TITLE 4 CULTURAL RESOURCES
CHAPTER 10 CULTURAL PROPERTIES AND HISTORIC PRESERVATION
PART 16 STANDARDS FOR EXCAVATION AND TEST EXCAVATION

4.10.16.1 ISSUING AGENCY: Cultural Properties Review Committee. Contact State Historic Preservation Division, Department of Cultural Affairs.
[4.10.16.1 NMAC - N, 1/01/06]

4.10.16.2 SCOPE: This rule applies to all public and private entities, including but not limited to individuals, corporations, partnerships, trusts, associations, educational institutions, foundations, museums and any agency of the federal government proposing to conduct archaeological investigations on any lands owned or controlled by the state of New Mexico. Political subdivisions of the state such as counties or municipalities may incorporate the following into their regulations and ordinances affecting private land.
[4.10.16.2 NMAC - N, 1/01/06]

4.10.16.3 STATUTORY AUTHORITY: Section 18-6-5 (NMSA 1978) of the Cultural Properties Act.
[4.10.16.3 NMAC - N, 1/01/06]

4.10.16.4 DURATION: Permanent.
[4.10.16.4 NMAC - N, 1/01/06]

4.10.16.5 EFFECTIVE DATE: January 1, 2006, unless a later date is cited at the end of a section.
[4.10.16.5 NMAC - N, 1/01/06]

4.10.16.6 OBJECTIVE: To establish standards and procedures to excavate archeological sites and areas of historic and scientific interest and to conduct test excavations of archaeological sites on land owned, controlled or operated by a department, agency, institution or political subdivision of the state.
[4.10.16.6 NMAC - N, 1/01/06]

4.10.16.7 DEFINITIONS:

A. **"Archaeological investigation"** means the study of archaeological sites, isolates and other cultural properties and areas of historic and scientific interest including without limitation survey and inventory, examination, collection, limited tests, test excavation, excavation and monitoring.

B. **"Archaeological site"** or **"site"** means a location where there exists material evidence of the past life and culture of human beings in the state. A significant archaeological site typically is 50 or more years old. Examples of archaeological sites include without limitation campsites, pueblos, homesteads, artifact scatters, resource procurement or processing areas, agricultural fields, locales with one or more features in association with other cultural materials, and locales that have the potential for subsurface features or cultural deposits.

C. **"Areas of historic and scientific interest"** means areas lacking surface evidence of cultural properties but where there is a high probability of finding subsurface material remains and cultural deposits or areas suitable for geomorphological or paleoenvironmental study.

D. **"Committee"** or **"CPRC"** means the cultural properties review committee**,** created pursuant to Section 18-6-9 of the Cultural Properties Act.

E. **"Cultural property"** or **"cultural resource"** means a structure, place, site or object having historic, archaeological, scientific, architectural or other cultural significance.

F. **"Excavation"** means displacing, disturbing or moving earth, soil, dirt, other deposits or material remains from their current contexts or significant orientation in, or on, the ground within the boundaries of an archaeological site, isolate or area of historic and scientific interest using hand tools or mechanical earth-moving equipment.

G. **"Historic preservation division"** or **"HPD"** means the division within the department of cultural affairs created pursuant to Section 18-6-8A of the Cultural Properties Act.

H. **"Human burial"** or **"unmarked human burial"** means a human body or human skeletal remains and includes any funerary object, material object or artifact buried, entombed or sepulchered with that human body or skeletal remains.

I. **"Material remains"** means any tangible evidence of past human life or activities. Such evidence includes without limitation:

(1) naturally occurring objects or raw materials extracted for use in the production of human-made objects or for other uses by humans that can be found within an archaeological site, or another context from which intended or actual human use can be reasonably inferred;

(2) items manufactured or modified by humans, including whole or fragmentary tools, implements, containers, and other objects such as pottery, ceramics, basketry, cordage, weavings, textiles, glassware, flaked stone, ground stone, pecked stone, worked bone, metal, wood, hide, feathers and pigments;

(3) byproducts, waste products and debris resulting from the manufacture or use of human-made items or from the human use of natural materials;

(4) organic material deposited through human actions, organic material remaining from the decay of perishable objects manufactured or modified by humans, and organic material deposited through natural processes when found within an archaeological site including without limitation soil or sediment samples, botanical and animal remains and coprolites; or

(5) human remains including without limitation bone, mummified flesh, teeth, the remains of cremations, any associated artifacts and objects, and the soil, sediments, or other matrix in which the human skeletal or mummified remains and associated artifacts and objects were deposited or are now associated.

J. "Mechanical earth-moving equipment" means any motorized machine or device that is capable of displacing, disturbing or moving earth, soil, dirt or other deposits or materials from their current contexts or significant orientation in, or on, the ground, including without limitation trenchers, backhoes, graders, scrapers, bulldozers and front-end loaders.

K. "Monitoring" means the presence of and visual inspection by a supervisory archaeologist on the ground immediately prior to and during ground-disturbing actions to ensure site protection, avoidance of site deposits or recovery of information from newly discovered cultural properties.

L. "Museum of Indian arts and culture-laboratory of anthropology" or **"MIAC"** means the museum division within the department of cultural affairs, museum of New Mexico, that serves as the repository for archaeological materials and associated records and documents taken or collected from state land.

M. "National register of historic places" or **"national register"** means the official federal register of historic properties maintained by the U.S. department of the interior, national park service.

N. "New Mexico cultural resource information system" or **"NMCRIS"** means the statewide archaeological and cultural properties database maintained by archaeological records management section (ARMS) within the historic preservation division that maintains the database and associated records and documents pursuant to Section 18-6-7A of the Cultural Properties Act.

O. "Permit" means the written authorization required for all public and private entities to conduct archaeological investigations of a particular kind, within a defined geographic location and for a specified period of time, all of which are specified in the written authorization.

P. "State agency" means a department, agency, institution or political subdivision of the state.

Q. "State archaeologist" means the archaeologist designated pursuant to Section 18-6-15 of the Cultural Properties Act.

R. "State historian" means the historian designated pursuant to Section 18-6-14 of the Cultural Properties Act.

S. "State historic preservation officer" or **"SHPO"** means the individual appointed pursuant to Section 18-6-8 of the Cultural Properties Act and serves as the director of the historic preservation division.

T. "State land" means property owned, controlled, or operated by a department, agency, institution or political subdivision of the state. Examples of state land, include but are not limited to: state trust lands managed by the commissioner of public lands; New Mexico department of transportation rights of way and easements; state parks; state monuments; state game and fish lands; county and municipal property including open space areas, leased lands, and rights of way; and lands owned or managed by public schools and state colleges and universities.

U. "State register" or **"official register"** means the New Mexico register of cultural properties maintained by the CPRC for the purpose of recording cultural properties deemed worthy of preservation.

V. "Written and photographic records" means original or legible duplicate site data, such as site forms, artifact forms, notes, drawings, tables, maps, plans, charts and other written materials, and prints, slides and other photographic records.

[4.10.16.7 NMAC - Rp, 4 NMAC 10.8.7, 1/01/06]

4.10.16.8 TEST EXCAVATION OF ARCHAEOLOGICAL SITES: Test excavation is the planned examination of a portion of an archaeological site to obtain more detailed and accurate information about the characteristics and integrity of surface and subsurface cultural deposits, the distribution and density of material

remains and the types of data present. Conduct test excavations to assess the research potential of the site to contribute to the knowledge of the heritage of the state, to make a determination whether the site should be listed on the state register or should be determined eligible for national register listing, or to serve as the basis for developing an excavation plan for the site without additional test excavations. Test excavation shall be designed to meet these objectives with the least possible impact to the archaeological site and without substantially damaging or diminishing the integrity of the cultural deposits and the values and attributes of the site that contribute to its significance.

A. General permits. Test excavation may be conducted under a general permit when a test excavation plan is prepared in conformance with 4.10.16.10 NMAC and authorized pursuant to 4.10.8 NMAC. The work shall be performed in accordance with the approved test excavation plan.

B. Project-specific permits. Test excavation may be conducted under a project-specific permit when a research design is prepared consistent with the standards in 4.10.16.13 NMAC and authorized pursuant to 4.10.8 NMAC. The work shall be performed in accordance with the approved research design.
[4.10.16.8 NMAC - N, 1/01/06]

4.10.16.9 TEST EXCAVATION STANDARDS UNDER A GENERAL PERMIT: Test excavation projects performed under a general permit shall be conducted in accordance with the following specifications and performed under the direct supervision of an archaeologist listed in the SHPO directory of qualified supervisory personnel (4.10.8.11 NMAC). Test excavations that deviate from these standards are allowed by obtaining a project-specific excavation permit pursuant to 4.10.8 NMAC.

A. Test excavation shall be conducted in a manner that the total surface disturbance resulting from the tests shall not exceed five percent (5%) of the total surface area of the site or five percent (5%) of the portion of the site that may be affected by a project, whichever is less. Test excavation that proposes to excavate more than 5% of a site constitutes excavation and shall follow the standards in 4.10.16.12 NMAC.

B. Site maps shall be produced using a high-quality optical transit, total station or alidade. Prepare a scaled map for each site and depict the grid layout, the datum, the location and shape of all features, artifact concentrations, test excavation units, auger tests, shovel tests, point-provenienced artifacts, site boundaries and the relationship of the site to nearby physiographic and man-made features. Each map shall contain the LA site number, north arrow, numbered metric scale, legend for symbols used on the map, name(s) of the recorder(s) and date of recording.

C. Controlled surface collections shall be accomplished using a grid system or by point provenience. The standard is 1-by-1 meter grid units for spatial control. Use of larger grid units is allowable only when explicitly justified and supported in the test excavation plan.

D. For systematic auger holes and similar tests, explain the placement, interval, minimum number of units and size of the area tested in square meters.

E. Test excavation of features is discouraged for features including but not limited to hearths, rock alignments, pit depressions, dispersed firecracked rock scatters, soil discolorations and other potential feature areas. Tests of features may be conducted only when essential to determine the research potential of the feature and fill shall be collected for laboratory analysis. All tests shall use hand tools and shall adopt the least destructive method to obtain the necessary information. Core the edge of a feature to determine depth, integrity and content. Complete excavation of features is prohibited.

F. Excavation shall be conducted by natural stratigraphy or arbitrary levels until natural strata are defined. Use 10-centimeter control or less for arbitrary levels. Consider maintaining 10-centimeter control within natural strata. Proposals to use levels thicker than the 10-centimeter control shall be clearly justified and supported in the test excavation plan and may be conducted only after the controlled excavation demonstrates the fill as noncultural or highly disturbed.

G. Sediments removed from all hand-excavation units shall be passed through a screen of no greater than one-quarter inch (6.35mm). Use a smaller screen size when deemed appropriate. Do not screen sediments from thermal features; collect thermal-feature fill for laboratory analysis. Additionally, sediments from a minimum of one hand-excavation unit comparably placed and of the same size as a unit that produced moderate to high artifact yields shall be passed through a screen of no greater than one-eighth inch (3.175 mm). Proposals to exclude overburden or disturbed contexts shall only be considered after controlled tests and fill screened to the standards have demonstrated that the fill is noncultural or highly disturbed. Screening all fill through one-eighth inch mesh is encouraged as standard practice.

H. Stratigraphic profiles shall be recorded by scale diagram, photographs and narrative descriptions. All strata and soil horizons shall be described using standard scientific terms. Describe the color using Munsell terminology or equivalent.

I. Mechanical excavation units may be used to define stratigraphy, locate subsurface features and cultural deposits and remove sterile overburden. Trenches excavated with mechanical earth-moving equipment shall conform to the following standards:

(1) collect surface artifacts prior to excavation of trenches or stripping areas with mechanical earth-moving equipment;

(2) depths for mechanical excavation trenches shall conform to OSHA standards for excavation safety (29 CFR 1926, Subpart P);

(3) document the location, depth, soil profile, artifact yield and other pertinent information;

(4) clean at least one profile with a shovel or trowel and inspect the profile for cultural features and material remains;

(5) document the trench profile in narrative, profile drawing and photographs; all strata and soil horizons shall be described using standard scientific terminology; deposit descriptions include but are not limited to sediment color, texture, moisture, content, nature of inclusions, organic content and an inventory of cultural materials; describe the color using Munsell terminology;

(6) examine the excavated area after the removal of each extracted bucket load;

(7) examine backdirt for the presence of artifacts; and

(8) if cultural materials extend deeper than the bottom of the trench, systematically auger the bottom of the trench to determine approximate depth of materials.

J. The bottom of the excavation units and trenches shall be lined with landscape cloth or shall be marked in some other fashion to indicate depth of disturbance.

K. Photographs may be in black-and-white print, color print, color transparency or digitally captured images. For greatest archival stability, black-and-white prints are recommended. At a minimum, photograph features and profiles.

L. Human burials. Excavation of human burials is prohibited under test excavation. If human burials are encountered, all work shall stop immediately in the area of the discovery. Notify local law enforcement pursuant to 4.10.11 NMAC. Document the location of the remains.

M. Backfill. After completion of test excavation, backfill and restore the site as nearly as possible to the pre-excavation condition, unless other provisions have been made in the test excavation plan.

[4.10.16.9 NMAC - N, 1/01/06]

[For one study on the use of one-eighth inch screen size, see Carmichael and Franklin (1997), Archaeological Screening Techniques and Their Effects on the Recovery of Lithic Artifacts, In *Archaeology of the Jornada Mogollon: Proceedings from the 10th Jornada Mogollon Conference*.]

4.10.16.10 TEST EXCAVATION PLANS UNDER A GENERAL PERMIT:

A. Purpose. Test excavation plans are methodological in orientation and are designed to secure specific descriptive information concerning the nature and extent of an archaeological site or area of historic and scientific interest. Test excavation plans typically do not contain statements of theoretical perspective, research questions, hypotheses for testing or other research-related issues. Those domains are part of a research design prepared in conjunction with a project-specific permit. The research implications of the work performed under a test excavation plan shall be presented and discussed as part of the conclusions in a test excavation technical report.

(1) Test excavation plans shall be specific and shall include a clear explanation of why the particular approach proposed is the best one for the project and for the site(s).

(2) The test excavation shall fulfill one or more of the following purposes:

(a) to assess the potential for additional study of the site(s) to contribute to the cultural heritage and knowledge of the state and to evaluate the significance of the archaeological site(s) pursuant to 4.10.15.16 NMAC;

(b) to assess the nature and extent of cultural deposits; and

(c) to prepare an appropriate excavation plan for sites that have the potential to contribute important historic and scientific information.

B. Components. The level of detail shall be proportionate to the scale of the project and shall conform to the test excavation standards in 4.10.16.9 NMAC. At a minimum, a test excavation plan shall include the items listed below.

(1) Title page. Do not obtain a NMCRIS number for the test excavation plan.

(2) Statement of purpose and approach. Provide a clear statement of the goals for the test excavation project and explain why the proposed strategy is appropriate to achieve the purpose. Describe the specific procedures proposed to test the site(s). If more than one site is involved, specify the activities to be performed at each site.

(3) Current knowledge of the site(s). Summarize previous work at the site, the site's eligibility, immediate environmental setting, land status, site size, the number and type of known features, the types and quantity of artifacts and activity areas, the potential depth of cultural deposits in different areas of the site, site integrity and extent of disturbed versus unexcavated areas.

(4) Field strategy. Describe the specific procedures proposed to test the site. If more than one site is involved, specify the activities to be performed at each site. Discuss the methods to:

(a) determine site limits;

(b) identify, document and assess features;

(c) define surface artifact distributions, densities and intrasite activity areas; and

(d) determine the depth of cultural deposits.

(5) Specify the proposed methods to conduct the following activities:

(a) map the site;

(b) surface collections and recordation including grid size or point provenience, the minimum number of grid units to be collected and recorded and sampling fraction (percent of site area collected and recorded);

(c) hand excavations, including the type(s) of hand excavation units and site-sampling fraction (the percent of site area tested for each unit type); explain the placement, interval, minimum number of units and size of the area tested in square meters for systematic auger holes and similar tests; for test pits and trenches, specify the size (dimensions), placement and minimum number of test pits and trenches to be excavated; and

(d) mechanical excavation including the type, placement and minimum number of units trenches and their length, width and depth; specify the percent of site area to be tested including horizontal scraping, with mechanical equipment.

(6) Specialized samples or specimens. Specify the proposed methods and conditions under which radiocarbon, pollen and other samples or specimens will be collected, processed and analyzed.

(7) Human burials. Discuss the procedures to be followed if human burials are encountered; excavation of human burials is prohibited.

(8) Contingencies. Discuss the proposed procedures and notification in the event of unanticipated discoveries.

(9) Backfill. Discuss the proposed procedures to backfill and stabilize the site(s).

(10) Laboratory analyses. Discuss the descriptive and comparative analytical methods proposed for each artifact class and each type of specimen expected to be recovered.

(a) Include the proposed classification system that will be used to describe the assemblage content and specific attributes to be observed.

(b) Include copies of all analysis forms in the appendix if they differ from the forms provided in the permit application submitted pursuant to 4.10.8 NMAC.

(c) Discuss sampling strategy and sampling fraction if all artifacts and specimens collected will not be analyzed.

(11) Schedule. Explain the expected time frame to implement the field, analysis and reporting phases of the project.

(12) Personnel. Identify all supervisory personnel and analysts who will perform the fieldwork, laboratory analyses and prepare the report. Include subcontractors if any are proposed and off-site laboratories for specialized analyses. If specific personnel or subcontractors have not been identified for all activities, provide a list of personnel or subcontractors who may be retained or list the minimum qualifications of the personnel that will be retained.

(13) Curation. Identify the proposed repository; if the repository will not be the MIAC, provide justification pursuant to 4.10.8 NMAC.

(14) References cited.

(15) Appendices as needed.

[4.10.16.10 NMAC - N, 1/01/06]

4.10.16.11 TEST EXCAVATION UNDER A PROJECT-SPECIFIC PERMIT:

A. Test excavation shall be conducted under a project-specific permit when the applicant:

(1) proposes to substitute alternate test excavation methods for the standards in 4.10.16.9 NMAC;

(2) proposes test excavation on state trust land undertaken independent of an activity authorized by rights of way, easements, grazing leases, business leases, oil and gas leases, mineral leases or other authority to enter state trust land; or

(3) does not have a general permit that authorizes test excavation.

B. The applicant shall prepare a research design consistent with 4.10.16.13 NMAC.

[4.10.16.11 NMAC - N, 1/01/06]

4.10.16.12 EXCAVATION STANDARDS:

A. Excavation shall be designed to recover information about those significant values for which a property is considered eligible for inclusion in the national register or listed on the state register. Excavation shall be guided by an explicit research design that identifies specific research topics, research questions and appropriate analyses. Field studies may include collection of surface and subsurface artifacts, subsurface tests to identify buried cultural lenses and features, controlled excavation of features and activity areas, and collection of specialized samples and specimens (radiocarbon, archeomagnetic, dendrochronological, flotation, pollen, paleoenvironmental, source materials). Use of mechanical earth-moving equipment may be appropriate. Laboratory analyses and analytical tasks include processing, cataloguing, analyses and curation of materials, analysis of specialized samples and preparation and production of technical and popular reports summarizing the results of the excavation program. All excavation and shall be performed under the direct supervision of an archaeologist listed in the SHPO directory of qualified supervisory personnel (4.10.8.11 NMAC).

B. The research design establishes the standards for excavation. Example standards are provided below. Exceptions to these standards may be proposed but shall be explained and justified in the research design.

(1) Site maps shall be produced with high-quality optical transit, total station or alidade. Prepare a map for each site and depict the grid layout, the location of the datum, the location and shape of all features, artifact concentrations, test excavation units, point-provenienced artifacts, site boundaries and the relationship of the site to nearby physiographic and man-made features. Each map shall contain the site number, north arrow, numbered metric scale, legend for symbols used on the map, name(s) of the recorder(s) and date of recording.

(2) Controlled surface collections shall be accomplished using a grid system or by point provenience. The size of the grid system is determined by the needs of the research design and shall be clearly justified and supported. Use of a grid system with 1-by-1 meter spatial control is standard. Maintain tight spatial control.

(3) All features visible on the surface shall be completely excavated unless the research design proposes a sampling strategy. Any decision to sample features shall be fully explained and justified in the research design. Consider whether the sample will produce sufficient specimens and special samples for analysis and if the sampling will provide sufficient relevant data to address the research questions. Features shall be excavated in profile in order to obtain a view of the cross section and shall be recorded in three dimensions. Profiles of the cross section shall be recorded by scale diagram and color transparencies. Plan view and cross section drawings of each excavated feature shall be prepared. All structures and features shall be recorded noting size, shape, construction detail, fill, probable function and relationship to other features and artifact activity areas. Separate feature forms shall be prepared for each feature. All features shall be numbered and labeled to correspond to the feature form.

(4) Excavation shall be conducted by natural stratigraphy or arbitrary levels until natural strata are defined. Proposals to use levels greater than 10-centimeter control shall be clearly justified and supported in the research design. Consider maintaining 10-centimeter control within natural strata.

(5) Sediments removed from all hand-excavation units shall be passed through a screen of no greater than one-quarter inch (6.35mm). Consider using a smaller screen size. Do not screen sediments from thermal features; collect thermal-feature fill for laboratory analysis. Additionally, sediments from a minimum of one hand-excavation unit comparably placed and of the same size to a unit that produced moderate to high artifact yields shall be passed through a screen of no greater than one-eighth inch (3.175 mm). Proposals to exclude sediments from being screened shall be clearly justified and supported in the research design.

(6) Stratigraphic profiles shall be recorded by scale diagram, photographs and narrative descriptions. Deposit descriptions include but are not limited to sediment color, texture, moisture content, nature of inclusions, organic content, and an inventory of cultural materials, if any. Describe the color using Munsell terminology.

(7) Mechanical excavation units may be used to define stratigraphy, locate subsurface features and cultural deposits and remove sterile overburden. Trenches excavated with mechanical earth-moving equipment shall conform to the following standards:

(a) collect surface artifacts prior to excavation of trenches or scraping areas with mechanical earth-moving equipment;

(b) depths for mechanically excavated trenches shall conform to OSHA standards for excavation safety (29 CFR 1926, Subpart P);

(c) document the location, depth, soil profile, artifact yield and other pertinent information;

(d) clean at least one profile with a shovel or trowel and inspect the profile for cultural features and material remains;

(e) document the profile in narrative, profile drawing and photographs; deposit descriptions include but are not limited to sediment color, texture, moisture content, nature of inclusions, organic content, and an inventory of cultural materials, if any;

(f) examine the excavated area after the removal of each extracted bucket load; and

(g) examine backdirt for the presence of artifacts.

(8) Post-excavation mechanical excavation. Mechanical stripping or scraping may be employed following excavations. The stripping serves the purpose of disclosing features not found during the testing, trenching or excavation and provides a check on the reliability of the excavation sampling design. Features exposed during the mechanical stripping shall be mapped in relation to the site datum. All features shall be fully described and a sample of datable specimens and artifacts shall be collected. If all features are not proposed to be excavated, explain how features will be chosen for excavation and why. Sufficient analytical studies shall be performed to interpret function.

(9) The bottom of the excavation units and trenches shall be lined with landscape cloth or marked in some other fashion to indicate depth of disturbance, unless the site will be destroyed by construction.

(10) Photographs may be in black-and-white print, color print, color transparency or digitally captured images. For greatest archival stability, black-and-white prints are recommended. At a minimum, photograph features and profiles.

(11) Human burials. If human burials are encountered, all work shall stop immediately in the area of the discovery. Notify local law enforcement pursuant to 4.10.11 NMAC. Do not excavate human burials if they can be left in place. If excavation of human burials proves necessary, such excavation shall only be conducted pursuant to 4.10.11 NMAC.

(12) Backfill. After completion of excavation, the site shall be backfilled and restored as nearly as possible to the pre-excavation condition, unless other provisions have been made in the permit application pursuant to 4.10.8 NMAC.

[4.10.16.12 NMAC - N, 1/01/06]

4.10.16.13 RESEARCH DESIGNS FOR EXCAVATION PROJECTS:

A. Purpose. A research design explains the purpose of the project, the scope of work proposed and how the fieldwork and analysis of the archaeological site(s) or area(s) of historic and scientific interest contributes to a greater understanding of the cultural heritage of the state. Research designs shall take into account broad regional research needs and strive to fill in gaps in current state of knowledge. Research designs shall be realistic and attainable from the nature of the site(s) to be investigated and shall be flexible enough to accommodate unanticipated discoveries. At a minimum, a research design shall include the following components and shall be prepared consistent to the excavation standards in 4.10.16.12 NMAC.

B. Components. The length of each section shall be appropriate to the complexity and scale of the study.

(1) Title page. Do not obtain a NMCRIS number for research designs.

(2) Table of contents, lists of figures and tables. Prepare for documents with more than 10 pages of text.

(3) Purpose of the study. Provide a succinct overview of the proposed study including:

(a) goals, name and brief description of the history of the project;

(b) list of sites to be studied by LA number and land status;

(c) the project sponsor (client), state agency and other land jurisdictions if any; and

(d) project location and project map depicting the location and boundaries of the site(s) to be excavated by LA site number, land ownership boundaries, north arrow, key and name of appropriate 7.5-minute USGS source quadrangle(s).

(4) Research context. The context provides a foundation for the development of specific research questions. Scale the discussion to the complexity, size and limitations of the proposed study. The length of each discussion may vary but include the following elements:

(a) review of pertinent literature including, but not limited to, statewide and regional cultural-historical overviews and historic contexts, research designs, published archaeological, ethnographic and historical

monographs and articles, cultural resource management technical reports and field reports sufficient to identify gaps in the current state of knowledge;

(b) query NMCRIS database and map server to identify sites of similar types and age in the project area to establish baseline information for comparative purposes;

(c) discussion of the theoretical orientation and assumptions guiding the proposed research;

(d) identification of general research problems and topics relevant to the region; discuss the research problems in the context of the culture history and knowledge of the area and current research gaps; draw on existing knowledge of research conducted at similar types of sites near the project area; and

(e) specification of research questions; provide a clear link between the questions and the theoretical assumptions.

(5) Current knowledge of the site(s). Summarize previous work at the site, the site's national register eligibility, immediate environmental setting, site size, the number and type of known features, the types and quantity of artifacts and activity areas, the potential depth of cultural deposits in different areas of the site, and site integrity and extent of disturbed versus unexcavated areas.

(6) Specific research questions. Provide a clear link between the research questions and the general research problems. Identify the specific kinds of data needed to address the questions and explain how the site(s) to be excavated are likely to contain data relevant to address the questions. Take into account current knowledge of the site or site type in this discussion.

(7) Specific procedures to test or excavate the site(s). If more than one site is to be excavated, specify the activities to be performed at each site. Discuss the proposed methods to:

(a) determine site limits;

(b) identify, document and assess features;

(c) define surface artifact distributions, densities and intrasite activity areas; and

(d) determine the depth of cultural deposits.

(8) Procedures to operationalize the plan. At a minimum, discuss:

(a) procedures used to map the site;

(b) methods for surface collections and recordation; specify the method of collection, grid size or point provenience, in-field analysis if proposed, the minimum number of grid units to be collected and recorded and sampling fraction (percent of site area to be collected and recorded);

(c) the type(s) of hand excavation units and sampling fraction (the percent of site area to be excavated for each unit type); for systematic auger holes, explain the placement, interval, and minimum number of units and size of the area excavated in square meters; for excavation units and trenches, specify the size (dimensions), placement and minimum number to be excavated;

(d) the type, placement and minimum number of mechanical excavation units (trenches) and their length, width and depth; specify the percent of site area to be excavated with mechanical equipment including horizontal scraping;

(e) specialized samples (radiocarbon, pollen and other samples or specimens); specify the methods and conditions under which samples will be collected, processed and analyzed;

(f) procedures if human burials are encountered consistent with 4.10.11 NMAC;

(g) procedures for monitoring during construction will be implemented; the proposed monitoring shall be consistent with the standards in 4.10.17 NMAC; and

(h) procedures for notification in the event of contingencies for unanticipated discoveries.

(9) Backfill. Discuss procedures to backfill and stabilize the site.

(10) Analytical procedures. Provide a specific link between the research questions, data needed to address the research questions and proposed analytical procedures to generate the necessary data from observations and material remains recovered from the site. Specify the types, quantities and quality of data needed to address the research questions. Discuss the descriptive and comparative analyses for each class of artifact and type of specimen expected to be recovered from the sites. Include the proposed typology that will be used to describe the assemblage content and specific attributes to be observed. Consider the kinds of measurement that will be used, justifications for sampling and minimum thresholds for statistical validity. Include copies of all analysis forms in the appendix if they differ from the forms provided in the application submitted pursuant to 4.10.8 NMAC. Discuss sampling strategy and sampling fraction if all artifacts and specimens collected will not be analyzed. Explain the provisions that will be made for the collection and analysis of data that are not directly related to your stated research problems. Minimally, a representative sample of all recovered materials shall be analyzed.

(11) Schedule. Explain the expected time frame to implement the field, analysis and reporting phases of the project.

(12) Personnel. Identify all supervisory personnel and analysts who will perform the fieldwork, laboratory analyses and prepare the report. Include subcontractors if any are proposed and off-site laboratories for proposed specialized analyses. If specific personnel or subcontractors have not been identified for all activities, provide a list of personnel or subcontractors who may be retained, or list the minimum qualifications of the personnel that will be retained.

(13) Curation. Identify the proposed repository; if the repository will not be the MIAC, provide justification pursuant to 4.10.8 NMAC.

(14) References cited.

(15) Appendices, as needed**.**

[4.10.16.13 NMAC - N, 1/01/06]

4.10.16.14 PRELIMINARY REPORTS: A preliminary report may be prepared for excavation and test excavation projects when requested by the state agency or included in the test excavation plan or research design. Letter reports are prohibited. At a minimum, a preliminary report shall include the following information.

A. Brief description of the project. Identify project location, the NMCRIS number, LA site numbers for tested or excavated sites, state agency and project sponsor, list of project personnel, dates of fieldwork and the state permit number.

B. Project map. Show land ownership boundaries, project area boundaries, boundaries of all tested or excavated sites, north arrow, name of USGS 7.5 minute (1:24,000) quadrangle map and key to map symbols.

C. Field studies. Discuss field activities performed at each site and condition of site at conclusion of tests or excavations. Information may be summarized in a table. Include the type of excavation units, the number of units excavated, excavation depth, and the types and quantity of artifacts recovered.

D. Site map. Include a scaled site map with site boundaries, property ownership boundaries, site datum, location of all collection units, point-provenienced artifacts, hand excavation units, auger holes, shovel tests and mechanical excavation units.

E. Changes in the plan. Identify departures from the approved test excavation plan or research design. Identify and explain substantial differences between the work proposed and the work that was performed in the field. Identify and explain any proposed changes in analysis strategy.

F. Final report schedule. Indicate the proposed date when the final report will be submitted to the state agency if it differs from the schedule approved in the research design or test excavation plan.

G. Report review. The report shall be reviewed in conformance with 4.10.8.18 NMAC.

[4.10.16.15 NMAC - N, 1/01/06]

4.10.16.15 FINAL TECHNICAL REPORT STANDARDS: These requirements constitute the minimal standards for the reports on the test excavation or excavation of sites located on state land. The length of each section and discussion shall be appropriate to the complexity and scale of the project. State agencies may have additional reporting requirements.

A. Title Page. The title page shall contain the following information:

(1) the NMCRIS number in the upper left hand corner;

(2) the report title, author(s) and the principal investigator, if different from the author;

(3) the name of the organization that performed the work;

(4) the agency or agencies requiring and receiving the report;

(5) the state permit number and other permit numbers for the project; and

(6) the report date (month, day, year).

B. NMCRIS investigation abstract. Complete all sections of the NMCRIS investigation abstract, which serves as the report abstract.

C. Table of contents (required only for reports with more than 10 pages of text). Include:

(1) major report sections, subheadings and appendices with page numbers;

(2) a list of figures and plates with page numbers; and

(3) a list of tables with page numbers.

D. Introduction and description of project. State the purpose of the investigation and include a brief description of the following:

(1) the name(s) of the project sponsor(s) or funding source(s);

(2) the nature, purpose and location of the project and a list of the excavated sites;

(3) a description of the site(s) prior to excavation and a discussion of any previous work at the site(s);

(4) indicate if the project is being implemented in phases and identify the relationship of the current work to the overall project; and

(5) include a table that lists all of the project sites with field numbers, LA numbers and land status; include a brief description of each site and the work undertaken in this table.

E. Environmental setting. The length of the discussion shall be appropriate to the complexity and scale of the excavation project.

(1) Describe the natural environment. Describe the topography, geology and soils; contemporary flora and fauna; current climatological conditions; discuss the effect of current environmental conditions and past environmental processes (such as erosion or deposition) on the visibility and preservation of archaeological remains.

(2) Describe the cultural environment. Identify modern land use impacts such as mining, logging, agricultural activities or urban development and discuss the effect that modern land uses have on the visibility and integrity of archaeological sites and other cultural properties. Note evidence of vandalism or looting.

(3) Include photographs of the physical or cultural environment of the project area as appropriate.

F. Culture history and literature review.

(1) Discuss the past human occupation of the general area in which the project was conducted referencing established culture-historical frameworks or chronologies for each period relevant to the sites investigated. Reference statewide and regional cultural historical overviews, regional research designs, published archaeological, ethnographic and historical monographs and articles, cultural resource management technical reports, field reports and historic maps and records and other archival sources as appropriate, given the results of the project.

(2) Present a culture history of the area with reference to the previous archaeological work in the vicinity and types of sites investigated during the project. Culture histories shall be specific to the general project area and region and sites investigated.

G. Test excavation plan or research design. Summarize major elements of the approved test excavation plan or approved research design. Explain any significant differences between the work proposed and the work performed in the field or during analysis. If applicable, explain the relationship of your project to the research design of an on-going or larger mitigation or research project. If the site(s) being excavated represent a sample of a larger population of sites within a project area, describe the methods used to derive the sample.

H. Field methods, data collection and analysis strategies. Discuss the methods used to:

(1) map the site(s);

(2) record the features;

(3) excavate the units. Describe the implements, size of screens, size of excavation units employed Define arbitrary or natural excavation units and levels;

(4) collect and analyze the artifacts from the surface and from the excavation units;

(5) collect and analyze chronometrical, botanical, faunal and other specimens and the techniques used to preserve these materials; and

(6) explain the extent to which each of these and any other special techniques were employed.

I. Data presentation for each site.

(1) Describe the layout, configuration and appearance of the site(s) including a description of any pre-excavation surface remains.

(2) Describe the specific environmental setting of the site(s) supplemented with appropriate illustrations and references to relevant publications.

(3) Describe each excavation unit with regard to stratigraphy and contents. Multiple units with the same stratigraphic sequence may be grouped. The relationship between the excavation units shall be discussed.

(4) Present the results of the analyses in the context of the test excavation plan or the research questions in the research design. Include a summary of the numbers of artifacts by category and provenience. Differentiate between surface and subsurface materials. Discuss the types of analyses conducted for each artifact class and any sample and present the results by analytical units or strata. Provide narrative and tabular summaries for chronometrical, botanical and other specialized analyses. Integrate the results of these analyses in the discussion of the results of the investigation.

J. Results and recommendations. Summarize the results of the study and contributions to the knowledge of the cultural heritage of the region and the state.

(1) Evaluate project results with regard to the approved test excavation plan or research design. Discuss substantive deviations from original plan.

(2) Discuss the cultural affiliation of the site(s) and the relationship of the site(s) to the culture history of the area.

(3) Provide a synopsis of the data recovered from the excavations, the artifacts and samples.

(4) Discuss and analyze the interface between archaeological and documentary evidence for historical archaeological sites.

(5) For test excavation projects, evaluate the research potential of the site(s). This evaluation will serve as the basis for developing a research design for excavation, if necessary.

(a) Identify future research potential. Discuss research issues, problems or topics that can be realistically addressed through future study. The discussion shall be synthetic and comprehensive in scope, oriented toward realistic goals. Document how the research potential has been determined and why the current level of study is not sufficient to address or resolve these issues. Research questions shall take into account broad regional research needs and shall strive to fill gaps in current state of knowledge. Place the sites within the context of the currently known pattern of archaeological remains in the project area. Discuss recommendations with the state agency prior to including in the report.

(b) Discuss whether or not, in the opinion of the investigator, the site is or continues to be eligible for the national register and whether the site should be placed on the state register. Apply the criteria for integrity and significance to evaluate each property pursuant to 36 CRF 60.4. Identify the property as a district, site, building, structure or object. Indicate whether the property should be listed on the state register or should be determined as eligible for national register listing pursuant to 4.10.15.16 NMAC.

(6) For excavation projects performed under a research design:

(a) evaluate the success of the research design and any significant deviations during the field or analyses;

(b) discuss what was learned from the excavation and analyses in relation to the pre-existing archaeology and history of the area. Place the sites within the context of the currently known pattern of archaeological remains in the project area. If the findings were not consistent with the known culture history of the area, possible explanations for these anomalous findings must be explored; and

(c) discuss how much of the site is preserved, unexcavated and undisturbed. Suggest future research and management strategies.

K. Illustrations and photographs.

(1) Include a map showing the location of the project within the state of New Mexico.

(2) Include site maps, which shall be drawn to scale at a legible size and contain a north arrow (true or magnetic) and scale. All excavation units (rooms, trenches, test pits, collection areas) shall be labeled on the map and accurately related to the text. Previously excavated portions of the site shall be clearly identified. Remaining, unexcavated portions of the site shall also be shown; all relevant natural, archaeological and modern features shall be clearly marked as well as any areas of disturbance.

(3) Plans, drawings and photographs of stratigraphic profiles with explanations shall be included. Illustrations of representative, unusual and unique features or other manifestations shall be included as appropriate to the complete understanding of the narrative discussion.

(4) Illustrations and photographs of unusual and diagnostic artifacts are required as necessary to insure complete understanding.

L. References cited.

M. Appendices. At a minimum, provide:

(1) a project map depicting the location and boundaries of the site(s) tested or excavated by LA site number, land ownership boundaries, north arrow (true or magnetic), key to map symbols and name of appropriate USGS 7.5-minute (1:24,000) topographic quadrangle(s); mark as confidential all pages that discuss or depict exact locations of archaeological sites pursuant to Section 18-6-11.1 NMSA 1978;

(2) a list of collected artifacts and specimens; and

(3) reports from laboratories and consultants.

N. Attachments.

(1) Site records. Submit updated LA archaeological site records for each site consistent with the standards in 4.10.15 NMAC. Include a site plan map and a reproduction of a USGS 7.5-minute (1:24,000) topographic quadrangle map showing the site location(s) and attach to each LA site form. Include any other site-specific records generated, such as artifact analysis forms. If coded analysis forms are attached, place a copy of the code key with every site form.

(2) Photographic materials. Do not append photographs to site forms. All archivally packaged photographic materials and photographic logs shall be submitted to the approved curatorial facility consistent with the standards for that repository.

(3) Oversize maps and plans. Attach oversize (greater than 11x17 inches) maps and plans of individual sites to the survey report, not to the LA site record. Oversize project and survey area maps should be attached as appendices and not attached to the body of the report.

(4) Other location materials. Engineering plan maps, aerial photographs and other non-standards source graphics may be attached to the report.

O. Report review. The report shall be reviewed in conformance with 4.10.8.18 NMAC. The permittee shall curate the collections in accordance with the procedures outlined in 4.10.8.18 NMAC.
[4.10.16.15 NMAC - N, 1/01/06]

4.10.16.16 POPULAR REPORTS. Write a short popular summary suitable for distribution in a newspaper, newsletter or magazine for each excavation project. A popular report is optional for test excavation projects, but is encouraged. The purpose of the report is to provide information to the interested general public about the state's heritage and contributions from on going research and studies on state land. The public disclosure of the location of archaeological sites on state and private lands is prohibited by Section 18-6-11.1 NMSA 1978. The public disclosure of the location of archaeological sites on federal lands is prohibited by 36 CFR 296.18. The report may be brief, approximately 250 to 500 words in length. Longer articles or other types of public education and outreach approached may be used if proposed in the excavation plan or research design. Include photographs or graphs as appropriate. The popular report shall be submitted with to the state agency with the final technical report.
[4.10.16.16 NMAC - N, 1/01/06]

4.10.16.17 CURATION OF COLLECTIONS AND RECORDS: All material remains collected during the excavation or test excavation project and associated written and photographic records resulting from the project, regardless of whether or not all of the work specified in the test excavation plan or research design was completed, shall be curated consistent with 4.10.8.18 and 4.10.8.19 NMAC.
[4.10.16.17 NMAC - N, 1/01/06]

4.10.16.18 DEVIATIONS: The CPRC, SHPO and state archaeologist reserve the right to waive or deviate from this rule or any parts of this rule under circumstances deemed necessary by the CPRC, SHPO and state archaeologist. Any waiver or deviance from this rule shall occur while maintaining the spirit, intent and objective of this rule and the Cultural Properties Act.
[4.10.16.18 NMAC - N, 1/01/06]

HISTORY OF 4.10.16 NMAC:
Pre-NMAC History: The material in this part was derived from that previously filed with the state records center and archives under:
CPRC 82-R1, Regulations Pertaining to the Issuance of Permits to Conduct Archaeological Investigations, filed 5-28-82.
CPRC Rule 87-8, Regulations Pertaining to the Issuance of Permits to Conduct Archaeological Investigations, filed 3-26-87.

History of Repealed Material: Rule 4 NMAC 10.8, Regulations Pertaining to the Issuance of Permits to Conduct Archaeological Investigations (filed 11/03/97), repealed 10/01/05.

Other History:
CPRC Rule 87-8, Regulations Pertaining to the Issuance of Permits to Conduct Archaeological Investigations (filed 3-26-87) was renumbered and reformatted to 4 NMAC10.8, Regulations Pertaining to the Issuance of Permits to Conduct Archaeological Investigations, effective 11/15/97.
That applicable portion of Rule 4 NMAC 10.8, Regulations Pertaining to the Issuance of Permits to Conduct Archaeological Investigations (filed 11/03/97) was renumbered, reformatted and replaced by 4.10.16 NMAC, Standards for Excavation and Test Excavation, effective 1/01/06.