 36 CFR 60.4; and
- 3) determine appropriate resource management decisions for each cultural resource.

Draft Report – Three copies of a written Draft Report (one unbound) detailing the results of the literature review, fieldwork, laboratory analyses, and evaluation/assessment is required within six months of the completion of the fieldwork on all aspects of the investigations. The draft report should be complete in conforming to all the requirements of the final report. This report will be reviewed by MDOT staff archaeologists and returned for revision (if necessary) within two weeks.

Final Report – The final report should describe the nature and results of the investigations; assess the presence and nature of cultural resources within and immediately adjacent to the rights-of-way; evaluate the National Register eligibility of each resource pursuant to 36 CFR 60.4; and provide any recommendations for further work.

A minimum of 17 printed (one unbound) and three electronic (in Adobe PDF format) of the final report must be submitted within one month of the receipt of the reviewed draft report. MDOT will submit the final report along with comments to MDAH for final review and comment. When MDAH returns its evaluation and comments to MDOT, the report will be returned to the contractor for completion of the final document. The completed final report must be submitted within two weeks of receipt of the MDAH's comments on the final report. The final report will be considered for publication by MDOT in consultation with the authors.

VIII. Archaeological Investigations of Submerged Resources

All underwater archaeology investigations must abide by the same U.S. federal laws, regulations, and standards, and the MDOT guidelines on terrestrial archaeology, cultural resource management and responsibilities. The MDOT guidelines include the basic techniques to be applied to each cultural resource investigation and should be expounded according to the correlating scope of work. The MDAH *Guidelines for Archaeological Investigations and Reports in Mississippi* (1999) must also be consulted for guidance. National Register eligibility for most submerged cultural resources will be determined using the established criteria (see National Register Bulletin 36).

Note: MDOT requires blank copies of all forms used in the underwater investigation(s) conducted by the contractor/Principal Investigator to be included in the data recovery plan.

Potentially significant submerged sites must be tested under the direct supervision of a Principal Investigator specializing in submerged sites. Inspection by divers, coring or other appropriate means must be used to test the nature of the site. Diver safety is a prime concern for MDOT; therefore, Principal Investigators are required to submit an Underwater Dive Safety Plan to the contracted engineer and/or CRM firm(s) for approval prior to any diving activity (see the most recent U.S. Army Corps of Engineers Safety and Health Requirements Manual for detailed information). In addition, the contracted engineer and/or CMR firm(s) will ensure the following:

- 1) divers are medically fit to dive;
- 2) divers are experienced with the equipment used for diving;
- 3) divers are experienced with the tasks performed during submerged investigations;
- 4) standby divers meet the same requirements as above;
- 5) all divers are knowledgeable in underwater archaeology;
- 6) all dives must be kept by a timekeeper and recorded; and
- 7) documentation of the above information must be presented to the MDOT Environmental Division and MDAH prior to fieldwork.

During Phase I testing, the Principal Investigator will locate potentially significant submerged sites and record the following information:

- 1) latitude coordinate of the site in degrees;
- 2) longitude coordinate of the site in degrees;
- 3) 7.5' National Topographic System (NTS) map reference number;
- 4) Universal Transverse Mercator (UTM) grid zone reference and northing and easting coordinates;
- 5) any aerial photography showing location of the site;
- 6) name or description of the major water body that contains the site (e.g., strait, inlet, channel, major drainage);
- 7) name or description of the minor water body associated with the site (e.g., harbor, cove, bay);
- 8) a detailed description of the site features to aid site relocation via hydrographic chart and topographic map;
- 9) detailed information regarding boat and diver access to the site, including nearby major roads, communities, and boat launches, as well as owner's name and address of land used for diver access; and
- 10) elevation of the wreck site above or below Hydrographic Chart Datum, and for fresh water sites, a second set of elevations relating the site to local mean water level. [Province of British Columbia, 1999, Foster, ed.]

Note: Record the location data in concert with a Differential Global Positioning System (GPS). Locations of artifacts will change due to uncontrollable forces and must be re-established.

Submerged site description should include the following:

- 1) identification of vegetation abundance in and around the site, using scientific names with common names enclosed in parentheses;
- 2) description of the bottom type as in the natural geological characteristics;
- 3) summarize the environment of the site, including dynamic conditions that may affect the site and/or working conditions;
- 4) provide a general description of the site, documenting extent and condition of the site
- 5) for submerged vessels, this should include attitude of vessel, three-dimensional status, scatter extent, the overall stability of the structure's remains, and the percentage estimate of the original vessel presently intact; and
- 6) assess the degree of recent impact in terms of "high, medium, or low", including evidence of human impact (e.g., dredging, area shipping, vandalism, salvage, unnatural deterioration). [Foster, ed. 1999]

Submerged vessel description should include the following:

- 1) compass orientation of the hull towards the bow, if possible;
- 2) note units of linear measurements used for all dimensionally descriptive fields;
- 3) provide the size of the site in the two dimensions which best represent maximum width and maximum length of the area, including the isolated secondary features and the scatter field;
- 4) estimate vessel size in two dimensions of the primary site feature (i.e., the most extensive hull section);
- 5) list location by magnetic bearing and distance of all secondary features;
- 6) define maximum length and width of the site;
- 7) list the estimated minimum original length of the vessel;
- 8) list the estimated minimum breadth at the longitudinal center of the vessel;
- 9) record the maximum depth of the hold;
- 10) record the number of actual and estimated decks;
- 11) list the actual or estimated number of cargo hatches which can be observed;
- 12) describe the construction material(s) of the hull, listing the composite construction and wood species, when possible and the hull type;
- 13) describe the stern type exhibited by the vessel;
- 14) list hull sheathing or absence of sheathing and material type;
- 15) note the presence of the rudder and its basic measurements;
- 16) provide site evidence for cause of loss, when possible;
- 17) indicate presence of rigging components;
- 18) describe in detail all dimensions of the vessel's timbers, planks, etc.;
- 19) describe in detail the primary and secondary mode of propulsion; and
- 20) include any vessel/site description or observations pertaining to the general description that are not specifically requested in this guideline.[Foster 1999]

Description of artifacts recovered from a submerged site must include the following:

- 1) list, in order of apparent abundance, artifacts which make up the vessel's cargo;
- 2) include bulk items, such as coal, on the above list;
- 3) record shipboard stores and equipment;
- 4) list artifacts found on the site which belong to the vessel's regular stores/equipment, including navigational instruments, tools, galley implements, personal effects, and the location of each;
- 5) list artifacts known to have been removed from the site prior or during the survey, providing date of removal, rough site provenience, and current location where possible. [Foster 1999]

During Phase II testing, the Principal Investigator will:

- 1) perform submerged test excavations by locating and making hands-on diving examinations of anomalies or features;
- 2) provide a seaworthy survey vessel, crew and fuel sufficient to perform the work adequately and expeditiously; and
- 3) use state of the art survey techniques, methods, and equipment.

During Phase III, mitigation, the following should be noted:

- 1) the mitigation of impacts or effects on an eligible property can take several forms (e.g., relocating, changing or modifying proposed project to avoid impact);
- 2) mitigation is a continuation and expansion of the Phase II investigation;
- 3) the data recovery plan must be detailed, addressing research questions, the proposed analysis and expected results; and
- 4) the data recovery plans must include justification for project expenditures.

IX. Discovery of Human Remains

If a proposed project area contains, or is likely to contain, human remains (e.g., based on the proximity of known burials, historic records, oral accounts, or the results of previous investigations), the principal investigator must consult with MDOT to determine an appropriate course of action.

The *Federal Native American Graves Protection and Repatriation Act* (NAGPRA), (25 USC 3001-3013), establishes protection and procedures for the treatment of Native American burials located on federally-owned property or Indian lands. NAGPRA gives certain rights regarding the treatment and disposition of human remains, funerary objects, sacred objects and object of cultural patrimony to lineal descendents and to federally recognized Indian tribes when these groups demonstrate cultural affiliation.

The law encourages the avoidance and preservation of archaeological sites which contain Native American burials on federal lands. NAGPRA requires federal agencies to consult with qualified culturally affiliated Indian tribes or lineal descendants prior to undertaking any archaeological investigations which may encounter human remains or upon the unanticipated discovery of human remains on federal land. The consulting parties decide the appropriate treatment and disposition of human remains and other cultural items recovered.

If human remains are discovered during construction, those resources warrant exceptional care and consideration:

- 1) It is the responsibility of the contractor/archaeologist to comply with all state and federal legislation concerning archaeological sites and the treatment of Native American human remains encountered during archaeological investigations.
- 2) The USDA National Forest Service has additional internal guidelines governing the treatment of human remains.
- 3) If non-Native American human remains are discovered, the principal investigator should immediately notify MDOT, the county coroner, sheriff, and/or board of supervisors to begin consultation.
- 4) Should Native American remains be discovered, all archaeological activities (e.g., shovel testing, test excavations, mechanical stripping) must cease immediately in that area. The field archaeologist must immediately contact MDOT Environmental Division for further instruction.
- 5) In the absence of Federal involvement, if aboriginal burials are encountered on state, county, municipal or private land, the field archaeologist must immediately contact MDOT Environmental for further instruction.
- 6) There shall be no public exhibition or display of any human remains, associated funerary objects or burial site(s) discovered during the investigations.
- 7) There shall be no photographs taken of any human remains, associated funerary objects or burial site(s) discovered during the investigations, other than the photographs used for the report documentation and scientific investigation.

The Mississippi Department of Archives and History's Board of Trustees have the responsibility under the State Antiquities Law (39-7-31) to consider and permit, if deemed appropriate, the excavation of prehistoric or historic Indian burials. A permit from MDAH and permission from the land owner must be obtained before any action on the burial site is allowed.

MDAH has established guidelines to prevent confusion and clarify directives on burial excavations. The directives pertaining to MDOT's requirements are listed below:

- 1) No permit will be issued unless the excavation is to be performed or supervised by an archaeologist meeting the minimum professional qualifications outlined in the Secretary of the Interior's *Standards and Guidelines, Archaeology and Historic Preservation's* "Professional Qualifications Standards" (*Federal Register* 48:190, Part IV, 44738-44739).

- 2) Although, MDAH “recommends” a physical anthropologist be present during the excavation, MDOT requires the presence of a physical anthropologist during the excavation of human remains to insure the maximum recovery of data.
- 3) MDAH will issue a permit to excavate burial(s) when there is a threat to the integrity of the burial(s) through development which is clearly in the public’s interest.
- 4) MDAH has the authority to deny the participation in excavation of a burial site(s) of any archaeologist. To prevent such an occasion, the contractor/archaeologist should address the following information in written proposals:
 - a. adequacy of crew size and experience;
 - b. laboratory and temporary curation facilities;
 - c. arrangements for long-term curation; and
 - d. arrangements for re-burial of remains. [Sims/MDAH 1999]

X. Contact Information

Environmental Engineer
Mississippi Department of Transportation
Environmental Division
P.O. Box 1850 87-01
Jackson, MS 39215-1850
Office (601) 359-7920
Fax (601) 359-7355

Archaeology Department
Mississippi Department of Transportation
Environmental Division
P.O. Box 1850
Mail Code 87-01/AR
Jackson, MS 39215-1850
Office (601) 359-1475/1476
Fax (601) 359-1910

For curation deliveries:
2567 North West Street
Building D, #153
Jackson, MS 39216-3840

State Archaeologist
Mississippi Department of Archives and History
P.O. Box 571
Jackson, MS 39205-0571
Office (601) 576-6940
Fax (601) 576-6955

SHPO Review and Compliance Officer
Mississippi Department of Archives and History
P.O. Box 571
Jackson, MS 39205-0571
Office (601) 576-6850
msshpo@mdah.ms.us

National Register of Historic Places
U.S. Department of Interior, National Park Service
P.O. Box 37127
Washington D.C. 20013-7127

XI. References & Resources

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APPENDICES

- Appendix A.** List of federal laws, regulations, standards, and guidelines and executive orders relevant to MDOT requirements (pg. 27)
- Appendix B.** Definitions (pg. 28 - 30)
- Appendix C.** MDOT Archaeological Collections Curation Guideline (pg. 31 – 36)

Appendix A: Federal Laws, Regulations, Standards, and Guidelines, and Executive Orders Relevant to MDOT's Requirements

- **Department of Transportation Act, *Declaration of Purpose***, Public Law 97-449, (49 USC 303), as amended.
- **Abandoned Shipwreck Act of 1987**, (43 USC 2121-2106).
- **American Antiquities Act of 1906**, (16 USC 431), as amended.
- **American Battlefield Protection Act of 1966**, (16 USC 469k).
- **Archaeological and Historic Preservation Act of 1974**, (16 USC 469-469c-2), as amended.
- **Archaeological Resources Protection Act of 1979**, (16 USC 470aa-mm), as amended.
- **Curation of Federally-Owned and Administered Archaeological Collections**. (35 CFR 79).
- **Mississippi Antiquities Law**, (39-7-3 et seq. of the Mississippi Code of 1972), as amended.
- **National Historic Preservation Act of 1966**, (16 USC 470 et seq.).
- **Native American Graves Protection and Repatriation Act of 1990**, (25 USC 3001 et seq.), as amended; final rule (36 CFR Part 61).
- **National Register of Historic Places**, (36 CFR 60), and **Determinations of Eligibility for Inclusion in the National Register**, (36 CFR 63).
- **Preservation, Arrangement, Duplication, Exhibition of Records**, (44 USC 2109).
- **Preservation of American Antiquities**, (36 CFR 61).
- **Procedures for State, Tribal, and Local Government Historic Preservation Programs**, (36 CFR 61).
- **Protection of Archaeological Resources**, (43 CFR 7).
- **Protection of Historic Properties**, (36 CFR 800).

APPENDIX B: DEFINITIONS

The following definitions are to ensure both understanding of the concepts presented in this document and the conformity of state and federal laws and regulations.

1. Area of Potential Effects (APE) – “the geographic area or areas 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 an undertaking and may be different for different kinds of effects caused by the undertaking” (36 CFR Part 800.16[d]). The effect caused by the undertaking can be direct, indirect, cumulative, visual, atmospheric, audible, beneficial, or adverse.
2. Archaeological Site – Any apparent location of human activity not limited to the simple loss, or casual or single-episode discard of artifacts. A site has sufficient archaeological evidence to indicate that further testing would produce interpretable archaeological data.
3. Archaeological Survey - An intensive, systematic and detailed examination of a designated area to identify all archaeological sites within the APE, and evaluate those sites against the criteria for inclusion in the National Register of Historic Places (NRHP), in accordance with 36 CFR Part 60.
4. Burial Site – “...means any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which as a part of the death rite or ceremony of a culture; individual human remains are deposited” (United States Department of the Interior [USDI], 25 USC 3001, as amended).
5. Component – The major period(s) of occupation at an archaeological site or isolated find based upon recovered artifacts.
6. Phase - “An archaeological unit possessing traits sufficiently characteristic to distinguish it from all other units similarly conceived, whether of the same or other cultures or civilizations, spatially limited to the order of magnitude of a locality or region and chronologically limited to a relatively brief interval of time” (Willey and Phillips 1958:22).
7. Consultation – “The process of seeking, discussing, and considering the view of other participants, and where feasible, seeking agreement with them regarding matters arising in the section 106 process” (36 CFR Part 800.16[f]). The Secretary’s “Standards and Guidelines for Federal Agency Preservation Programs pursuant to the National Historic Preservation Act” provide further guidance on consultation.

8. Consulting Parties – An agency official “shall involve the consulting parties...in findings and determinations made during the section 106 process” (36 CFR Part 800.2[a][4]). Depending on the undertaking, consulting parties can include the State Historic Preservation Officer (SHPO); Tribal Historic Preservation Officer (THPO); Indian Tribes; representatives of local governments; and applicants for Federal assistance, permits, licenses and other approvals (36 CFR Part 800.2[c][1-5]).

9. Cultural Affiliation – “...means that there is a relationship of shared group identity which can be reasonably traced historically or prehistorically between a present day Indian tribe...and an identifiable earlier group” (NAGPRA, 25 USC 3001).

10. Cultural Items – “...means human remains and ~
 - a. ‘associated funerary objects’ which shall mean objects that, as a part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later, and both the human remains and associated funerary objects are presently in the possession or control of a Federal agency or museum, except that other items exclusively made for burial purposes or to contain human remains shall be considered as associated funerary objects.
 - b. ‘unassociated funerary objects’ which shall mean objects that, as a part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later, where the remains are not in the possession or control of the Federal agency or museum and the objects can be identified by a preponderance of the evidence as related to specific individuals or families or to known human remain or, by a preponderance of the evidence, as having been removed from a specific burial site of an individual culturally affiliated with a particular Indian tribe.
 - c. ‘sacred objects’ which shall mean specific ceremonial objects which are needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present day adherents, and
 - d. object of ‘cultural patrimony’ which shall mean an object having ongoing historical, or cultural importance central to the Native American group or culture itself, rather than property owned by an individual Native American, and which, therefore, cannot be alienated, appropriated, or conveyed by any individual regardless of whether or not the individual is a member of the Indian tribe...and such object shall have been considered inalienable by such Native American group at the time the object was separated from such group. [NAGPRA, 25 USC 3001)

11. Data Recovery Plan – When a proposed plan will cause an adverse effect to a recognized historic property or a property eligible for the National Register, MDOT initiates consultation with the SHPO (36 CFR Part 800.6[a]). A data

- recovery plan must be developed and approved by MDOT, the SHPO, and other involved parties. “A responsible archeological data recovery plan should provide for reporting and dissemination of results.... Adequate time and funds should be budgeted for fulfillment of the overall plan” (Advisory Counsel on Historic Preservation, [ACHP], 1999).
12. Evaluation – The process of determining whether identified properties meet defined criteria of significance for inclusion in an inventory of historic properties (*Federal Register* 48:44723). Under most circumstances the evaluation should follow the criteria set forth in 36 CFR Part 60.4 for inclusion in the NHRP.
 13. Federal Agency – “...means any department, agency, or instrumentality of the United States” (NAGPRA, 25 USC 3001).
 14. Historic Property – “A district, site, building, structure, or object significant in American history, architecture, engineering, archaeology or culture at the national, state, or local level” (*Federal Register* 48:44721).
 15. Indian Tribe – “...means any tribe, band, national, or other organized group or community of Indians...which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians” (NAGPRA, 25 USC 3001).
 16. Isolated Find – No more than two historic or prehistoric artifacts found within a 30 meter radius. Deposits of artifacts that lack integrity, such as road fill, stream gravel, or other situations where artifacts were clearly re-deposited should be considered isolated finds.
 17. Occupation – “A spatial cluster of discrete objects which can reasonably be assumed to be the product of a single group of people at that particular locality deposited over a period of continuous residence comparable to other such units in the same study” (Dunnell 1971/2002:151)
 18. Reconnaissance Survey – “An examination of all or part of an area accomplished in sufficient detail to make generalizations about the types and distributions of historic properties that may be present” (*Federal Register* 48:44739). Reconnaissance surveys are useful when there are multiple alternatives for a project location, or when it is necessary to assess the archaeological potential of areas that will not be immediately affected or subject to Section 106 requirements.
 19. Tribal Lands – “All lands within the exterior boundaries of any Indian reservation and all dependent Indian communities” 36 CFR Part 800.16[x].

Appendix C: Mississippi Department of Transportation Archaeological Collections Curation Guidelines

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Introduction

The goal of the following *minimum* curation standards is to ensure that all archaeological collections receive appropriate processing, packaging, documentation, and curation. The Environmental Division of the Mississippi Department of Transportation (MDOT) requires the following provisions in order to standardize curation practices, ensure professionally acceptable treatment of archaeological materials, and facilitate the availability of collections and documentation for future research. MDOT reserves the right to waive all or portions of these standards for extraordinary circumstances. Collections submitted without meeting these stipulations in their entirety will be rejected.

CURATION GUIDELINES

These standards outline overall procedures for the cleaning, labeling, cataloging, packaging, documentation, and curation of collections (including material remains and records). However, these standards are not intended to substitute for more detailed laboratory methods and procedures. It is assumed that archaeologists will employ the best applicable current standards of professional knowledge in their treatment of artifacts and records. The procedures presented herein are *minimum* standards. Professionals are encouraged to utilize additional professionally recommended procedures for the treatment and curation of archaeological materials and records, whenever appropriate.

1. Cleaning

- a.** Clean all materials using nondestructive and reversible techniques. Exceptions are permitted when cleaning has the potential for destroying archaeological data. These artifacts must be packaged separately from the rest of the collection. Containers with these special artifacts must be clearly marked, and any specific instructions must accompany the artifacts. The artifact inventory must note the artifact's unwashed condition.

- b. Document all techniques and materials used in processing a collection, including the restoration or conservation of artifacts. Instructions and documentation must accompany the collection when submitted.

2. **Labeling**

- a. Artifacts that are labeled (i.e., diagnostics, tools, and refitted specimens from multiple proveniences) must be permanently labeled with intrasite provenience designation including the official site number. *Additional designations may be added following the official site and provenience information, if desired, to suit individual cataloging and analysis needs.*
- b. These designations should be written on the items with permanent ink, such as Sakura7, Staedtler7, or Sakura Pigma pens. Apply a thin base coat and/or topcoat of Acryloid B-72 or polyvinyl acetate (PVA) when labeling specimens, *only as needed*, to secure the ink on the artifact surface. Artifacts, such as glass, should have a topcoat applied to prevent smearing and/or removal of labeling. Dark specimens are to be labeled with permanent white ink, coated as above, or using Acryloid B-72 white solution as a base coat. MDOT Curation recommends marking pens with .005 or .01 widths for labeling artifacts. Do not use whiteout as a base coat or clear nail polish as a coating.
- c. Groups of artifacts similarly classified from the same provenience and less than ½ inch in size do not have to be numbered individually. Examples may be lithic debitage, plain shell or grog tempered pottery, flat glass, nails, and bottle glass fragments. All faunal material which can be physically labeled should be labeled. Bones too small for individual marking should be placed in a labeled, zip locking bag. It is recommended that bones within a provenience unit be bagged separately by zoological class to prevent or reduce the crushing of fragile remains. [AAS]
- d. Other artifacts must be placed in perforated polyethylene white-blocked zip-lock bags (minimum thickness = 2 mil). Paper artifact bags, metal twist ties, open containers, and plastic film canisters will not be accepted. Provenience information and official site number must be written in permanent black marker on the bag's exterior, and must be duplicated with permanent ink on archival-quality tags/labels (i.e., acid-free and lignin-free paper). Information handwritten on tags/labels must be written in archival ink.
- e. Tags in bags of shell, metal, bone, soil samples, or any materials which may deteriorate/stain labels should be put in 2x3 inch 2-mil zip locking bags to prevent contact with other artifacts.

3. **Packaging**

- a. Radiocarbon samples should be submitted in glass containers (if sample is from acidic sediments) or in aluminum foil packets placed inside a zip-locking polyethylene bag. There must be labels inside the bag or glass container (the label should be in a zip-locking polyethylene bag). Labels must indicate if a portion of the sample has been submitted for dating.
- b. All other classes of material remains (i.e., floral and faunal samples) must be placed in acceptable, sealed perforated containers and permanently labeled with the provenience information and the official site number.
- c. Bulk samples (e.g., matrix, soil, lithic debitage) must be double-bagged, and an easily readable acid-free, lignin-free paper tag must be placed between the two bags. Do not over-pack, and keep the bags upright with heavy materials on the bottom of the container. Open-ended polyethylene bags can be used for bulk samples, but the tops should be well secured. Staples are not acceptable. In the case of soil, matrix, pollen, macrobotanical, fine-screen, and/or floatation samples, another label inside its own closed zip-locking bag must be placed with the sample inside the inner bag. Labels must indicate if a portion of the sample has been removed for analysis. It is important that all samples be completely dry before being enclosed in their containers.
- d. Material must be packed in standard archive boxes (15" x 12" x 10") with lids and must be appropriately grouped and packed with respect to weight and fragility. No box is to weigh more than thirty (30) pounds. Labels must be attached to the outside of the box indicating the site number, accession number, box number (e.g., box #1 out of 10), and range of catalog numbers included in the box. An inventory sheet, typed or copied on acid-free paper, detailing the contents must be included in each box. The inventory sheet should include counts and/or weights of artifacts by bag and box.
- e. Certain types of material can have questionable long-term research value and do not warrant permanent curation with the collection. These materials can include brick, mortar, slag, coal, shell, and twentieth century debris less than 50 years old. It may be prudent to discard these items following analyses, rather than to permanently curate the materials with the collection. The principal investigator, in consultation with MDOT archaeologists, must employ the best professional knowledge and judgment to decide the most appropriate disposition of these materials. Factors to consider in reaching the decision to selectively discard materials include the archaeological context of recovery, the items' research potential, and the amount and manageability of the materials. The principal investigator must carefully consider the potential *future* research value of the items. Items slated for selective discard must be analyzed and cataloged. The collection's catalog must specify the types and quantities of discarded materials, along with the justification for the selected disposition, and note that the items were discarded.

- f. If the need to curate anything unusual is anticipated, or if clarification of these procedures is needed, please contact MDOT Archaeology at (601) 359-1475 or (601) 359-1476, fax number 601-359-1910.

4. **Photographic Materials and Maps**

- a. Due to the instability of color film and short shelf-life expectancy, MDOT strongly recommends the use of Kodachrome film when photo-documenting. All photographs must be printed with a standard finish (i.e., matte, glossy, satin) and should be at least 3x5 inches. Each photograph must be labeled with a film-marking pencil for handwritten information. Sharpies are forbidden, as they tend to bleed through the image over time. Photographic materials must minimally be reconciled with the photographic log's roll and shot number. Negatives and slides must be submitted in polyethylene sleeves. Prints or the contact sheet must be placed into polyethylene plastic sleeves and the roll number clearly written on the back. For further advice concerning photographing significant archaeological sites refer to the National Register Bulletin 16A, *How to Complete the National Register Form and National Register*, National Register Bulletin 20, *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places*, and National Register Bulletin 23, *How to Improve the Quality of Photos for the National Register Nominations*. The American National Standards Institute (ANSI) periodically publishes standards related to photography.
- b. Any large format maps must be submitted in archival folders. Folders can be purchased at any archival supplier and range in size from ledger to larger than a standard 7.5' topographic map. Multiple maps can be submitted in one folder with acid-free tissue paper between the maps for protection.

5. **Cataloging Material Remains and Records**

All collections, including the material remains and associated records must be inventoried. An itemized descriptive catalog(s) must accompany all collections. All catalog records and reports must be on an electronic medium. The catalog must provide a detailed description of the items, identifying and classifying the archaeological materials and records according to best current professional standards. A detailed catalog will help minimize the need for subsequent handling of the actual objects themselves. Catalogs are frequently prepared and maintained in a computer database. MDOT requires submittal of a copy of the computer database on standard computer storage media, with appropriate labeling and identification of utilized software, with the collection for permanent curation. However, one archival stable paper copy of the inventory also must accompany the collection.

6. **Human Remains**

It is the responsibility of the contractor/archaeologist to comply with all state and federal legislation (e.g., Mississippi Antiquities Law, Native American Graves

Protection and Repatriation Act) concerning archaeological sites and the treatment of Native American human remains encountered during archaeological investigations. Additionally, some agencies have internal guidelines governing the treatment of human remains (e.g., USDA Forest Service Human Remains Policy), and these must also be consulted when applicable.

Non-modern human remains recovered during archaeological investigations for MDOT are to be curated at the MDOT Environmental Curation Facility or reburied after scientific analysis. The decision on whether to require reburial will be determined by MDOT and Native American tribes that demonstrate a clear affiliation with the remains in question.

7. **Submission of Material Remains and Records**

- a. Shipment/transmittal of collections is the responsibility of the contracted archaeologist. Collections must be packaged using inert material and sufficiently secured to avoid any damage from transport. Collections will not be accepted unless the MDOT archaeology staff receives notification at least 48 hours prior to delivery and issues a verbal approval for the transmittal.
- b. Acceptance of any collection is subject to inspection and approval by the MDOT archaeology staff. Collections not meeting the minimum requirements stipulated herein will be returned at the expense of the contracting firm.
- c. Collections must be delivered to the following address:

Mississippi Department of Transportation
Environmental Division Curation Facility
2567 North West Street, Building D
Jackson, Mississippi 39216-3840
- d. A form similar to the one below will be provided by the receiving MDOT personnel and must be completed at the time of delivery.

DATE _____

PROJECT _____

PRINCIPAL INVESTIGATOR _____

AGENCY/CONTRACTOR _____

ADDRESS: _____

TELEPHONE NUMBER _____

The artifacts and documents described in this form were recovered as the result of:

PROJECT TYPE: Phase I/Survey Phase II/Testing Phase III/Mitigation Other

SITE NUMBERS _____

The artifacts and documents described in this form were delivered by (print name, sign, date):

DELIVERY PERSON _____

AFFILIATION _____

ACCEPTANCE

PERSON _____

COMMENTS _____
