NORTH CAROLINA OFFICE OF STATE ARCHAEOLOGY

ARCHAEOLOGICAL INVESTIGATION STANDARDS AND GUIDELINES

FOR BACKGROUND RESEARCH, FIELD METHODOLOGIES, TECHNICAL REPORTS, AND CURATION

-December 2017-

About the North Carolina Office of State Archaeology

The North Carolina Office of State Archaeology (OSA) was created by the North Carolina General Assembly in 1973 to coordinate and implement a statewide archaeological preservation program. Elements of this program include maintaining a statewide computer-based inventory of archaeological sites, enforcing the North Carolina Archaeological Resource Protection Act (G.S. 70 Article 2), and ensuring the proper treatment of human burials in cooperation with the individuals and organizations specified in the Unmarked Human Burial and Human Skeletal Remains Protection Act (G.S. 70 Article 3). An important aspect of North Carolina's statewide archaeological preservation program is to implement the policies of the National Historic Preservation Act of 1966, as amended, and later, North Carolina General Statute 121-12a. G.S. 121-12a provides for consideration of National Register properties in undertakings funded or licensed by the state.

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PART 1. BACKGROUND RESEARCH

I. Introduction

Prior to the initiation of fieldwork, a records search should be conducted at the North Carolina Office of State Archaeology (OSA). The purpose of this search is not only to determine whether any previously recorded archaeological sites are located in the project area, but also to better understand local cultural contexts. Compiling and synthesizing information about previous work and sites in the vicinity around a project area allows for better prediction of site types that may be identified, and provides a baseline of knowledge for making assessments of site significance.

For projects in North Carolina's piedmont and coastal plain, records searches should be conducted at OSA's Raleigh office. For projects in the western counties (Alleghany, Ashe, Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, McDowell, Macon, Madison, Mitchell, Polk, Rutherford, Swain, Transylvania, Watauga, Wilkes, and Yancey), a records search can be conducted either in Raleigh or at the North Carolina Department of Natural and Cultural Resources' (DNCR) Western Office in Asheville. For underwater projects or projects in the coastal counties (Bertie, Beaufort, Bladen, Brunswick, Camden, Carteret, Chowan, Columbus, Craven, Currituck, Dare, Duplin, Gates, Greene, Hertford, Hyde, Jones, Lenoir, Martin, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Pitt, Robeson, Sampson, Tyrell, Washington), a records search can be conducted at Underwater Archaeology Branch at South Kure Beach.

a. Qualifications

Individuals seeking to do background research at an OSA facility must meet or be under the supervision of an individual who meets the Secretary of the Interior's Professional Qualification Standards as described in 36 CFR Part 61 (see Principal Investigator Qualifications in Field Methodology section below). In situations where a supervised individual is to conduct records research, it is expected that they will have been trained in pertinent research methods prior to scheduling an appointment.

b. Making an Appointment

Prior to doing a record search, researchers must first make an appointment to access the files at the OSA Raleigh Office, the Western Office in Asheville, or the Underwater Archaeology Branch at South Kure Beach. Please contact us at least 24 hours prior to when you would like to visit. Appointments are scheduled at the OSA for any day but Wednesday.

To make an appointment to do a records search at the Raleigh office, please contact Rosie Blewitt-Golsch at (919) 807-6558/ rosemarie.blewitt@ncdcr.gov, or contact the review archaeologist responsible for the region where the project is located by using information available at http://archaeology.ncdcr.gov/about/whos-my-archaeologist.

To make an appointment with the Underwater Archaeology Branch, please contact Madeline Spencer at (910) 458-9042 x200 / madeline.spencer@ncdcr.gov, or contact the review archaeologist responsible for the project.

To make an appointment with the Western Office, please contact Linda Hall at (828) 296-7230 x225 or linda.hall@ncdcr.gov.

II. Accessing Records

a. Maps

OSA staff are no longer adding site locations, reviewed areas, or surveyed areas to the paper topographic quadrangle maps. This information is instead being added to OSA's Geographic Information System (GIS) which is available for access during background research appointments on computers in the Raleigh and Asheville offices. Scans of the original paper topographic quadrangle maps are accessible as base-mapping in GIS. OSA staff are in the process of digitizing the information from the paper maps.

b. Site Forms

OSA staff are in the process of data-entering site forms for all previously recorded sites. Data from site forms are being added to a site database (SiteForm) that is available on computers in the Raleigh and Asheville offices. In the Raleigh office, site forms that have not yet been data entered are available in boxes stored in the map room, and are organized by county.

Scans of the original forms are also available for those site forms that have been data-entered into the database. Scans are stored on discs in the Raleigh map room or are available on microfiche in the OSA Raleigh office library. These may be useful as they often include site maps and artifact inventories that were appended to the original forms, which are not available in the database.

c. Reports

Paper copies of all reports are stored at the OSA Raleigh office library, and copies of reports concerning the western counties (see Part 1, Background Research Introduction, above) are available at the DNCR western office in Asheville. Copies can be made for $0.10/page or scans be made for $0.05/page.

PART 2. TERRESTRIAL FIELD METHODOLOGY

I. Introduction

For compliance projects, our office requests consultation with the designated Office of State Archaeology (OSA) Review Archaeologist to discuss appropriate methodologies prior to archaeological field investigations. The methodology standards outlined below are to be used for clarification and guidance, but allow for exceptions based on various factors. The aim of the guidelines is to help project sponsors and archaeological consultants better understand what methods and techniques are deemed appropriate, and to provide consultants with information that should enable them to design more efficient and cost-effective investigations. The field methodology guidelines are organized in three parts. The introduction provides information concerning definitions, qualifications, and special conditions. The second section differentiates forms of field investigation according to objectives, level of effort, and associated activities (i.e., monitoring, reconnaissance survey or due diligence, Phase I identification survey, Phase II evaluation/testing, and Phase III data recovery/mitigation or treatment). The third section provides standards and guidelines for undertaking and documenting fieldwork activities.

a. Definitions

1. Defining an Archaeological Site

According to the National Park Service (NPS), an archaeological site is defined as "the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure" (as defined in the 'How to Apply the National Register Criteria for Evaluation' portion of the National Register Bulletin).

For the purposes of archaeological site identification, the OSA defines an archaeological site as a location where at least one artifact or feature greater than 50 years of age has been identified. All archaeological sites identified as a result of field investigations receive a trinomial site number, and require a completed OSA site form.

2. Site Occurrence Probability Categories

The following site probability categories can be used to aid in the design of particular survey strategies. Thresholds for certain environmental variables used in classifying areas as high or low probability vary regionally, and should be derived from previous survey data in the Site Record Inventory at OSA.

Low Probability – This designation typically applies to areas with poorly drained soils; areas with 15 percent or greater slope; and/or areas that are disturbed to such a degree that archaeological materials, if present, would lack sufficient integrity to be considered eligible for listing in the National Register. Areas identified as low probability through the inspection of topographic and soil maps should still be verified and documented in the field using visual inspection and subsurface testing, as appropriate. In many cases it may be suitable to survey low probability areas at a reduced sampling interval.

High Probability – Areas that do not necessarily fit into the low probability category, or that provide low-cost resource access according to factors such as local geology, arable soil, water sources, ecological diversity, and transportation routes. Relevant factors will vary by region and expected site types.

3. Area of Potential Effects

According to 36 CFR 800.16(d), the Area of Potential Effects (APE) for a project is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties." In the case of archaeological sites, the APE is often the maximum area of potential ground disturbing activities associated with a project. Certain undertakings, such as repairing the foundations of a historic building, may have a very limited APE, while others, such as the implementation of land management practices, may cover large areas. The Area of Potential Effects as originally defined for a project may change if it is re-designed.

4. Cemeteries and Grave Sites

According to North Carolina General Statute 65, Article 12, a cemetery is "a tract of land used for burial of multiple graves." Cemeteries containing interments greater than 50 years of age should receive a trinomial site number. If the cemetery is associated with other historic site elements, or is located within a prehistoric site, both a completed OSA Site Form and a Cemetery Form should be submitted (see Appendices C and D). Otherwise only a cemetery form is necessary. Given the possibility for unmarked graves in historic cemeteries, even burial locations with a single above-ground marker should be recorded as cemeteries.

b. Qualifications and Permitting

1. Principal Investigator Qualifications

Principal investigators of archaeological compliance surveys must meet the Secretary of the Interior's Professional Qualification Standards as described in 36 CFR Part 61. For archaeology, minimum qualifications are a graduate degree in archaeology, anthropology, or closely related field plus at least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management; at least four months of supervised field and analytic experience in general North American archeology, and demonstrated ability to carry research to completion.

2. Archaeological Investigations on State Lands

If an area to be archaeologically investigated includes lands owned or leased by the state of North Carolina, excluding highway rights-of-way, the Principal Investigator must obtain an Archaeological Resources Protection Act (ARPA) permit from the State Archaeologist, according to the provisions of North Carolina General Statute Chapter 70, Article 2. Permits should be applied for well in advance of the anticipated field work start date and require at least 30 days for issuance. Permit applications can be obtained from the State Archaeologist, 4619 Mail Service Center, Raleigh, NC 27699-4619, or online from the OSA website. A criminal background check by the State Bureau of Investigation is required for the Principal Investigator. Fingerprint cards and release forms can also be obtained from the State

Archaeologist. While no fees are required to obtain the ARPA permit itself, a cost of $38.00 is required for the criminal background check. Certified checks or money orders for that amount, made out to the Office of State Archaeology, should be submitted with the fingerprint card, release form and completed permit application.

c. Planning and Contingencies

1. Background Research

Prior to the fieldwork phase of a project, background research of previous investigations and previously recorded archaeological sites must be undertaken at the OSA. Access to archaeological site files, reports, and related documents is provided to qualified professional archaeologists and authorized representatives of federal, state, or local agencies and institutions whose purpose is to effect planning decisions regarding archaeological resources. Persons having access to site files will be expected to maintain the confidentiality of site location information in accordance with North Carolina General Statute 70-18.

Due to the number of researchers desiring access to the site files and the limited space and equipment available, appointments are necessary. See Part 1 for more information about background research at the OSA.

2. Changes in Field Strategies/Methodologies

Any changes in survey, testing, or data recovery strategies/methods should be undertaken only after consultation with representative staff of the OSA.

3. Inadvertent Discovery of Human Remains

If human skeletal remains are encountered during archaeological investigations, the provisions of North Carolina General Statute Chapter 70, Article 3 apply. The State Archaeologist should be contacted immediately. Investigations can resume after contact has been made and the consultation process has been initiated. The Principal Investigator shall notify the State Archaeologist as to the cultural and biological characteristics of the remains as soon as such determination has been made. Consultation between the State Archaeologist and the Principal Investigator will determine where the remains will be held after excavation.

If the skeletal remains are determined to be Native American, consultation will be undertaken between the State Archaeologist and the Executive Director of the North Carolina Commission of Indian Affairs. If the skeletal remains are not Native American, the State Archaeologist will publish notice of the discovery in an effort to determine next of kin.

II. <u>Forms of Investigation</u>

a. Monitoring

1. Objective

The goal of archaeological monitoring is to determine the presence or absence of archaeological deposits while ground disturbing activities are taking place. Archaeological monitoring is not a primary survey strategy but it may be used in certain situations when deemed appropriate. For example, on-site monitoring of construction activities may be undertaken to ensure that a specific archaeological site, cemetery, or geographic area is not adversely affected by earthmoving activities.

2. Description

Ground-disturbing activities are undertaken in such a manner that the monitoring archaeologist is able to observe excavations in real time and communicate with machine operators as work progresses. At the discretion of the monitoring archaeologist, ground-disturbing activities are halted if a suspected archaeological feature or deposit is encountered. The monitoring archaeologist examines the exposed materials or feature and determines what additional work is necessary. In most instances, this will include recording locational data, photographing features and recovering archaeological remains.

Consultation with the appropriate staff reviewer would be appropriate prior to the development and implementation of monitoring strategy for those projects subject to Section 106, and a Secretary of Interior (SOI) qualified archaeologist must be present for all ground-disturbing activities to be monitored.

b. Reconnaissance Survey/Due Diligence

1. Objective

Reconnaissance surveys are basic examinations designed to assess the potential for the presence of archaeological remains in a given project area. They are appropriate for situations in which specific ground-disturbing activities are not planned, but may be considered in the future, such as N.C. Department of Commerce Certified Sites. They are especially recommended as a means of acquiring information for planning intensive identification surveys of large areas. Based on the results of a reconnaissance survey, it may be possible to divide a project area into zones of high probability or low probability based on the potential for sites to occur.

2. Description

Reconnaissance surveys have two main components: a cultural resource assessment and field investigations. Cultural resource assessments summarize data from previously recorded sites in/near the project area and review the history and prehistory of a region to assess the potential for various archaeological site types. Geological and ecological conditions in the project area relevant to the distribution of archaeological sites are also considered through reference to data such as soil maps and LiDAR.

Reconnaissance field investigations entail visual reconnaissance or examination of field conditions to document the extent and types of ground cover and soil conditions. Sufficient documentation during a reconnaissance survey may eliminate the need for further field investigations in low probability areas based on various factors such as disturbance, slope, or wet conditions and poor soil drainage. Exploratory subsurface excavations made to examine soil profiles, such as shovel tests and cores, should be carefully documented with regard to their location, means of excavation, depth, characteristics, and contents. Collection of artifacts is discretionary; however, any materials removed from their original setting should be fully documented and retained, rather than being discarded.

c. Phase I Identification Survey

1. Objective

The goals of a Phase I archaeological survey are to identify archaeological sites, define their boundaries within a project area, and provide National Register of Historic Places (NRHP) eligibility assessments for all identified sites. The assessments are presented in the survey report as recommendations (e.g., not eligible, no further work recommended; portion within project area not eligible; unassessed, additional work recommended; eligible, recommend avoidance; etc.). If a site extends outside of the boundary of the project area, an NRHP eligibility recommendation should only be made for the portion of the site that was actually investigated. NRHP eligibility assessments should also be made for any previously recorded site or portion of a previously recorded site in the project area that was formerly unassessed.

2. Description

Subsurface investigation through systematic shovel testing is the most commonly employed Phase I survey strategy. Systematic pedestrian reconnaissance is another commonly used methodology, and often the two methodologies are used in conjunction. In certain depositional environments, Phase I investigations may also include remote sensing, stripping, and/or deep testing. Detailed guidelines for undertaking these activities are presented in Section III, Field Methodologies.

d. Phase II Evaluation/Testing

1. Objective

The primary goal of Phase II evaluation/testing is to render a definitive determination of NRHP eligibility. This is achieved by documenting whether the site has both significance and integrity as defined by the NRHP guidelines. If a site is recommended as eligible for listing in the NRHP as a result of Phase II investigations, the project archaeologist should evaluate potential adverse effects to the site, both direct and indirect, resulting from any undertakings that might damage its integrity. The Phase II work should collect enough information to provide specific recommendations regarding mitigation activities, including a research design that identifies the datasets that would be created as a result of data recovery and the questions this data could be used to answer.

2. Description

All methods employed during Phase II evaluation/testing should be directed toward achieving the primary goal discussed above. These methods should focus on documentation of site integrity and assessment of site significance. As a result, attention should be directed toward documenting intra-site structure and subsurface integrity. This is generally accomplished by a set of close-interval shovel tests and larger, formal excavation units. The primary focus of unit excavation should be to document and evaluate features and/or culturally derived stratigraphy, and the number and placement of test units should be adequate to provide definitive information regarding site integrity. Remote sensing, mechanical stripping, and specialized analyses (e.g. soil micromorphology, radiometric dating) may also be necessary to assess NRHP eligibility.

In addition to field work, Phase II evaluation requires a literature review directed specifically toward assessing the current state of knowledge concerning sites similar to the one being evaluated. Without this contextual information, it is not possible to judge whether a site might possess the potential to provide important information about the past.

e. Phase III Data Recovery/Mitigation or Treatment

1. Objective

The primary goal of Phase III data recovery is to mitigate the adverse effects of a given undertaking on a NRHP-eligible archaeological site. In the case of data recovery, this is achieved by conducting excavations to obtain information commensurate with the site's potential to address specific, formal research questions, and thereby produce, as per NRHP evaluation criterion D, information important to the understanding of history or prehistory.

Phase III data recovery is generally implemented when all other options, including avoidance and/or preservation, are deemed unfeasible for a site or project area. After a formal finding of adverse effect is made, it is necessary to estimate of the level of effort necessary to adequately mitigate adverse effects and fully address all research questions posed for the project. A Memorandum of Agreement (MOA) among the lead federal agency, State Historic Preservation Officer (SHPO), other agencies and/or consulting parties may be required prior to the development of a detailed data recovery plan and field investigations.

Under Section 106, Phase III work is undertaken with the understanding that excavation itself will destroy or significantly alter the integrity of a given site or portion of a site. As a result, after data recovery the mitigated site or portion of a site will no longer be considered eligible for listing in the NRHP.

2. Description

All methods employed during Phase III data recovery should be directed toward achieving the primary goal discussed above and should focus on collecting datasets to address specific research questions. Research questions should be formulated based on the results of Phase II or other site assessments. Data recovery is generally accomplished by excavating a set of formal test units across the site, often as a set of horizontally-expansive blocks, followed by mechanical stripping to expose features or other cultural deposits.

III. Field Methodologies

a. Remote Sensing

There are various types of remote sensing techniques, which can be used to help "gather background environmental data, plan more detailed field investigations, discover certain classes of properties, map sites, locate and confirm the presence of predicted sites, and define features within properties" (see the National Park Service's notice regarding the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation). Remote sensing techniques can be separated into those that utilize data created by third parties, such as satellite-derived LiDAR, and those that are generated by on-site field work. Some of the more common types of on-site remote sensing techniques include metal detecting, ground penetrating radar (GPR), and proton magnetometry.

1. LiDAR and Multi-Spectral Imagery

Analysis of LiDAR data enables the assessment of topographic variation at resolutions finer than what can be displayed on 1:24,000 contour maps. In certain environments, such as fluvial and coastal settings, LiDAR analysis may reveal variation in elevation and/or relic landscape features useful for creating site probability zones within a project area. LiDAR scanning is also useful for documenting certain archaeological features and landscapes in the field, such as rock art installations and historic road beds.

Multi-spectral, hyper-spectral, and other high resolution imagery may prove useful in the identification of archaeological sites through the analysis of vegetation and soils. For example, sensors designed to recognize radiation across the electromagnetic spectrum have the potential to measure variation in plant growth rates, which can be affected by subsurface features such as foundations, roadbeds, and middens. As the analysis of high resolution imagery is a developing field, detailed process logs should be maintained to facilitate the replication and evaluation of results.

2. On-Site Remote Sensing

On-site remote sensing techniques such as metal detecting, ground penetrating radar (GPR), and proton magnetometry may be useful at any stage of archaeological investigation. Metal detecting, for example, can provide information for developing recommendations of National Register eligibility for historic period sites during Phase I surveys by providing information on 1) site dates, through recovery of datable objects (e.g., nail types); 2) artifact diversity, and thereby site function; 3) artifact distribution, and thereby site size and organization; and 4) artifact clustering, which may relate to intact features or other deposits below the plow zone. If these types of information would be helpful in completing the National Register assessment of a historic period site during a Phase I survey, then we recommend metal detecting be conducted.

If an area is investigated with on-site remote sensing techniques such as metal detecting, ground penetrating radar (GPR), and/or proton magnetometry, a study grid should first be established. The study grid should be tied into a datum, and the datum should be mapped, preferably with GPS technology. Coverage should be systematic within the study grid. The area(s) covered with any of these remote sensing devices should be documented on the field map. For example, if an entire area was swept with a metal detector, then the coverage would be 100 percent of that area. If an area was instead sampled, then only the portions (or the lanes) that were investigated should be marked on the field map as being examined.

Metal detecting study lanes should be no wider than 1.5 meters (5 feet) in order to ensure adequate coverage. The vegetation or leaf litter may need to be removed within study lanes in order to effectively sweep the metal detector across the ground surface. All metal detector 'hits' should be flagged, numbered, and mapped. A sample of hits should be examined through excavation. Notes should be maintained on each of the 'hits' that are investigated, which should include at a minimum the following information: site number (if applicable), date, project number, what the object was, depth of object, and whether it was retained or discarded.

b. Pedestrian Reconnaissance

Systematic pedestrian reconnaissance is an acceptable method of survey in recently plowed or disked fields that have a surface visibility of fifty percent or greater. Systematic pedestrian survey in areas with good surface visibility should be conducted at an interval no greater than 10 m.

If the surface visibility in recently plowed or disked fields is less than fifty percent, the systematic pedestrian reconnaissance survey should be supplemented with subsurface investigations. Shovel tests may be excavated at an expanded interval, depending on the field conditions and surface visibility. Shovel tests should also be excavated in areas possessing particularly high probability for archaeological sites.

Sites identified by pedestrian survey in areas with surface visibility of fifty percent or greater should be investigated with shovel tests at a density of no less than 4 per acre, which is roughly comparable to excavating shovel tests at 30-meter intervals on transects spaced 30 meters apart. Since the purpose of the shovel tests is to assess the nature of subsurface deposits at the site, they should be evenly distributed to provide a representative sample. If clustering is apparent in the surface distribution of artifacts, additional shovel tests should be excavated in areas of high artifact density to assess the likelihood of features or other intact archaeological deposits.

For some sites, a complete surface artifact collection may not be necessary to provide a recommendation regarding further work and NRHP eligibility. A sample of artifacts may be collected from a site, particularly on sites with dense surface scatters and/or those that have a large quantity of similar artifact types. An appropriate representative sampling method should be used. Material that is not collected should be described in at least general terms and the location included on the site map (see Section IV, Documentation below).

c. Excavation

1. Shovel Testing

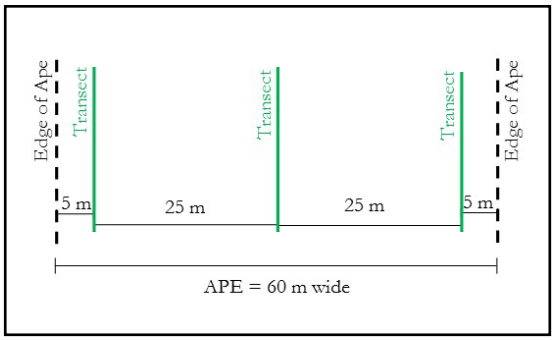
Shovel tests should be at least 30 cm in diameter and should be excavated either 10 cm into sterile subsoil or hydric soil or to a depth of one meter below ground surface, whichever comes first. The fill from each shovel test should be screened through 1/4-inch (6.35-mm) or finer hardware mesh. Notes should be kept on each shovel test documenting the shovel test location, soil stratigraphy using USDA soil descriptions, Munsell color codes, depth, and the presence or absence of artifacts. A representative sample of shovel tests should be documented with photographs and profile drawings. Artifacts collected from shovel tests should be bagged separately by shovel test, and separated according to the natural soil or cultural strata with which they were associated.

The standard shovel test interval should be no greater than 30 m and transects should be spaced no greater than 30 m apart. A smaller or reduced shovel test interval may be appropriate in areas with particularly high probability or potential for significant, intact archaeological deposits. Conversely, an expanded shovel test interval may be appropriate in low probability areas or when employed in conjunction with other survey strategies, such as systematic pedestrian reconnaissance. Staggered grid or transect arrangements are recommended, as they reduce the size of sites that will not be intercepted by the survey.

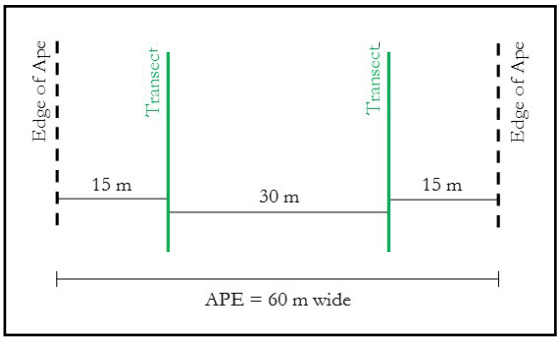
If shovel test transects parallel the edge of the Area of Potential Effects (APE), the transect nearest the edge of the APE should be no further than half a standard shovel test interval as defined for the project from the edge of the APE. For example, if the shovel test interval being used for a particular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

Radial shovel tests excavated to define site boundaries should be placed at a reduced interval no greater than half that of the standard interval (e.g., if the standard interval is 30 m, the radial shovel test interval should be no greater than 15 m). At least two negative shovel test should be excavated in each direction along site margins to determine the extent of the site. Internal radial shovel tests or close-interval shovel tests may be appropriate on some sites, for example to better delineate areas of artifact concentrations, to further investigate soil conditions, and/or to better assess site significance.

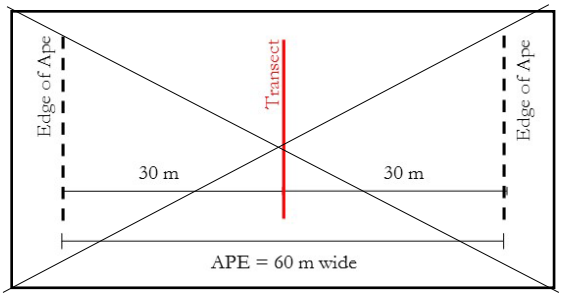
Examples of Shovel Test Transect Placements (Across 60-Meter Wide Survey Corridor)



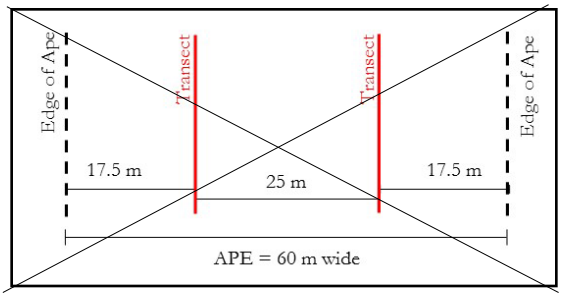
Adequate Coverage (recommended)
Three Shovel Test Transects Spaced 25 m Apart on 60-m Wide Corridor, with Shovel Tests Excavated at 25-m Intervals.



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



Not Adequate Coverage
One Shovel Test Transect on 60-m Wide Corridor, Regardless of Shovel Test Interval on Transect.



Not Adequate Coverage
Two Shovel Test Transects Spaced 25 m Apart on 60-m Wide Corridor, with Shovel Tests Excavated at 25-m Intervals.

2. Close-Interval Shovel Testing

While shovel tests are primarily excavated to locate sites and define site boundaries, close-interval shovel tests may be excavated to help define site integrity. This includes documenting soil stratigraphy, artifact counts and distributions, and the presence/absence of culturally derived features or stratigraphy.

Close-interval shovel tests should be placed no greater than 15 m apart, and when possible intermediate to tests previously dug to delineate the site. All shovel tests should be excavated and recorded as described above (Section III c1, Shovel Testing). They should be clearly marked in the field and placed on project maps, preferably using GPS technology.

3. Soil Coring and Augering

Soil coring and augering are useful for investigating soils to determine whether they are likely to contain intact cultural deposits, or to examine soil variation across a delineated site. Cores and augers can be used either judgmentally, as part of a reconnaissance survey, or systematically within a survey area or site. Coring and augering should not be used as a means of identifying sites, but may be used to identify features within sites.

Augers are best used to examine soil conditions in areas where deeply-buried deposits are possible due to alluvial, colluvial, and aeolian processes, since augers may be used to examine soils to depths beyond what is accessible through shovel testing. Notes should be kept on each auger test documenting soil stratigraphy using USDA soil descriptions and Munsell color codes, and auger test locations should be clearly marked in the field and placed on project maps.

Soil core probes 1/2- to 3/4-inch in diameter are appropriate for systematically assessing soil conditions across a site. If a systematic core survey is to be conducted, a study grid should first be established. The study grid should be tied into a datum, and the datum should be mapped, preferably with GPS technology. Coverage should be systematic within the study grid. Notes should be kept on each core documenting soil stratigraphy using USDA soil descriptions and Munsell color codes.

4. Test Unit Excavation

The number and distribution of excavation units should be determined by the information collected from shovel tests or other survey methods, such as remote sensing. The number and placement of test units may vary according to site size, distribution of artifacts, and any features or cultural strata encountered during site survey and delineation activities.

Test units may vary in size based on the extent of site boundaries, topography, and soil conditions. The size of any one unit should range from a minimum of 0.5-m square to 2-m square, with 1 square meter being considered the standard test unit size.

Units should be excavated in set arbitrary levels within natural stratigraphy, such as fluvial deposits. Arbitrary levels of 10 cm are typical. The thickness of excavation levels in cultural stratigraphy should vary according to the nature of the deposit. Where present, the plow zone can be excavated as a single level, regardless of thickness. Midden soils may be

excavated in 10 cm levels, but thinner arbitrary levels (e.g., 5 cm) may be appropriate in areas with microstratigraphy, especially dense artifact concentrations, and/or unique depositional environments such as rockshelters.

The fill from each test unit should be screened by level through 1/4-inch (6.35-mm) or finer hardware mesh. Artifacts should be bagged separately by unit and level.

Photographs and a formal profile drawing should be made of at least one wall of each excavation unit. At a minimum, the base of excavation in each unit should be photographed. Ideally, the bottom of each level should be photographed. Notes should be kept on each unit documenting soil stratigraphy using USDA soil descriptions and Munsell color codes, level depths, features and disturbances, and artifact types and quantities.

A permanent site datum should be established that is easy to relocate, and it should be included on the site map and preferably mapped with a GPS device. All excavation units should be clearly marked in the field and placed on project maps, preferably using GPS technology. The site map should also include the site boundary, unit datums, surface features if present, and topography.

5. Feature Excavation

Prior to excavation, features should be photographed, characterized using USDA soil descriptions and Munsell color codes, and drawn to scale. Feature locations should be plotted on site maps and plans, preferably using GPS technology.

With some exceptions (e.g. small-diameter post holes, masonry foundations) features should be bisected, and the profile photographed and drawn to scale. If a feature is determined to be a natural disturbance during the excavation process, its excavation may be considered complete after profile documentation. Features should be excavated by stratigraphic zone; if a feature zone is greater than 10 cm thick, it may be appropriate to excavate the zone in arbitrary levels. Each feature zone should be photographed and characterized using USDA soil descriptions and Munsell color codes.

It will often be appropriate to collect soil samples from features for specialized processing and analysis. Consultation with the specialist(s) who will conduct these analyses prior to the initiation of fieldwork activities will ensure appropriate sampling methods are employed. The remaining feature fill should be screened with no greater than 1/8-inch (3.175-mm) hardware mesh; water screening feature fill through approximately 1/16-inch (1.18-mm) window screen is recommended.

Artifacts recovered from features should be kept separate from the general unit artifacts, and should be bagged according to the specific context from which they derived within the feature (e.g., which half if bisected, and which stratigraphic zone and/or arbitrary level if applicable).

d. Machine-Assisted Excavation

1. Deep Testing

In certain depositional environments (alluvial, colluvial, and aeolian), deep testing may be an appropriate methodology to identify and uncover buried cultural remains. A geomorphological study should precede and/or accompany any deep testing program.

All trenches should comply with OSHA guidelines for trenching and excavation safety. Trench profiles should be 'cleaned' (walls made plumb with shovel and trowel) and inspected for stratigraphy and cultural features. Photographs and a formal profile drawing should be made of at least one wall of each trench. The soil stratigraphy should be documented using USDA soil descriptions and Munsell color codes, and the depth of each stratum should be recorded. All trench locations should be mapped, either with GPS technology or by being tied into an established datum.

Deep testing trench excavations may be done in conjunction with coring and augering, or unit excavation within the trenches. For data recovery projects, mechanical stripping may be used to expose soil horizons with intact cultural features identified by deep testing.

2. Mechanical Stripping

Mechanically stripping the plow zone or natural overburden in an area may sometimes be an efficient way to expose soil horizons which may contain archaeological features.

An area should first be examined with subsurface investigations such as shovel tests to ensure the presence and depth of the intact cultural deposits. The area that is stripped should be marked on the project map, and preferably mapped with GPS technology.

The machine operator should strip to no closer than 5 cm above the soil horizon of interest, and the remainder of the overburden should be removed by shovel skimming. Exposed features should be treated in a similar manner to those exposed during unit excavation (see Section III, Feature Excavation above).

e. Special Analyses

When appropriate, special analyses should be used to enhance understanding of the archaeological record by answering specific research questions. These analyses include, but are not limited to: geomorphological, faunal, shell, pollen, macrobotanical, phytolith, blood residue, and absolute dating. As these analyses produce the best results following specific sampling and processing protocols, consultation with the specialist(s) who will conduct a given analysis should take place prior to the initiation of fieldwork activities.

IV. Documentation

a. Field Documentation

The following types of documentation should be used during field investigations: shovel test forms, unit excavation forms, feature forms, field notes, maps, and photography.

At a minimum, the information documented on shovel test forms should include a reference to the project (name or number), date of excavation, excavator(s), shovel test location, soil

stratigraphy using USDA soil descriptions, Munsell color codes, depth, and the presence or absence of artifacts.

All maps should include clearly marked reference points that should be established in the field for each site to enable revisits, if warranted. Clearly marked datums should be established in the field for all sites at the Phase II and III levels of effort. These points should be clearly noted on all site maps, and ideally plotted using GPS/GIS data.

Notes should be maintained on photography in the field and should include a reference to the project name or number, the date the photograph was taken, the photographer, and the subject of the photograph including the cardinal direction of the view depicted**.**

3D-modeling is quickly revolutionizing archaeological documentation, and should be considered as a means of documenting Phase II and III excavations. Structure from motion photogrammetry provides the opportunity to create 3D models of excavation units and features to scale, from which accurate volumes can be calculated. In addition to its analytical utility for standardizing data for comparison within and between sites, 3D models provide a means of documenting archaeological field work activities at high resolution with little additional effort.

b. Recording a Site

Site locations should be mapped, preferably using GPS technology, and clearly depicted on project maps. Photography should be used to document site conditions, any above-ground features, or other site characteristics deemed important.

In addition, an individual site map should be made that includes the site boundary, project area boundary if it is near or intersecting the site, shovel test locations, areas of artifact concentrations, areas of disturbance, structures or other above-ground features, topographical features, and anything else that would assist with site relocation and explaining site formation processes. Any materials not collected should be described in at least general terms and the location included on the site map.

c. Recording a Cemetery

Cemetery locations should be mapped, preferably using GPS technology, and clearly depicted on project maps. Cemeteries containing interments greater than 50 years of age should receive a trinomial site number. Given the possibility for unmarked graves in historic cemeteries, even burial locations with a single above-ground marker should be recorded as cemeteries.

If the cemetery has 10 or fewer interments, then the information available on the grave markers should be documented for all interred individuals. If the cemetery has more than 10 interments, then only the information for the oldest and the most recent interments is necessary, along with a total count of marked burials in the cemetery, and an estimate of unmarked burials (if any are observed). Descriptions may be included of any unusual markers.

Cemeteries are not usually eligible for inclusion in the NRHP unless they possess high artistic value or contain the remains of an important individual for which no other associated property exists.

d. GIS Mapping

While use of GIS technologies is not required, it is strongly recommended to more accurately map sites and field conditions. The following recommendations apply when using GIS technologies and submitting shapefile information to the OSA:

An Esri geodatabase or shapefile is preferred, and the recommended projections are NAD 83 NC State Plane (ft) or WGS 1984 Web Mercator.

Archaeological sites recorded as part of the same project should be grouped together into one polygon shapefile or feature class. Attributes should at a minimum include: state site number (if known), temporary site number, site type (historic/prehistoric/ both), USGS topographic map name, and recommended National Register status. Survey areas should be submitted as a separate shapefile or feature class.

For more complex datasets, please contact the OSA GIS Specialist to devise a data submission plan.

PART 3. TECHNICAL REPORTS

I. Introduction

The report guidelines are intended to inform the preparation of technical reports for the purposes of compliance with federal and state historic preservation legislation. The majority of reports received by the Office of State Archaeology (OSA) for review are the result of archaeological investigations conducted for compliance with Section 106 of the National Historic Preservation Act (NHPA).

Report guidelines were first established in 1979, expanded in 1982, and revised in 1988. The current version is the result of discussions among the OSA staff and consultation with members of the North Carolina Archaeological Council (NCAC) and the archaeological consultant community.

Report review is conducted by the staff archaeologist with responsibility for the geographic area in which the investigation was undertaken. Other staff archaeologists may also participate in the report review as deemed appropriate by OSA Staff. Each report must stand on its own as a complete and self-explanatory document. If a reviewer has questions or comments concerning any aspect of the project report, they will transmit them to the project sponsor and/or report author. The staff of the OSA strive to complete their review within three weeks to ensure that comments and/or determinations are provided within the 30-day review period stipulated in 36 CFR 800.4. Any comments on the report will be contained in a letter signed by the State Historic Preservation Officer (SHPO) or his/her deputy. If comments are substantive, we may request that the report be revised and re-submitted before we can provide determinations of National Register eligibility or comments regarding project effects on archaeological resources.

Several types of reports are accepted and reviewed by the OSA: monitoring, reconnaissance (Due Diligence), Phase I, Phase II, and Phase III. The minimum standards and recommended format for the preparation of technical reports are discussed below. Comments and determinations will only be provided for projects that have been subject to review by the SHPO. However, professional non-compliance reports of archaeological investigations conducted in North Carolina, including reconnaissance surveys and research excavations, will be accepted into the Site File library.

Please see the end of this document for appendices that include a list of regional staff assignments (Appendix A), the preferred format for submitting permanent site number requests (Appendix B), the North Carolina Archaeological Site Form (Appendix C), North Carolina Office of State Archaeology Cemetery Site Form (Appendix D), and the handbook for completing both the site form and the cemetery form (Appendix E).

a. Submission of Reports

All reports of archaeological investigations conducted in compliance with Section 106 of the NHPA or other state or federal regulations shall be submitted to the SHPO, and the reports will then be routed to the OSA for review and comment. The report will be reviewed by the OSA staff archaeologist assigned to that particular region (see Appendix A). The SHPO address is: North Carolina State Historic Preservation Office, 4617 Mail Service Center, Raleigh, NC 27699-4617.

One paper copy and one digital file (pdf on disc) of each report should be submitted, unless the project area is located within a county in the mountains (reviewed by Western Office

staff) or coastal plain (reviewed by UAB staff). For projects in those counties (see page 1), two paper copies and one digital file are requested. Pdf-A (Archival format) is preferred but a high-quality standard PDF file is also acceptable.

b. Site and Accession Numbers

All reports of archaeological investigations must use permanent archaeological site numbers issued by the OSA. Cemeteries within a project area that have interments 50 years old or older should also have a permanent site number assigned. Reports that discuss archaeological sites and/or cemeteries will not be accepted without permanent site numbers.

Site number assignments will be made in response to letter or email requests to the Site Registrar. Requests should be accompanied by detailed maps showing accurate site locations and project boundaries, with USGS quadrangle names noted on each. Site-specific information should include, at a minimum, whether a site was occupied in prehistory, during the historic era, or at some point during both periods. Submission of shapefiles along with site maps is encouraged. An example of the preferred format for the submission of permanent site number requests is provided in Appendix B.

If artifacts are to be curated at the Office of State Archaeology Research Center (OSARC), accession numbers should be obtained from the Site Registrar when site numbers are requested and assigned. Curation standards for material to be curated by the OSARC are included as Part 4 in this document.

Please be advised that it may take up to five business days to fulfill site and accession number requests. No permanent site numbers will be assigned on the basis of informal contacts such as telephone calls. No single numbers or blocks of numbers will be assigned in advance of field investigations or in anticipation of survey results.

c. Site and Cemetery Forms

All newly identified or revisited archaeological sites and cemeteries documented in a report of field investigations should be recorded using the appropriate OSA forms. Reports must be accompanied by the appropriate forms to be considered complete and sufficient for review.

Archaeological sites should be recorded using the North Carolina Archaeological Site Form version VIII. This form is located in Appendix C and is also available on the OSA web site (http://archaeology.ncdcr.gov/programs/forms). Earlier versions of this form (including Site Form III) will no longer be accepted. Do not change the format, font size, or font type of the site form.

Cemeteries containing interments greater than 50 years of age should receive a trinomial site number. If the cemetery is associated with other historic site elements, or is located within a prehistoric site, both a completed OSA site form and a cemetery form should be submitted. Otherwise only a cemetery form is necessary. This form is located in Appendix D and is also available on the OSA web site (http://archaeology.ncdcr.gov/programs/forms). Given the possibility for unmarked graves in historic cemeteries, even burial locations with a single above-ground marker should be recorded as cemeteries. See Part 2, Terrestrial Field Methodology, for guidelines concerning cemetery documentation. Upon receipt of cemetery information, the OSA forwards copies of cemetery forms to the North Carolina State Archives for inclusion in their files.

Site and cemetery forms should be stand-alone documents, not bound or incorporated into reports. Do not print the site form double-sided, or they will not be accepted. One paper copy, and one digital copy on disc, of each site (MS Word) and cemetery form (pdf) should be submitted to the OSA unless the project location is within a mountain or coastal county (see page 1). For projects in those counties, consultants should submit two paper copies of the site form and one digital copy (MS Word) on disc.

d. Curation

All materials – including artifacts, floral and faunal remains, and sediment samples, along with related documentation such as original field notes, maps, photographs, artifact inventory lists, and analysis forms – recovered and created for purposes of compliance with state and federal regulations shall be permanently curated in an approved archaeological repository, preferably in the state of North Carolina.

Principal investigators and project sponsors (including government agencies) are expected to arrange for the clear legal transfer of ownership, or, if necessary, permanent or long-term loan of all such materials to the curation facility.

Reports of archaeological investigations must include the name of the repository; name(s) of official contacts who can provide information on, and access to, the project collections; accession numbers; and other information such as mailing addresses and telephone numbers of the approved repository.

See Part 4, Curation, for requirements if curating artifacts at the OSA Research Center and Lab.

II. Monitoring Reports

On-site monitoring of construction activities may be undertaken to ensure that a specific archaeological site, cemetery, or geographic area is not adversely affected by earthmoving activities. See Part 2, Terrestrial Field Methodology, for guidelines regarding monitoring activities.

The complexity and length of a monitoring report will be proportional to the number and types of resources discovered. If no resources were uncovered, a simple letter report stating the dates and nature of monitoring activities will suffice.

If resources are identified, new or updated site forms should be submitted along with the report. To ensure acceptance by the OSA, all monitoring reports should include:

1. Principal Investigator and crew;
2. Date(s) of investigation;
3. USGS topographic map with project area indicated;
4. Client and project description;
5. Relevant legislation and SHPO environmental review number; and
6. Discussion of monitoring process and results, including: extent of area monitored, including map; description of any artifacts or features identified; photographs of identified features, if applicable; curation plans for materials collected; and recommendations for further work.

III. Reconnaissance Survey/Due Diligence Reports

In certain circumstances, particularly with large phased projects, reconnaissance surveys may be an appropriate first step in the compliance process. Based on the results of a reconnaissance survey, it may be possible to divide a project area into zones of high probability or low probability based on the potential for sites to occur. See Part 2, Terrestrial Field Methodology, for guidelines regarding reconnaissance survey activities.

Due to the contingencies associated with compliance archaeology, we request that permanent site numbers be assigned and site forms be submitted for all sites and cemeteries identified as a result of reconnaissance surveys. In most cases reconnaissance-level field work will not produce sufficient information to allow for recommendations regarding National Register eligibility, and most sites may be considered "unassessed." See Section Ic above for information concerning site and cemetery forms.

All reconnaissance reports must include the following information to be considered complete and sufficient for the purposes receiving OSA-advised SHPO comments on survey methodology, site or cemetery eligibility, or the need for further work:

a. Introduction

1. Principal Investigator and crew;
2. Date(s) of investigation;
3. USGS topographic map with project area indicated;
4. Client and project description;
5. Relevant legislation and SHPO environmental review number; and
6. Scope of work.

b. Environmental Setting

1. Description and maps of project location, acreage, physiographic region, and drainage basin;
2. Distribution of soils, including slope percentages, as mapped by the NRCS; and
3. Land use (wooded, pasture, cultivated, developed) by percentage, and wetland delineations.

c. Background Research

1. Results of OSA site file and report searches;
2. Table of previously recorded sites in vicinity of project area including their period of occupation (being as specific as possible) and their NRHP status; and
3. List of historic maps consulted and resultant findings.

d. Field Methodology and Research Design

1. Survey strategy (pedestrian reconnaissance, judgmental shovel testing, augering, etc.); and
2. Basis used to select survey strategy (good ground surface visibility, heavily vegetated, disturbed, etc.).

e. Results

1. Types of sites expected in the project area, based on background research and field work activities;
2. Classification of project area with regard to archaeological site potential, illustrated with map(s) and representative photographs of project area;
3. Description of each site located, if any; and
4. Expected effects of project on any archaeological sites in the project area, and recommendations for additional investigations (Phase I survey, site assessment, etc.).

f. References Cited

Full bibliographic citation for all sources referenced in report.

IV. Phase I Identification Survey (Intensive Survey) Reports

Phase I intensive surveys are designed to identify all archaeological resources within the project area and, if possible, to determine their eligibility for listing in the NRHP. Phase I survey reports will also assess project effects on archaeological sites in the APE. See Part 2, Terrestrial Field Methodology, for guidelines regarding Phase I survey activities.

All Phase I reports must include the following information to be considered complete and sufficient for the purposes receiving OSA-advised SHPO determinations of site eligibility, comments on the need for further work, and assessments of the effects of proposed undertakings on archaeological sites:

Title Page and Table of Contents

The Table of Contents should be appropriately paginated, and should include lists of tables, maps, and figures.

a. Management Summary

The management summary provides the contract sponsor, the report reviewer, and others with a succinct but complete synopsis of the project. A management summary is similar to but generally more detailed than an abstract, and may be provided in lieu of an abstract. The length of a report dictates the length of its management summary; in most instances, the summary can be presented in less than two pages. The management summary should include:

1. Project title, client, and project description;
2. Relevant legislation and SHPO environmental review number;
3. A brief statement of project goals and objectives (e.g., to locate and assess the significance of cultural resources);
4. A summary of the survey methodology (e.g., the survey involved a pedestrian walkover in transects with shovel tests every 30 meters, etc.);

5. An estimate of the percentage or amount of the project area actually covered by the survey and description of factors limiting the intensity or coverage of the survey;
6. A summary of the results, including:
    a. A list of sites found or investigated (using permanent site numbers);
    b. A summary of the information derived from the investigations (e.g., "A total of 45 sites were recorded during the project, representing 37 Late Archaic components, 27 Middle Archaic components, 17 Early Woodland components and seven Late Woodland components. Three of the sites (31AH1, 31AH2 and 31AH3) are considered eligible for listing in the National Register of Historic Places"); and
7. A summary of project recommendations for further investigations, no further investigations, site avoidance, etc., with specific reference to sites fitting each category (e.g., "Two sites (31AH1 and 31AH2) will require additional testing for evaluation of their significance; 31AH3 should be avoided entirely if possible during project construction. The remainder of the sites are not considered eligible and no further work is recommended").

b. Introduction

This section provides detailed information pertinent to the location of the archaeological investigations, the reasons for the work, personnel, and dates of the work. The contract specifications or scope of work should be briefly described in this section and attached as an appendix to the report. The introduction should include:

1. Name and description of the project;
2. Contracting agency or individual;
3. Relevant legislation and SHPO environmental review number;
4. Verbal description of the project location, including the county(ies);
5. Map showing general location of project within the county(ies);
6. Map(s) showing the boundaries of the project area depicted on USGS topographic imagery at 1:24,000 scale;
7. Principal investigator and crew members;
8. Dates of investigation; and
9. Brief description of contract specifications or scope of work, including project objectives.

c. Environmental Setting

The environmental setting of the project area should be described, considering relevant factors such as geology, vegetation, climate, soils, and topography. Emphasis should be placed on the relationship of the environmental setting to the cultural resources of the study area. The environmental setting should include:

1. Total acreage of the project area;

2. Map of project area boundaries showing recent aerial imagery at a scale of 1:24,000 or less;
3. Types of current and historic land use within the project area, including estimates of the acreage within each current land use type;
4. Climate, topography, geology, and hydrology of the project area as relevant to the archaeological investigations;
5. Distribution of soils, including slope percentages, as mapped by the NRCS, including estimates of the acreage within each soil category;
6. Flora and fauna of the project area as relevant to the archaeological investigations; and
7. Other environmental factors as deemed relevant.

d. Archaeological and Cultural Background

This section should consider the subject project area within the context of previous archaeological investigations and the broader cultural history of the region. This information provides the basis for identifying site types likely to occur in the project area, evaluating the NRHP-eligibility of archaeological sites, and creating research designs for data recovery at eligible sites. While this should be a technical presentation, this section also gives the project sponsor an understanding of the prehistory and history of the area. A research design that includes predictions of site locations and site types expected to be present in the project area based on environmental factors and the results of earlier research should conclude this section.

The length of this section will vary according to the project size and requirements. The geographic area covered by background research at OSA should extend for a minimum of one mile from the edge of the project area boundary. If no previous archaeological investigations have been conducted in this area, prehistoric and historic contexts should still be presented using a regional perspective. If a proposed project includes alternative locations or alignments, information about the archaeological potential of each alternative should be included to assist in deciding the preferred alternative. The culture history background and review of previous archaeological investigations may be combined into a single synthetic narrative or kept separate.

When conducting research, a two-phased approach may be useful. The first phase of the background research should gather information about the history of local American Indian communities, periods of European colonization and migration, major industries, and prominent families or persons who lived in the vicinity of the project area. The second phase begins after field work is completed. The objective of this second phase is to collect information for assessing the significance of individual prehistoric and historic period archaeological sites found during field work using the National Register criteria. This research may increase the interpretive value of an archaeological site, or show that a site is connected with important persons or events. See Significance Evaluations and Recommendations section below for more information on making recommendations of NRHP eligibility.

The archaeological and cultural background should include:

1. Previous archaeological investigations and results;

2. General overview of prehistory and history of the study area; and
3. Expected archaeological potential for the project area, including expected site types and settings, with the level of detail dependent on the size and scope of the project.

e. Methodology

This section contains detailed discussions of the methods and techniques used during the project to locate and evaluate sites. It is important that discussions be specific and comprehensive. The methodology section should include:

a. Background Research Methods, including:
    a. Information on how the background research was conducted; and
    b. Locations where research was performed (e.g., local or regional libraries, the archives at the OSA, online sources, etc.).
b. Field Methods, including:
    a. A discussion of the survey techniques used, specifying any variations in techniques due to varying field conditions (i.e., ground cover, alluviation, erosion, development);
    b. Details related to survey intensity, with specific attention to transect spacing and subsurface testing interval(s);
    c. Specifications of subsurface tests, including shape, size, depth, and excavation technique(s);
    d. Data recorded for each subsurface test;
    e. Procedures followed for preserving contextual information of collected materials; and
    f. Mapping and photography procedures.
c. Lab Methods, including:
    a. General methods used to process and catalog artifacts;
    b. Explanation of how artifacts were analyzed, including information such as the classification or typological schemes that were used to describe different artifact types; and
    c. Information on curation methods used and the location where the curated collection will be housed. The standards for collections to be curated by the OSA Research Center (OSARC) are detailed in Part 4 of this document.

f. Results

This section describes sites located and materials recovered during the investigation. All sites discovered should be described, whether or not they will be impacted by the proposed undertaking. Each site should be documented using text, maps, and photographs. Individual site descriptions should include site function (e.g., habitation, quarry, butchering camp, grist mill, etc.), specific location, size, type and degree of

disturbance, artifact density, cultural affiliation(s), materials recovered, methods of artifact recovery from the surface, methods and results of subsurface testing, and anticipated project impact. Historic and prehistoric sites should receive comparable descriptions.

Standing historic structures or ruins within the project area should be noted as to location, materials, and apparent type. If present, archaeological components associated with structures should be described.

Recovered materials should be described by means of customary references to amount and type. The latter category can comprise individual traits such as raw material, temper, surface treatment, etc., and established morphological patterns or trait associations. The use of tables is encouraged for presentation of data from large numbers of sites.

The survey results should include:

1. Field survey time, specifically how many person-days in the field were necessary to cover the project area using the techniques described;
2. Percentage of the overall project area investigated with different survey methodologies, including map(s) noting shovel test locations or noting areas covered using different strategies (e.g., areas shovel tested at 15-m intervals, areas investigated with pedestrian survey and shovel tests at 30-m intervals, etc.);
3. Total number of shovel tests excavated per designated study area, along with description and images of representative soil profiles from shovel tests of surveyed areas (may be included as an appendix), and the extent to which excavated soils resemble those mapped by the National Resource Conservation Service;
4. Portions of the overall project area not intensively investigated, if any, and reason(s) why these areas were not examined with systematic pedestrian survey or shovel tests (sloped, wet, disturbed, etc.), including map(s) showing areas not intensively surveyed labeled with associated rationale for exclusion;
5. Table, if more than one site is identified, that lists site numbers, site types, temporal range and/or cultural affiliation of the sites, and site NRHP eligibility recommendations;
6. Individual site descriptions, including:
    a. Cultural affiliation and functional type;
    b. Estimate of site size and percentage of site area covered by artifact collections;
    c. Site map, showing site boundaries, shovel test locations, features if present, and relevant landmarks;
    d. At least one representative photograph of the site vicinity;
    e. Amount and type of materials recovered from site and artifact collection biases (e.g., surface visibility, previous collections);
    f. Stratigraphy of site with reference to shovel test profiles and at least one representative photograph; and

g. Description and photograph(s) of features if present; and

7. Effects of project on individual sites.

g. Significance Evaluations and Recommendations

This section of the report establishes the framework for evaluating the significance of the sites identified during the survey. Significance evaluations must be presented with explicit reference to the eligibility criteria for listing in the NRHP (http://www.achp.gov/nrcriteria.html), and should be consistent with contemporary research interests of the archaeological community. While archaeological sites are most frequently considered eligible under criterion (d) for their ability to yield important information about the past, all four criteria should be considered when developing a recommendation. In some cases, multiple criteria may be applicable. As a site must also retain integrity to be considered eligible for listing in the National Register, significance evaluations should also include assessments of integrity, which according to the NPS has seven aspects: location, design, setting, materials, workmanship, feeling, and association (https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm).

Clearly, it is insufficient to merely state that a site is or is not significant. Evaluation of each site must be framed by the information potential for local, regional, statewide, or national research problems, and/or the historical importance of the resources with regard to important people and events. All evaluations of "eligible" and "not eligible" should be accompanied by a justification that applies the NRHP eligibility criteria and assesses site integrity.

Recommendations regarding the treatment of sites will usually be phrased in terms of "further work," "no further work," or "avoidance" (i.e., preservation in place). Appropriate recommendations should be clearly presented for each site recorded during the survey, and should be consistent with the site significance evaluations.

Sites recorded during the survey that are not located within the proposed area of ground disturbance, or that will not be affected by the project, should also be considered in the recommendations, since it is possible that the proposed location or alignment may be moved at a later stage in the project design. Discussions should also include, as appropriate, estimates of the amount and types of further work recommended (e.g., 10 2-x-2-meter test units), or a description of the recommended avoidance, management, and preservation procedures to be followed.

The significance evaluations and recommendations should include:

1. An evaluation of each site located during the survey according to the criteria for listing in the NRHP, including a contextualized justification for each evaluation; and
2. Site-specific recommendations for further work, including:
    a. Description of type(s) and amount(s) of further work if recommended; or
    b. Description of recommended avoidance, management, and preservation procedures if recommended.

h. References Cited

The references cited should include a full bibliographic citation following the Society for American Archaeology (SAA) standard format for all sources referenced in the report. All references should be complete and consistent in form.

i. Appendices

The appendices should include the following items as deemed appropriate:

1. The scope of work for the project;
2. An artifact catalog that lists all of the artifacts recovered during the survey;
3. Shovel tests records; and
4. Any maps, figures, or tables not incorporated into the body of the report. Please note that site forms should not be included as an appendix of the report.

V. Phase II Evaluation/Testing Reports

The primary goal of a Phase II testing project is to determine the potential of a previously recorded archaeological site to contribute important information to local, regional, or national prehistory or history, and render its eligibility for inclusion in the NRHP.

This level of investigation may include controlled surface collections, intensive shovel testing, excavation of test units, mechanical stripping of disturbed soils, and other appropriate methods for the determination of the extent and nature of the archaeological deposits at the site. See Part 2, Terrestrial Field Methodology, for guidelines regarding Phase II activities.

Given the variable nature of individual archaeological sites and the variety of appropriate investigation methods, guidelines for testing methodology are left to the individual researchers. The research designs developed (and the field methodologies employed) should be specifically directed toward the type of resource being investigated and should be more focused than that developed for a Phase I survey. The end results of the investigation should be an evaluation of the NRHP-eligibility of each site.

The organization and contents of Phase II evaluation/testing reports should be generally similar to Phase I reports (see Section IV above). For Phase II reports, the archaeological background section should be focused on the previous archaeological investigations that have been conducted at each specific site being tested/evaluated, and the cultural background section should be focused specifically on the time period(s) associated with the site(s).

The boundaries for each evaluated site must be delineated on maps and shown within the project's Area of Potential Effects (APE). The report should also contain maps showing the location of all excavations.

The specific field methodologies that were employed should be described in detail, as well as the full results of the field investigations and laboratory analysis. If any specialized studies are undertaken during the Phase II investigations, these should be discussed in the report.

If sites are evaluated as eligible for the NRHP, recommendations for potential project modifications to avoid or lessen adverse effects should be included, if possible. The report should also contain a

draft research design that identifies the datasets that would be created as a result of data recovery activities at the site, and research topics and questions that may be addressed using these datasets.

An updated North Carolina Archaeological Site Form VIII that includes the results of the testing phase should be submitted to the OSA for each site investigated.

VI. Phase III Data Recovery/Mitigation or Treatment Reports

If an NRHP-eligible archaeological site cannot be avoided and will be adversely affected by the proposed project, data recovery excavations may be undertaken as mitigation. Such excavations are intended to retrieve the important information that makes the site significant prior to its destruction.

Given the individual nature of each archaeological site, data recovery methodology and reporting requirements will be developed through consultation among the principal investigator, the staff of the OSA, consulting parties including representatives of descendant communities, and representatives of the federal or state agency project sponsors. See Part 2, Terrestrial Field Methodology, for guidelines regarding data recovery activities.

In addition to the technical archaeological reports of the data recovery investigations, provisions should be made for some type of public reporting of the results. Such reporting could include a report, pamphlet or brochure, an exhibit, a public program or a web site.

The organization and content of Phase III data recovery/mitigation reports should be generally similar to Phase I reports (see Section IV above). For Phase III reports, the archaeological background section should be focused on the previous archaeological investigations that have been conducted at that specific site, and the cultural background section should be focused specifically on the time period(s) that the site was occupied.

The boundaries for each evaluated site must be delineated on maps and shown within the project's Area of Potential Effects (APE). The report should also contain maps showing the location of all excavations.

The specific field methodologies that were employed should be described in detail, as well as the full results of the field investigations and laboratory analysis. Any specialized studies undertaken during the Phase III investigations should be discussed in the report.

An updated North Carolina Archaeological Site Form VIII that includes the results of the data recovery excavations should be submitted to the OSA after investigations and analysis are complete.

VII. Archaeological Investigations on State Lands

Archaeological investigations on lands owned or leased by the state of North Carolina, excluding highway rights-of-way, require an Archaeological Resources Protection Act (ARPA) permit be obtained from the State Archaeologist, according to the provisions of North Carolina General Statute Chapter 70, Article 2. See Part 2, Qualifications and Permitting above for information on how to obtain a permit.

The report guidelines for archaeological investigations requiring an ARPA permit are the same as those described above for Phase I, Phase II, and Phase III reports. The type of report that is submitted should be consistent with the level of intensity of the archaeological investigations.

PART 4. CURATION

I. Introduction

The Department of Natural and Cultural Resources (DNCR) is the state agency responsible for preservation of North Carolina's archaeological collections and associated documentation. To ensure availability for researchers and the public, archaeological collections and records should be acquired, processed, stored, and handled in ways that will contribute to their long-term preservation.

The Office of State Archaeology (OSA), an agency of the department's Division of Archives and History, has a stewardship responsibility for archaeological materials owned or maintained by the department. Artifact collections have been donated by individual collectors, institutions, agencies, and corporations, or acquired through DNCR activities. Collections may be on indefinite, long-term loan through interagency agreements with other state or federal agencies having statutory or regulatory control over artifacts and records. Collections are permanently curated at the Office of State Archaeology Research Center (OSARC), a specially-designed facility intended for the archival curation and management of North Carolina's archaeological collections.

A basic goal for OSARC collections management is to work with agencies to achieve OSA system compatibility for newly acquired collections, and to help these agencies organize older collections to meet professional standards like those detailed in these guidelines. Collections donated from private or corporate sources can also be accommodated by the OSA, thus adding to the state's inventory of prehistoric and historic archaeological research materials.

This part of the guidelines instructs state and federal agencies, private consulting firms, museums, and individuals on how prehistoric and historic archaeological materials and associated records should be preserved for curation at the OSA. Collections are frequently recovered under the authority of various laws, including state laws such as the North Carolina Archives and History Act (G.S.121); the Public Records Act (G.S.132); the Indian Antiquities, Archaeological Resources, Unmarked Human Skeletal Remains Protection, and Archaeological Record Program Acts (G.S.70); and the Transportation Act (G.S.136); and federal laws such as the Antiquities Act (16 U.S.C. 431-433); the Archeological and Historic Preservation Act (16 U.S.C. 469-469c); Sections 106 and 110 of the National Historic Preservation Act (54 U.S.C. 300101 et seq.); the Archeological Resource Protection Act (16 U.S.C. 470aa-mm); and the Native American Graves Protection and Repatriation Act (P.L. 101-601).

These instructions apply to archaeological collections of statewide significance held by the OSA on behalf of the DNCR. They are consistent with the Standards and Guidelines for Curation of Federally-Owned and Administered Archeological Collections (36 CFR 79) promulgated by the National Park Service. Definitions included in the federal rule (36 CFR 79.4) are incorporated by reference.

These procedures should be followed in preparing artifact collections and documentation for submission to the OSA. Please note that requirements apply equally to artifact collections and to related records such as field notes, drawings, maps, photographs, artifact inventories, and similar forms of documentation.

Archaeological collections submitted to the OSA for long-term ("in perpetuity") curation must conform to the following instructions. Variations or exceptions to the requirements must be

approved in advance. Potential depositors should call (919) 715-5599 or (919) 807-6555 or email the Deputy State Archaeologist or OSARC Laboratory Supervisor for information at any stage in the planning or execution of a project. Questions on conservation will be answered by the Laboratory Supervisor. Consultations are encouraged at all phases of research, from preliminary planning to field work to analysis, because experience has shown this practice to be beneficial and cost-effective for both the depositors and the OSA.

II. Collection Submission

To request submission of a collection to the North Carolina Office of State Archaeology Research Center (OSARC), call (919) 715-5599 or email the OSARC Laboratory Supervisor. Decisions on the acceptance of collections will be made in writing by the State Archaeologist or their designee (North Carolina Administrative Code T07:04R.0803). After a request has been approved, the Laboratory Supervisor will provide an Incoming Collections Form that should be completed and returned prior to collection submission.

a. Responsibilities

The cleaning, sorting, cataloging, documenting, conserving, and packaging of archaeological materials are the responsibilities of the depositor. The OSA may be able to provide initial processing services on a cost-reimbursable basis; call (919) 715-5599 or email the OSARC Laboratory Supervisor for information. Whether OSA staff or the depositor assume the responsibility, collections accessioned into the permanent collections of the OSA must conform to the following instructions.

Costs of specialized analyses involving such materials that are part of regulatory compliance reports, and which precede acceptance of collections by the OSA, are the responsibility of the individual or agency.

b. Ownership

Materials recovered from private lands should be accompanied by an agreement signed by the landowner stating that the materials recovered from the subject property have been permanently donated for curation to the State of North Carolina. Contact the OSA Laboratory Supervisor for Deed of Gift forms.

Federal or state agencies wishing to donate or loan collections from projects they have undertaken should submit cover letters addressed to the OSA Laboratory Supervisor stating those intentions. These communications must precede the actual transfer of collections by at least one month, and include or reference the terms of agreements reached with the OSA for permanent care of the materials (cf. 36 CFR 79.8).

Project- or site-specific waivers for donation or maintenance of agency-owned collections may be granted for older collections by mutual written agreement between agency officials and the OSA. Waivers of property donation forms may be appropriate in circumstances where specific landowner donations or agreements were not obtained by agencies at the time collections were made.

c. Curation Fees

OSARC charges fees for curation and conservation services at $200.00 per cubic foot, or $220.00 per standard archival storage box measuring 12" wide, 15" long, and 10" high. See the Packaging and Labeling section below for more information on box sizes.

d. Accession Numbers

All collections to be submitted for curation must be assigned an accession number. Accession numbers are site-specific, so collections containing materials from more than one site will be assigned a separate accession number for each site.

Accession numbers can be obtained from the OSA Site Registrar in response to letter or email requests, preferably when site numbers are requested. Accession numbers assigned by the Registrar consist of a four-digit number for the year followed by a period and another four-digit number that is consecutively assigned for each site, which starts over at 0001 each calendar year. For example, the first accession number assigned in 2016 was designated as 2016.0001.

e. Provenience Numbers

It is the responsibility of the submitting party to assign a unique identifying number for each artifact- or sample-yielding provenience on a site. As used here, the term provenience refers to the smallest spatial unit designated during a field investigation, composed of both horizontal and vertical parameters. For example, if artifacts were collected from two different strata during the excavation of a shovel test, this constitutes two proveniences. Provenience numbers should be appended to the end of the site's accession number, and this combined number is the catalog number for any given artifact. For example, if a site is assigned a general accession number 2016.0001, then any artifact from the first provenience on the site will have the 12-digit catalog number 2016.0001.0001.

A provenience number log should be provided listing all of the provenience numbers in a collection along with their associated contextual information. See Inventories and Lists section below for information on how provenience number logs should be submitted to OSARC, and Sorting and Cataloging section below for more information regarding the organization of collections.

III. Conservation Standards

For guidance concerning conservation needs in the field or laboratory, consult published sources such as "A Conservation Manual for the Field Archaeologist," by Catherine Sease (Archaeological Research Tools, Volume 4, Institute of Archaeology, University of California, Los Angeles, 1987) or "Caring for Artifacts After Excavation: Some Advice for Archaeologists," by Katherine R. Singley (Historical Archaeology 15 (1):35-48, 1981), or the National Park Service (NPS) Museum Handbook, Part I: Museum Collections, Chapter 8 - Conservation Treatment, available online.

a. Treatment Measures

A statement indicating whether conservation treatment was performed, and a list of objects with a description of their treatments should accompany collections.

If conservation has not been completed, provide an itemized list of those objects needing treatment. Cost of treatment will be determined on a case-by-case basis.

IV. Artifact Processing and Packaging

The OSA requires that materials submitted for curation meet certain general conditions prior to acceptance, as outlined below:

a. Cleaning

All artifacts should be cleaned and stabilized prior to shipment to the OSA, except in instances where an uncleaned condition would facilitate a particular form of analysis, or where the depositor desires to have the OSA staff perform--at cost--cleaning, conservation, packaging, and other tasks.

Artifacts should be cleaned with water or dry brushed. Wash only those materials that will not deteriorate or where cleaning with water will not destroy archaeological evidence (e.g., carbon deposits, slip on pot sherds, etc.).

Artifacts, specimens, or samples that require special care (i.e., those which must not be washed or otherwise cleaned or processed) should be clearly separated from other materials and marked: SPECIAL TREATMENT REQUIRED.

b. Sorting and Cataloging

A standardized method of collections-cataloging must be employed for each collection and project. Include a full, written explanation of the cataloging method employed with each collection. The cataloging system described below is recommended, but not required by the OSA Laboratory Supervisor.

The formerly recommended cataloging system consisted of letters designating the artifact class (e.g. *p* for pottery*, b* for bone*, eb* for ethnobotanical materials) followed by a sequential specimen number unique to that catalog entry (1, 2, 3, 4, 5…). For collections that are the result of Phase I surveys, it is not necessary to assign artifact class letters or unique specimen numbers in this manner; designating artifacts by their 12-digit catalog number (provenience number appended to accession number) is sufficient. Artifact catalogs for these collections should be sorted by site number, provenience number, and then material type. See Inventories and Lists section below for information on how artifact catalogs should be submitted to the OSARC, and 'Packaging' section below for information on how artifacts should be bagged.

In cases where only a sample of the recovered material is analyzed in detail, the analyzed and unanalyzed materials should be separated and labeled accordingly.

c. Artifact Labeling

Artifacts greater than one inch in size should be labeled. If all artifacts in a bag are smaller than one inch, a minimum of one artifact should be labeled per bag. Artifacts should also be labeled in situations where objects from two different proveniences are going to be bagged together, such as refits or cross-mended fragments. Otherwise, it is not necessary to individually label artifacts on the artifact's surface.

Labeling should be done using a lacquer basecoat and topcoat (such as Acryloid B72 or B67), with the information written clearly in archival ink (such as Pigma Micron pens) between the two coats. If possible, labels should be positioned so that they are not visible on the side of the artifact most likely to be photographed.

For more information on proper artifact labeling, see the NPS artifact labeling guidelines, which are found in Chapter 8: Collections Management of their Managing Archaeological Collections online publication.

d. Packaging

1. Artifact Bags

   Artifacts must be completely dry before packing into artifact bags.

   Artifact bags should be clear, archival-quality, acid-free, polyethylene storage bags, and be a minimum of 4-mil thick. Bags with white blocks for labeling are preferred. Paper bags will not be accepted for permanent artifact curation storage.

   Artifact bags should have a self-sealing, zip-lock closer. Open-ended bags will not be accepted for curation as they are unreliable and compromise the integrity of the collection when tape, staples, or twist-ties fail.

   Information should be written on the bags with permanent marker. If bags with white blocks are used, the information should be written on the white block area.

   For collections produced by Phase I surveys, artifacts need only be bagged according to provenience. However, for proveniences that have an artifact count of 15 or greater, artifacts should be separated into interior bags by material type. The minimum information that should be included on these interior artifact bags is the 12-digit catalog number. Interior bags should be placed together into an overall provenience bag, which should be labeled with the site number, 12-digit catalog number, and all other appropriate provenience information, such as date of excavation and excavator(s) initials.

   For large collections generated by assessment, data recovery, or other research projects, artifacts should be bagged by provenience *and* material type (see Sorting and Cataloging section above). These bags should be labeled in permanent ink with the 12-digit catalog number and material/specimen number if assigned, along with all other appropriate provenience information. Bags containing the same material from different proveniences may be bagged together in larger bags.

   Artifact bags from multiple proveniences within the same site may be grouped together into larger bags. Catalog number ranges should be marked on these larger bags that have multiple proveniences from the same site bagged within them.

2. Artifact Tags

   A tag replicating what is written on each bag should be laser-printed or written in permanent ink on an acid-free paper. These tags should be inserted into each bag with the text-side clearly visible upon bag closure.

   The acid-free paper tag does not need to be bagged separately and can come into contact with the curated artifacts in the bag, with the exception of materials that may render the tag illegible, such as carbonized plant materials and metal artifacts. In such cases the tag should be placed into its own unlabeled bag.

3. Fragile Specimens

   Fragile items (bone, wood, shell, etc.) should be wrapped in acid-free tissue paper and bagged, boxed, or placed in vials.

   Use roll Styrofoam (1/32" thick) or bubble wrap to package large fragile items. These products are available in multiple widths. Do not use newspaper. It is highly acidic and unstable and will not be accepted.

   To pack fragile items within standard boxes, place Styrofoam peanuts or shredded acid-free paper at the bottom, to act as a buffer and reduce excess volume. Do not use newspaper. Place materials in position, then fill the remaining volume with Styrofoam peanuts to keep the materials in an upright or stable position within the exterior storage box.

   Ethnobotanical or radiocarbon samples may not be placed in the same exterior boxes with stone or ceramic artifacts. Sample-specific identifiers should indicate the nature of the contents (e.g., wood, charcoal, carbonized seeds, etc.). All C-14 samples should be packaged and labeled in the same manner in which they would be sent to a C-14 laboratory.

   Mounted microscope slides should be stored in an acid-free cardboard archival box or sleeve. Each slide should be numbered, and the associated catalog number and other relevant contextual information associated with each slide number written in permanent ink on the container. The box or sleeve should itself be bagged and labeled according to the information in the 'Artifact Bags' and 'Artifact Tags' sections above.

4. Metal Artifacts

   Silica gel should be included as a desiccant if plastic bags are used for the storage of metal artifacts, but the silica gel must not come in contact with artifact surfaces.

   Fine or delicate metal artifacts may be stored in small plastic boxes or vials.

   A small, perforated plastic bag of silica gel should be placed in each artifact bag or container holding metal.

5. Soil Samples

   Soil samples intended for flotation will not be accepted for curation. Flotation samples should be processed and their contents treated according to the standards provided above. Only soil samples taken to allow for chemical, pollen, phytolith, or similar analyses will be curated. Contact the OSARC Laboratory Supervisor regarding waterlogged samples.

Soil samples should be completely air-dried, and packaged in a 4-mil plastic bag with a zipper closure. The maximum amount of soil per bag should not exceed 1 lb (0.45 kg).

Use a permanent marker to label bags with the catalog number and standard provenience information for the sample. The same information should be included on a Tyvek tag placed inside the sample bag.

Storage boxes containing soil samples must not exceed 30 lbs total weight, regardless of box size. The exterior label should include the standard provenience information and be marked as containing soil samples. See Boxes section below for more information.

6. Oversized and Bulk Artifacts

   Oversized artifacts that do not fit into artifact bags must be securely tagged with appropriate information and can be placed in archival-quality interior boxes within the overall storage box.

   The OSARC Laboratory Supervisor should be notified in advance concerning any oversized artifacts that do not fit in a standard-sized archival box (12" wide, 15" long, and 10" high). Such items will be charged a minimum standard curation fee of $220 as the item will be, in theory, taking up the space of at least 1 standard-sized archival box. These items should be appropriately labelled, preferably with ink and an affixed tag.

   The OSARC Laboratory Supervisor should be contacted in advance concerning the curation of bulk materials such as oyster shell, brick, mortar, and daub.

7. Boxes

   Space limitations at the OSA require that materials submitted for curation meet certain general conditions prior to acceptance:

   Artifact collections submitted for curation should be in acid-free archival storage boxes (i.e., Hollinger record storage boxes) measuring 12" wide, 15" long, and 10" high. It is preferable to use additional boxes rather than exceed these measurements.

   Half boxes (6" x 15" x 10") may be submitted for paper documentation or for smaller collections.

   The weight of boxed collections should be distributed as evenly as possible. Storage boxes must not exceed 30 lbs total weight, regardless of box size.

   Record storage boxes may contain archival-quality, acid-free interior boxes as a substitute for large plastic bags. These interior boxes can be used as containers and dividers for separate site collections or proveniences.

   Each box should contain a box catalog that specifically lists the contents of the box.

   Once all materials have been packaged and boxed, a label must be placed on the 'width' end of each closed box. This label should include the catalog number ranges that are included in the box. Labels should be laser-printed in large font, bold letters, and double spaced for easy reading. Box labels must be self-adhesive or securely attached to boxes with adhesive tape. The minimum label size for standard storage boxes is 3" x 5".

Multiple boxes containing materials from a single site or project should be numbered sequentially ("Box 1 of 3, 2 of 3," etc.) on the box label. All inventory records, such as packing lists and similar inventory control documents, must reference those numbers.

V. Associated Records

Changes in digital technology have resulted in the need to reformulate OSARC guidelines for the submission of records and data associated with curated collections. Most significantly, the native formats of many materials, such as photographs and maps, are now digital. The following guidelines have been developed to accommodate this change, while ensuring the greatest possible integrity and accessibility of these records.

All text documents should be provided in both paper and digital format, regardless of the manner in which they were created. This means that hand-written documents should be scanned at a resolution of no less than 300 dpi, and this digital scanned copy provided along with the original or a high-quality copy of the original. Conversely, a paper copy should also be provided of text documents produced digitally.

Text documents should be laser-printed or copied on archival quality paper and should not contain staples, paper clips, or rubber bands. Acid-free folders or blank sheets of acid-free paper may be used to separate/divide groups of documents. These documents should be placed in standard-size, acid-free folders and the folders should be labeled with the following information: site number, accession number, and a list of what documents are included in the folder.

All digital media should be provided in duplicate on CD-R or DVD-R disks, with CD-R Archival Gold or DVD-R Archival Gold disks preferred. Images should be in jpeg or tiff format, with tiff preferred, and be no less than 300 dpi. Text documents should be in pdf or MS Word format, along with an unformatted txt copy. Tables and databases should be in MS Excel or MS Access format, along with an unformatted txt copy. Unformatted txt copies are requested to ensure the data in these files remain accessible regardless of software programming changes through time.

Files should be named using a consistent and descriptive format that at a minimum contains the site number, accession number, and file type (for example, OR333_2017-0033_ArtifactCatalog, OR333_2017-0033_ShovelTestForms, OR333_2017-0033_PhotoLog). Please note that the periods in accession and catalog numbers should be replaced with hyphens to avoid unexpected problems with applications; spaces should also be avoided but readability maintained using hyphens, CamelCase, and underscores. Files should be in organized folders, minimally by site.

Disks should be labeled directly using either CD-safe markers or a laser-printer, with laser-printing preferred. Adhesive labels should not be placed on CDs. Disks should be labeled with the following information: name of the submitting party, the environmental review number if applicable, accession number or range of accession numbers to which the associated data pertain, and the date data was transferred to CD (month/year). Discs should be stored in acid-free paper sleeves labeled with the same information written or printed on the CD.

Collections deposited for curation should be accompanied by two categories of records: those that document the fieldwork activities that produced the collection, and those that itemize the resulting contexts and materials themselves. Specific guidelines concerning these associated records are provided below.

a. Documentation of Fieldwork

1. Site Forms
   No materials will be accepted for curation without a complete OSA Site Form (see Appendix C), including attached site map(s) and artifact catalog, on file at the OSA. Site forms can be downloaded at http://archaeology.ncdcr.gov/programs/forms/.

2. Field Records
   At least one paper copy and one digital scan of all original field documentation must accompany each collection submitted for curation. The paper copy may be produced as a photocopy or as a laser-print of a scan made at no less than 300 dpi. Original notes, drawings, maps, and other forms of documentation also may be submitted for permanent storage with the artifact collections.

   All project field notes, correspondence, analysis sheets, feature records, etc., must be complete, organized, and clearly labeled with the site number, author, and date. Field notebooks or other bound records should be labeled on the exterior cover in permanent marker.

   Metal fasteners of any kind should not be affixed to paper records. For this reason, use of spiral-bound notebooks for field notes is strongly discouraged. If original notes in this form are to be submitted as documentation for curation, the spiral binding should be carefully removed and the pages placed in a standard-size, acid-free folder.

3. Photographs and Photograph Catalogs

   Digital photograph files should accompany each archaeological collection. The number of images submitted should be commensurate with the amount of work undertaken at a site. Minimally, an overall site view should be provided, along with images of any identified features. For evaluation, data recovery, and research projects, all excavations and identified features should be documented with photographs.

   Images should be taken with a digital point-and-shoot or SLR camera that produces images of no less than two megapixels. Images taken as RGB color digital tiffs are preferred; jpeg images are acceptable.

   All digital image files should be renamed using a standard naming format that includes the site number, accession or catalog number, and image number (for example, 31OR333_2017-0033_IMG001). Please note that the periods in accession and catalog numbers should be replaced with hyphens to avoid unexpected problems with applications. If more than three photographs are to be submitted for a given accession number, they should be contained in a subfolder named 'Photographs' within the site folder.

   Prepare and submit a photo log of all photographic documentation. Image file names should correspond to entries in the photo log. Information provided for each image should include at a minimum photographer, date, direction, and description of subject.

   Unlike text documents, copies of photograph files do not need to be printed. For older collections, prints, negatives, and slides should be scanned prior to curation. Contact the OSARC Laboratory Supervisor for recommendations prior to preparing and submitting legacy photographic materials.

4. Maps, Drawings, and Charts

   Maps, drawings, and charts should be saved as TIFF or JPEG files at resolutions no less than 300 dpi. Unlike text documents, copies of maps, drawings, or chart files do not need to be printed. Contact the OSARC Laboratory Supervisor for recommendations regarding any legacy oversize paper records that may require curation.

b. Inventories and Lists

1. Packing Lists

   All shipments to the OSA must be accompanied by a packing list, which provides the name of the submitting party, the project name, environmental review number if applicable, county, site number(s), accession number(s), box numbers, and a summary of box contents.

   The left most column of the packing list should be labelled Catalog Numbers, and should contain the range of 12-digit catalog numbers associated with materials in each box. Consultant catalog numbers (if applicable) should be placed in the adjacent column. If materials from more than one site are present in a collection, a site field should also be included. Box numbers indicated on the packing list should be marked on box labels.

Sample packing list:

ABC Inc., Open Field Transmission Line, ER 17-0170, Wake County				
Catalog Nos.	**ABC Cat. Nos.**	**Site**	**Box**	**Materials**
2017.0017.0001 to 2017.0017.0030	87-1 to 87-30	WA3333	1	Associated documents, NA ceramic and lithic
2017.0018.0001 to 2017.0018.0010	87-31 to 87-41	WA3334	1	Associated documents, historic ceramics, glass
2017.0019.0001 to 2017.0019.0042	87-42 to 87-84	WA3335	2	Associated documents, NA lithic
2017.0019.0043 to 2017.0019.0080	87-85 to 87-112	WA3335	3	NA Lithic

2. Provenience Number Logs

   As mentioned above (see Provenience Numbers in Collection Submission section), a provenience number log should be provided with all artifact collections. This table should list each of the 12-digit catalog numbers in a collection along with their associated provenience information.

Sample provenience log:

Catalog No.	ABC Inc., Cat. No.	Site	Unit	Strat	Depth (cmbs)	Excavators	Date
2017.0017.0001	87-1	WA3333	ST1	2	20-35	CM Hyde, RL Jones	1/15/17
2017.0017.0002	87-2	WA3333	ST2	1	10-20	EL Smith, O Taylor	1/15/17
2017.0017.0003	87-3	WA3333	ST2	2	30-70	EL Smith, O Taylor	1/15/17
2017.0017.0004	87-4	WA3333	ST3	2	26-50	CM Hyde, RL Jones	1/15/17
2017.0017.0005	87-5	WA3333	ST4	2	30-55	EL Smith, O Taylor	1/15/17
2017.0017.0006	87-6	WA3333	ST5	2	20-44	CM Hyde, RL Jones	1/15/17
2017.0017.0007	87-7	WA3333	ST6	2	30-50	EL Smith, O Taylor	1/15/17

3. Artifact Catalogs

   Artifact catalogs should be included in the box containing the associated artifacts.

   Catalogs should be sorted by site number, provenience number, and then material type. The order in which the material types are organized is at the discretion of the creator of the artifact catalog. If the artifact catalog is for a project that contains information from multiple sites, then the artifacts should first be listed in order by site and provenience, and then grouped by material type. See Sorting and Cataloging section above for more information.

Sample Artifact Catalog:

Site #	Catalog #	Test Unit #	Strat	Level	Count/ Qty	Material/ Class	Object	Type	Form	Treatment/ Decoration	Color	Comments
31XY1234	2017.0001.0001	TU 1	1	1	1	Glass	Container Glass	Machine-Made Bottle	Body Frag	Embossed Letters	Colorless	Mold Seam
31XY1234	2017.0001.0002	TU 1	1	2	1	Lithic	Biface	Metavolcanic	Base Frag			
31XY1234	2017.0001.0003	TU 1	2	1	1	NA Ceramic	Coarse Sand Temper	Mount Pleasant	Rim Sherd	Cord-Marked		
31XY1234	2017.0001.0003	TU 1	2	1	4	NA Ceramic	Coarse Sand Temper	Mount Pleasant	Body Sherd	Cord-Marked		
31XY1234	2017.0001.0003	TU 1	2	1	6	Lithic	Debitage	Quartz	Interior Flake			
31XY1234	2017.0001.0004	TU 2	1	1	8	Glass	Container Glass		Body Frag		Amethyst	
31XY1235	2017.0002.0001	TU 1	1	1	2	Hist Ceramic	Whiteware	Transfer Printed	Body Frag		White and Blue	
31XY1235	2017.0002.0002	TU 2	1	1	1	Glass	Container Glass	Machine-Made Bottle	Base Frag	Maker's Mark	Colorless	Owens-Illinois Glass Company
31XY1235	2017.0002.0002	TU 2	1	1	4	Glass	Window Glass				Aqua	
31XY1235	2017.0002.0003	TU 2	1	2	2	Metal	Cut Nail	Iron	Frag			Corroded

VI. Human Remains

North Carolina and federal statutes and attendant regulations provide general directions for the recovery, handling, treatment, analysis and disposition of human skeletal remains and associated objects. These include the Indian Antiquities, Archaeological Resources, Unmarked Human Skeletal Remains Protection, and Archaeological Record Program Acts (G.S.70), Abandoned and Neglected Cemeteries (G.S. 65 Article 12), and the Native American Graves Protection and Repatriation Act (P.L. 101-601). Regardless of the historical or cultural associations of discovered human remains, all burials deserve respectful treatment transcending the care afforded to any other class of archaeological materials.

The exact methods for recovery and disposition of human remains should be determined on a case-by-case basis. Each case requires specificity that goes beyond the general--and often confusing or contradictory--regulatory requirements. Legal procedures must be followed, but the methods of how each burial is to be handled should be properly defined in the terms of agreements among the concerned parties (descendants, landowners, agencies, and archaeologists). Each agreement should precisely outline mutual responsibilities and the steps to be taken for recovery, treatment, analysis, and disposition of the remains.

As it is impossible in these guidelines to predict the terms and conditions of such agreements, we provide no particular instructions on the handling of human remains here. The State Archaeologist or federal agency officials should be contacted for direct guidance whenever burials are discovered. Law enforcement officials, local or state medical examiners, Tribal authorities, landowners and other individuals should also be involved in consultations.

In almost every instance, short- or long-term curation of human remains is an important consideration. Unlike other archaeological materials, most human remains will eventually be returned to the next of kin or descendants for reburial. The remains must be carefully handled, documented, and protected from unnecessary harm or deterioration during the entire process of removal, transportation, and analysis.

The types of scientific and historical information to be gained studying human burials will vary from one instance to the next, and are without question important to our understanding of human culture and history. But human remains are not artifacts in the same sense as stone tools, glass fragments, or ceramic vessel sherds. Human remains must be afforded the special considerations fixed in law and through mutually-agreeable terms established among the concerned parties.

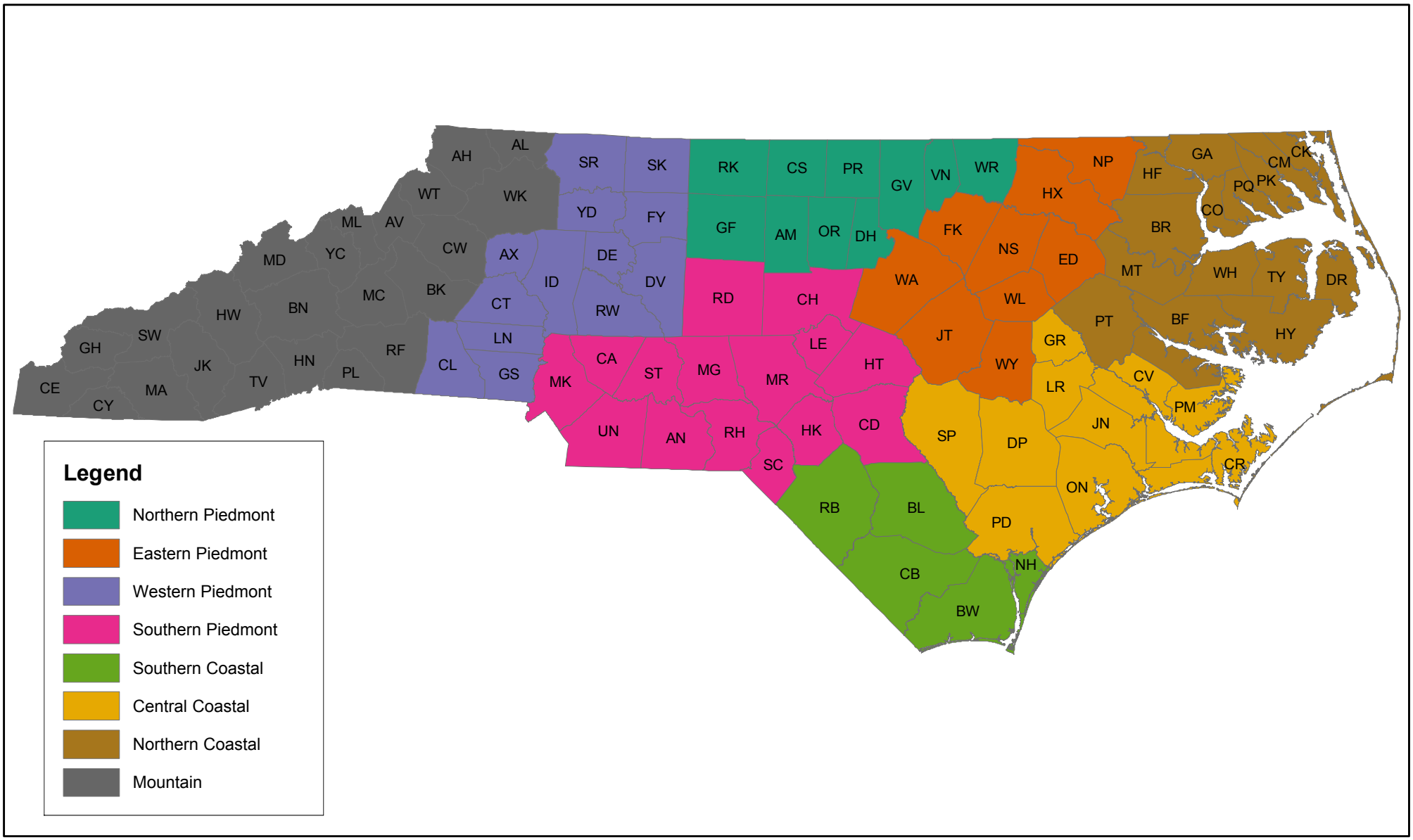
APPENDIX A

Office of State Archaeology (OSA) Staff Regional Assignments

Environmental Review Regions

The Office of State Archaeology

December 1, 2017



Northern Coastal **UAU (Underwater Archaeology Branch)** **nathan.henry @ncdcr.gov**	**Central Coastal** **UAU (Underwater Archaeology Branch)** **chris.southerly @ncdcr.gov**	**Southern Coastal** **UAU (Underwater Archaeology Branch)** **john.morris @ncdcr.gov**	**Eastern Piedmont** **OSA Raleigh** **marybeth.fitts @ncdcr.gov**	**Northern Piedmont** **OSA Raleigh** **susan.myers @ncdcr.gov**	**Southern Piedmont** **OSA Raleigh**	**Western Piedmont** **OSA Raleigh** **lindsay.ferrante @ncdcr.gov**	**Mountain** **WO (Archives & History Western Office)** **linda.hall @ncdcr.gov**
Bertie (BR) Beaufort (BF) Camden (CM) Chowan (CO) Currituck (CK) Dare (DR) Gates (GA) Hertford (HF) Hyde (HY) Martin (MR) Pasquotank (PK) Perquimans (PQ) Pitt (PT) Tyrell (TY) Washington (WH)	Carteret (CR) Craven (CV) Duplin (DP) Greene (GR) Jones (JN) Lenoir (LR) Pamlico (PM) Pender (PD) Onslow (ON) Sampson (SP)	Bladen (BL) Brunswick (BW) Columbus (CB) New Hanover (NH) Robeson (RB)	Franklin (FK) Edgecombe (ED) Halifax (HX) Johnston (JT) Nash (NS) Northampton (NP) Wake (WA) Wayne (WY) Wilson (WL)	Alamance (AM) Caswell (CS) Durham (DH) Granville (GV) Guilford (GF) Orange (OR) Person (PR) Rockingham (RK) Vance (VN) Warren (WR)	Anson (AN) Cabarrus (CA) Chatham (CH) Cumberland (CD) Harnett (HT) Hoke (HK) Lee (LE) Mecklenburg (MK) Montgomery (MG) Moore (MR) Randolph (RD) Richmond (RH) Scotland (SC) Stanly (ST) Union (UN)	Alexander (AX) Catawba (CT) Cleveland (CL) Davidson (DV) Davie (DE) Forsyth (FY) Gaston (GS) Iredell (ID) Lincoln (LN) Stokes (SK) Surry (SR) Rowan (RW) Yadkin (YD)	Alleghany (AL) Ashe (AH) Avery (AV) Buncombe (BN) Burke (BK) Caldwell (CW) Cherokee (CE) Clay (CY) Graham (GH) Haywood (HW) Henderson (HN) Jackson (JK) McDowell (MC) Macon (MA) Madison (MD) Mitchell (ML) Polk (PK) Rutherford (RF) Swain (SW) Transylvania (TV) Watauga (WT) Wilkes (WK) Yancey (YC)

APPENDIX B

Preferred Format for the Request of Permanent Site Numbers

Requesting Permanent State Site Numbers and Accession Numbers

Please make requests for site and/or accession numbers by email to Site Registrar Susan Myers (susan.myers@ncdcr.gov). If you have questions about your request you may email them or call 919/807-6556.

Do not send partially completed site forms as a means of making your requests. This will not speed the response. You are responsible for submitting the completed site form(s) with site and accession numbers filled in as appropriate.

When requesting state site numbers from the OSA please provide

- Your project or temporary site number for each site
- What county each site is in
- Site type--the time period(s) represented by each site—prehistoric, historic, or both (you may be more specific about time periods—Middle Archaic, e.g.—but that is not necessary)
- The name(s) of the quad(s) on which each site is located
- The UTMs and datum for each site
- Whether you would like an accession number assigned. If you are requesting these for some but not all, please indicate (e.g. with a cemetery you would not typically be requesting an accession number, but might be for the rest of the project's sites)
- You may also indicate your recommended National Register of Historic Places (NRHP) status per site, but this is optional
- A map or maps—topographic type clearly marked with the map's name, county in which it's located, and labeled site location. If all sites legibly fit on one map one is fine for all.

It may be helpful to provide the above information in table format, such as an Excel spreadsheet, though this is optional. The information simply needs to be in the body of the request.

While we will accept maps showing points or polygons, it is our preference that shapefiles be submitted when requesting site numbers. This eases the mechanics of the site assignment process, ensuring the most accurate plotting for the sites. We prefer shapefiles submitted as polygons, however small, but accept points. If you choose to submit shapefiles we do not require submission of UTMs provided you included a map. Please review the following section carefully for how to best submit GIS data when requesting site numbers.

Submitting GIS Data

When requesting permanent state site numbers, we recommend submitting GIS data for all sites. To reduce the errors in location accuracy we prefer receiving boundaries (i.e. polygons) of archaeological sites, surveyed areas and/or Areas of Potential Effect (APE).

- Please use WGS 1984 Web Mercator (auxiliary sphere) - this is the projection used at OSA, but we will also accept NAD 1983 North Carolina State Plane (Feet) or NAD 1927 UTM Zones 16, 17 or 18 (site form still requires UTMs).
- Zip GIS data into one file for transmission. For example, whether you are submitting one shapefile or three shapefiles, there should be one zipped file submitted. Zipping shapefiles

ensures that all associated files (.prj, .dbf, .shp, etc.) are included. Tables and maps do not have to be zipped with GIS data.

- Sites should be grouped into one shapefile of like feature type (e.g. sites recorded as polygons should be merged into one shapefile; sites recorded as points in another). This limits the amount of processing needed on our end.
- Please do not merge dissimilar data (e.g. APEs with sites).
- Please distinguish the site by including the temporary site number in the attribute table. Additionally, include at a minimum these fields in the attribute table: State Site number (if known; e.g., a revisited site), Site Type (historic, prehistoric, or both) and recommended NRHP status (if known at the time of site request).
- If you are emailing your request you may attach the zip file in your email. Note, some email providers may not allow .zip files as attachments. If this is the case, rename the file extension by adding "_rename". Example: "sites.zip" becomes "sites.zip_rename". To unzip the file, the "_rename" is removed prior to extraction.
- In addition to GIS data, we request submitting an overview map of sites that need state site numbers assigned. This helps to ensure that sites are accurately plotted when they imported into our GIS.

If you have questions concerning submitting GIS data, please contact GIS Specialist Sam Franklin (samuel.franklin@ncdcr.gov or 919/807-6563).

APPENDIX C

North Carolina Office of State Archaeology (OSA) Site Form (version VIII)*

* This PDF copy of the Site Form lacks the drop-down menu options available in the MS Word version, and is included here for reference purposes only. The MS Word form can be downloaded from **https://archaeology.ncdcr.gov/programs/forms**.

NORTH CAROLINA ARCHAEOLOGICAL SITE FORM VIII
Office of State Archaeology/Division of Archives & History

1. STATE SITE NUMBER:
2. SITE/VESSEL NAME(S):
3. OTHER SITE NUMBER:
4. INSTITUTION ASSIGNING: CODE:
5. PROJECT SITE NUMBER:
6. SITE COMPONENT: 7. SITE REMAINS:

SITE LOCATION INFORMATION

8. COUNTY:
9. QUAD MAP: MAP CODE:
10. BODY OF WATER:
11. COORDINATE SYSTEM: MAP UNITS:
12. MAP ZONE: MAP DATUM:
13. MAP EASTING: MAP NORTHING:
14: RECORDED W/ GPS?: GPS DATA POST-PROCESSED?:

******ATTACH USGS MAP AND ANY ADDITIONAL SITE MAPS******

15. DATE RECORDED: RECORDED BY:
16. RESULT OF COMPLIANCE PROJECT: PROJECT NAME:
17. PROJECT TRACKING NUMBER(S):
18. CODING DATE: CODED BY:

19. CURATION FACILITY:	20. ACCESSION NUMBER:	ORDER:
1.	1.	1.
2.	2.	2.
3.	3.	3.

21. ARTIFACT INVENTORY ATTACHED:
22. BIBLIOGRAPHIC REFERENCE #'S:
23. RECOMMENDATIONS:

ENVIRONMENTAL INFORMATION

24. GEOGRAPHIC SITUATION:
25. ELEVATION/DEPTH: FT. AMSL
26. SLOPE PERCENT: LOW % HIGH % SLOPE FACE DIRECTION:
27. SOIL/BOTTOM COMPOSITION:

28. NRCS SOIL TYPE CODE: SOIL SERIES NAME:

29. MODERN VEGETATION:

30. DISTANCE TO WATER/FROM SHORE: (Meters)

31. NEAREST PERMANENT WATER TYPE:

32. DRAINAGE BASIN:

33. SITE SIZE

34. GROUND VISIBILITY: LOW % GROUND VISIBILITY: HIGH %

35. UNDERWATER VISIBILITY (FEET):

36. SITE CONDITION:

37. PERCENT DESTROYED: DATE DESTROYED:

38. DESTRUCTION CAUSES:

INVESTIGATIONS

39. COLLECTION MADE:

40. COLLECTION STRATEGY:

41. AREA COVERED IN CONTROLLED COLLECTION: (SQ. M.)

42. TEST MADE:

43. TESTING METHODS:

44. EXCAVATION DATE: 45. INSTITUTION EXCAVATING:

PREHISTORIC SITE INFORMATION

45. CULTURAL COMPONENT(S):

46. SITE FUNCTION(S):

47. MIDDEN:

48. LITHICS:

- ☐ 1 Hafted Bifaces/Projectile Pts.
- ☐ 2 Bifaces
- ☐ 3 Unifacial Tools
- ☐ 4 Other Unifacial Tools
- ☐ 5 Cores
- ☐ 6 Primary Debitage
- ☐ 7 Secondary Debitage
- ☐ 8 Tertiary Debitage
- ☐ 9 Ground Or Pecked Stone
- ☐ 10 Shatter
- ☐ 99 Other

49. TOOL TYPES AND FREQUENCIES: # #

☐ 1 - Clovis	☐ 31 - PPt. (Triangular)
☐ 2 - Hardaway Blade	☐ 32 - PPt. Frag.(Notched/Stemmed)
☐ 3 - Hardaway-Dalton	☐ 33 - PPt. Frag. (Triangular)
☐ 4 - Hardaway Side-Notched	☐ 34 - PPt. Frag. Indeterminate)
☐ 5 - Palmer Corner Notched	☐ 35 - End Scraper (Type I)
☐ 6 - Kirk Corner-Notched	☐ 36 - End Scraper (Type II)
☐ 7 - St. Albans Side Notched	☐ 37 - End Scraper (Type III)
☐ 8 - LeCroy Bifurcated Stem	☐ 38 - Side Scraper (Type I)
☐ 9 - Kanawha Stemmed	☐ 39 - Side Scraper (Type II)
☐ 10 - Kirk Serrated	☐ 40 - Side Scraper (Type III)
☐ 11 - Kirk Stemmed	☐ 41 - Pointed Scraper
☐ 12 - Stanly Stemmed	☐ 42 - Oval Scraper
☐ 13 - Morrow Mtn. I Stemmed	☐ 43 - Pisgah Triangular

☐ 14 - Morrow Mtn. II Stemmed	☐ 44 - Haywood Triangular
☐ 15 - Guilford Lanceolate	☐ 45 - Garden Creek Triangular
☐ 16 - Halifax Side-Notched	☐ 46 - Copena Triangular
☐ 17 - Savannah River Stemmed	☐ 47 - Connestee Triangular
☐ 18 - Sm. Savannah R. Stemmed	☐ 48 - Madison
☐ 19 - Gypsy Stemmed	☐ 49 - South Appalachian Pentagonal
☐ 20 - Swannanoa Stemmed	☐ 50 - Transylvania Triangular
☐ 21 - Badin Crude Triangular	☐ 51 - Otarre
☐ 22 - Yadkin Large Triangular	☐ 52 - Plott
☐ 23 - Roanoke Large Triangular	☐ 53 - Big Sandy
☐ 24 - Uwharrie Triangular	☐ 54 - MacCorkle
☐ 25 - Caraway Triangular	☐ 55 - Bradley Spike
☐ 26 - Clarksville Small Triangular	☐ 56 - Swansboro
☐ 27 - Pee Dee Pentagonal	☐ 57 - Yadkin-Eared
☐ 28 - Randolph Stemmed	☐ 58 - Piscataway
☐ 29 - PPt. (Notched)	☐ 59 - Roanoke Small Triangular
☐ 30 - PPt. (Stemmed)	☐ 60 - Swansboro
	☐ 99 - Other

50. OTHER MISCELLANEOUS ITEMS:

- ☐ 1 Human Bone Or Teeth
- ☐ 2 Non-Human Bone Or Teeth
- ☐ 3 Antler
- ☐ 4 Unworked Marine/River Shell
- ☐ 5 Worked Marine/River Shell
- ☐ 6 Turtle Shell
- ☐ 7 C-14 Sample(s)
- ☐ 8 Pollen Sample(s)
- ☐ 9 Phytolith Sample(s)
- ☐ 10 T-L Sample(S)
- ☐ 11 Sediment Sample(s)
- ☐ 12 Wood
- ☐ 13 Fiber
- ☐ 14 Fabric
- ☐ 15 Fire-Cracked Rock
- ☐ 99 Other

PREHISTORIC CERAMICS:

51. CERAMIC TEMPER:	52. SURFACE TREATMENT:	53. TYPE NAME:
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.
6.	6.	6.
7.	7.	7.
8.	8.	8.
9.	9.	9.
10.	10.	10.

HISTORIC SITE INFORMATION

54. PERIOD OF OCCUPATION BEGIN: PERIOD OF OCCUPATION END:

55. REFINED DATE FROM: REFINED DATE TO:

56. HISTORIC AFFILIATION:

57. HISTORIC DEFINITION:

58. SITE TYPE/FEATURE:

(NOTE: IF RESPONSE 58 IS #65, WATER VESSEL, COMPLETE ITEMS 59 – 76, AND APPLICABLE ITEMS FROM HISTORIC ARTIFACTS)

VESSEL INFORMATION

59. DATA SOURCE:

60. PRIMARY HULL CONSTRUCTION: DETAIL:

61. HULL FASTENINGS: DETAIL:

62. HULL DESIGN/CONSTRUCTION DETAILS:

63. WRECKAGE DIMENSIONS: LENGTH: FEET WIDTH: FEET DEPTH: FEET
HOW DETERMINED:

64. ESTIMATED ORIGINAL DIMENSIONS: LENGTH: FEET WIDTH: FEET DEPTH: FEET
HOW DETERMINED:

65. ESTIMATE OF ORIGINAL VESSEL REMAINING: %

66. MEANS OF PROPULSION: PRIMARY: SECONDARY: DETAILS:

67. SAIL POWERED: NUMBER OF MASTS: OBSERVABLE REMAINS:
SAIL CONFIGURATION (IF POSSIBLE TO DETERMINE):
DETAILS:

68. ENGINE POWERED: MECHANISM: DETAILS:
ENGINE NUMBER: TYPE: FUEL:
BOILER NUMBER: TYPE:

69. ALTERNATE MEANS OF POWER (IF ANY): DETAILS:

70. CAUSE OF LOSS: DETAILS:

71. COUNTRY OF CONSTRUCTION (IF KNOWN):

72. ARTIFACT CATEGORIES OBSERVED:
- ☐ Cargo
- ☐ Ordnance
- ☐ Ship's Equipment
- ☐ Personal Effects
- ☐ Other

73. PURPOSE OF CRAFT: DETAILS:

74. TYPE OF VESSEL:

75. VESSEL DESCRIPTION:

76. VISIT HISTORY (DATE, ORGANIZATION, PURPOSE, RESULTS):

HISTORIC ARTIFACTS

77. ACTIVITIES GROUP:
- ☐ 1 - Construction Tools
- ☐ 2 - Farm Tools
- ☐ 3 - Toys
- ☐ 4 - Fishing Gear
- ☐ 5 - Colonial-Indian Pottery
- ☐ 6 - Storage Items
- ☐ 7 - Ethnobotanical
- ☐ 8 - Associated With Stable Or Barn
- ☐ 9 - Other

78. AGRICULTURE:
- ☐ 1 - Farm Tool
- ☐ 3 - Fencing Material

	☐ 2 - Assoc. w/ Stable/Barn	☐ 9 - Other
79. ARCHITECTURAL GROUP:	☐ 1 - Window Glass ☐ 2 - Nails ☐ 3 - Spikes	☐ 4 - Construction Hardware ☐ 5 - Door Lock Parts ☐ 9 - Other
80. ARMS GROUP:	☐ 1 - Musket Balls, Shot, Sprue ☐ 2 - Gun Flints, Gunspalls	☐ 3 - Gun Parts, Bullet Molds ☐ 9 - Other
81. CLOTHING GROUP:	☐ 1 - Buckles ☐ 2 - Thimbles ☐ 3 - Buttons ☐ 4 - Scissors ☐ 5 - Straight Pins	☐ 6 - Hook & Eye Fasteners ☐ 7 - Bale Seals ☐ 8 - Glass Beads ☐ 9 - Other
82. HISTORIC MISCELLANEOUS:	☐ 1 - Bone Fragment ☐ 2 - Furniture Hardware ☐ 3 - Button Manufacturing Blanks	☐ 4 - Silversmithing Debris ☐ 9 - Other
83. KITCHEN GROUP:	☐ 1 - Ceramics ☐ 2 - Wine Bottle ☐ 3 - Case Bottle ☐ 4 - Tumbler ☐ 5 - Pharmaceutical Bottle	☐ 6 - Glassware ☐ 7 - Tableware ☐ 8 - Kitchenware ☐ 9 - Other
84. MILITARY OBJECTS:	☐ 1 - Swords ☐ 2 - Insignia ☐ 3 - Bayonets	☐ 4 - Artillery Shot & Shell ☐ 9 - Other
85. PERSONAL ITEMS:	☐ 1 - Coins ☐ 2 - Keys	☐ 3 - Personal Items ☐ 9 - Other
86. PIPES:	☐ 1 - Tobacco Pipe ☐ 2 - Stub-Stemmed Pipes	☐ 3 - Pipe Stems ☐ 9 - Other

87. TEMPORALLY DIAGNOSTIC ARTIFACTS:

COMMENTS

88. OWNER/TENANT INFORMATION:

89. DIRECTIONS TO SITE:

90. RESEARCH POTENTIAL:

91. EXPLANATION OF RECOMMENDATIONS:

92. EXCAVATION RESULTS:

93. EXPLANATION OF IMPACTS:

94. TESTING RESULTS:

95. FEATURE DESCRIPTION:

96. OTHER IMPORTANT ARTIFACT TYPES:

97. HISTORIC CERAMIC TYPES:

98. HISTORIC SITE DESCRIPTION:

99. COMMENTS:

100 – 107: OFFICE OF STATE ARCHAEOLOGY USE ONLY

100. NATIONAL REGISTER STATUS:
101. NATIONAL REGISTER CRITERION:
102. DATE ON NATIONAL REGISTER:
103. TYPE OF FORM:
104. RECORDER STATUS:
105. FORM RELIABILITY:
106. LOCATIONAL RELIABILITY:
107. FORM DATA CHECKED BY: DATE:

APPENDIX D

North Carolina Office of State Archaeology (OSA) Cemetery Site Form

North Carolina Cemetery Site Form

Identity

Cemetery name(s) _____

State site number: 31_____ State Property Office complex number ____ ____ _____
(CTY) (CO) (COMP)

Other site numbers _____ Organization assigning other number _____

Recorded by _____ Organization name (if any) _____

Mailing address_____

Phone number(s) _____ Email _____

Form submitted by _____ Date Submitted_____

Reason for recording cemetery _____

If compliance, provide:

Tracking number _____

Compliance project name_____

Location and Ownership

County _____ City, town, community or township _____

Cemetery address (if applicable) _____

Directions to cemetery:

Access to cemetery: Restricted (explain)_____
Unrestricted

Cemetery owner name and address:

USGS topographic quadrangle map name_____

Provide coordinates in Latitude ____* _____' _____" Longitude ____* _____' _____"

OR Universal Transverse Mercator (UTM)

Datum: NAD27 NAD83 Zone ___ Easting _____ Northing _____

*****Please attach a map showing the cemetery's location*****

Description

Public cemetery _____ Entity Name _____

Private cemetery: ☐ Family

☐ Church (Name, denomination)_____

☐ Fraternal/Organization (Name)_____

☐ Other (explain) _____

Status: ☐ in use
☐ maintained
☐ neglected
abandoned

Size of cemetery (approx) _____

Number of graves (approximate) _____

Is the cemetery enclosed? Yes No

Type of enclosure: ☐ wall
☐ fence
☐ hedge
☐ other_____

Condition of enclosure
☐ Good
☐ Poor
☐ Other _____

Number of marked graves _____ unmarked graves _____ legible markers _____

Period of use began _____ Period of use ended _____

Date of earliest marker _____ Date of most recent marker _____

Marker type(s) ☐ wood ☐ concrete
☐ limestone ☐ ceramic
☐ granite ☐ encased paper
☐ marble ☐ other_____

If unusual markers present, please describe:

Please use the table attached to list the individuals buried in the cemetery and provide transcriptions of any marker inscriptions

Cultural Affiliation: Native American ☐ White
☐ African American ☐ Unknown
☐ Slave ☐ Other _____

Are historic or prehistoric artifacts present?
☐ Yes
☐ No
☐ Unknown
Describe _____

Has the cemetery been documented in a cemetery survey? Yes
No

Publication (Please provide publication information and/or Web address):

Special/historical significance of cemetery:

Research potential:_____

Recommendations :_____

Any other information pertinent to the cemetery:

Environment and Condition

Topographic situation_____ Elevation (feet AMSL) _____ Modern vegetation _____ __

Slope range: low ___ % high ___ % Slope Face Direction _____ NRCS Soil type _____

Soil series name _____ Soil composition _____

Distance to water (meters): _____ Nearest water type : _____

Drainage basin: _____ Ground visibility: low _____ % high _____ %

General condition of cemetery:

- ☐ Well maintained and preserved
- ☐ Marginally maintained
- ☐ Not maintained
- ☐ Overgrown, but easily identifiable
- ☐ Overgrown, not identifiable
- ☐ Not identifiable as burial site (known to exist by oral tradition)

Explain: _____

Have markers or other aspects of cemetery been damaged? Yes
No

Damage caused by (check all that apply):

- ☐ Vandalism
- ☐ Animals/grazing
- ☐ Farming operations
- ☐ Industrial operations
- ☐ Other means (describe) _____
- ☐ Development or construction activities
- ☐ Custodial care
- ☐ Natural activities
- Neglect or attrition

Percent destroyed (estimate) _____ Date destroyed, if known _____

Is cemetery currently threatened?

Yes (please explain) _____
No

OFFICE OF STATE ARCHAEOLOGY USE

National Register Status

- ☐ Determined Eligible
- ☐ Placed on the Study List
- ☐ Approved for Nomination by NRAC
- ☐ Currently listed on NRHP
- ☐ Removed from NRHP
- ☐ Not eligible after evaluation
- ☐ Unassessed
- ☐ North Carolina Archaeological Record Program

Form reliability

- ☐ Complete
- ☐ Incomplete
- Unreliable

Criterion

☐ A ☐ B ☐ C ☐ D

Date listed _____

Locational reliability

- ☐ Accurate
- ☐ Unknown
- Unreliable
- ☐ Within 100 meter radius
- ☐ Within 500 meter radius
- ☐ Within 1 km radius

Form Checked by _____ Date_____

Please mail completed form, map and any photographic attachments to:

Susan Myers
Site Registrar
Office of State Archaeology
4619 Mail Service Center
Raleigh, NC 27699-4619

Please contact Susan Myers (susan.myers@ncdcr.gov, 919/807-6556) or Sam Franklin, GIS Specialist (samuel.franklin@ncdcr.gov, 919/807-6563) with any questions.

Name(s) on marker	Birth date	Death Date	Marker Type	Marker Material	Condition of marker	Inscription

APPENDIX E

Handbook for Completing the North Carolina Office of State Archaeology (OSA) Site Form and Cemetery Form

North Carolina Office of State Archaeology

Archaeological Site Form Handbook

Version VII

Last Update
May 31, 2017

The North Carolina Office of State Archaeology (OSA) has developed forms for recording historic and prehistoric archaeological sites. The forms provide a standardized method for recording site information in a format suitable for digital access and management. This guide outlines the basic procedures for recording archaeological sites with these forms by professional archaeologists operating through cultural resource management or academic research programs. In the following sections instructions are given for how to request permanent site numbers and how to fill out the appropriate forms.

REQUESTING PERMANENT NUMBERS.

Permanent numbers must be requested and assigned prior to submitting any archaeological site forms to the OSA. All requests should be in the format specified in the following paragraphs.

Please make requests for site and/or accession numbers by email to Site Registrar Susan Myers (susan.myers@ncdcr.gov). If you have questions about your request you may email them or call 919/807-6556. Do not send partially completed site forms as a means of making your requests. This will not speed the response. You are responsible for submitting the completed site form(s) with site and accession numbers filled in as appropriate.

When requesting state site numbers from the OSA please provide

- Your project or temporary site number for each site
- What county each site is in
- Site type--the time period(s) represented by each site—prehistoric, historic, or both (you may be more specific about time periods—Middle Archaic, e.g.—but that is not necessary)
- The name(s) of the quad(s) on which each site is located
- The UTMs and datum for each site
- Whether you would like an accession number assigned. If you are requesting these for some but not all, please indicate (e.g. with a cemetery you would not typically be requesting an accession number, but might be for the rest of the project's sites)
- You may also indicate your recommended National Register of Historic Places (NRHP) status per site, but this is optional
- A map or maps—topographic type clearly marked with the map's name, county in which it's located, and labeled site location. If all sites legibly fit on one map one is fine for all.

It may be helpful to provide the above information in table format, such as an Excel spreadsheet, though this is optional. The information simply needs to be in the body of the request.

While we will accept maps showing points or polygons, it is our preference that shapefiles be submitted when requesting site numbers. This eases the mechanics of the site assignment process, ensuring the most accurate plotting for the sites. We prefer shapefiles submitted as polygons, however small, but accept points. If you choose to submit shapefiles we do not require submission of UTMs provided you included a map. Please review the following section carefully for how to best submit GIS data when requesting site numbers.

Submitting GIS Data. When requesting permanent state site numbers, we recommend submitting GIS data for all sites. To reduce the errors in location accuracy we prefer receiving boundaries (i.e. polygons) of archaeological sites, surveyed areas and/or Areas of Potential Effect (APE).

- Please use WGS 1984 Web Mercator (auxiliary sphere) - this is the projection used at OSA, but we will also accept NAD 1983 North Carolina State Plane (Feet) or NAD 1927 UTM Zones 16, 17 or 18 (site form still requires UTMs).
- Zip GIS data into one file for transmission. For example, whether you are submitting one shapefile or three shapefiles, there should be one zipped file submitted. Zipping shapefiles ensures that all associated files (.prj, .dbf, .shp, etc.) are included. Tables and maps do not have to be zipped with GIS data.
- Sites should be grouped into one shapefile of like feature type (e.g. sites recorded as polygons should be merged into one shapefile; sites recorded as points in another). This limits the amount of processing needed on our end.
- Please do not merge dissimilar data (e.g. APEs with sites).
- Please distinguish the site by including the temporary site number in the attribute table. Additionally, include at a minimum these fields in the attribute table: State Site number (if known; e.g., a revisited site), Site Type (historic, prehistoric, or both) and recommended NRHP status (if known at the time of site request).
- If you are emailing your request you may attach the zip file in your email. Note, some email providers may not allow .zip files as attachments. If this is the case, rename the file extension by adding "_rename". Example: "sites.zip" becomes "sites.zip_rename". To unzip the file, the "_rename" is removed prior to extraction.
- In addition to GIS data, we request submitting an overview map of sites that need state site numbers assigned. This helps to ensure that sites are accurately plotted when they imported into our GIS.

If you have questions concerning submitting GIS data, please contact GIS Specialist Sam Franklin (samuel.franklin@ncdcr.gov or 919/807-6563).

WHICH FORM TO USE.

Currently there are two forms used by the Office of State Archaeology for the recording of site information. The forms and their intended applications are listed below:

Form VIII. This is a general-purpose form designed to record detailed site information for primary management and planning purposes. Form VIII should be used under the following conditions:

a) To record all previously unrecorded historic and prehistoric archaeological sites.

b) To record all site revisits or updates. Instances that fall into this category include but are not limited to subsurface testing and excavation at the site.

Cemetery Form. Designed to stand alone, the Cemetery Form is used to record all historic cemeteries that have been abandoned (without interment) for a minimum of 15 years. If the cemetery occurs in connection with a historic site complex or a prehistoric site, then Site Form VIII should be completed as well.

FILLING OUT THE FORMS.

When filling out either Form VIII or the Cemetery Form, it imperative that the information entered

is both complete and accurate. This is particularly important since the forms are used for archival and research purposes. Please complete all fields with accurate information, as appropriate. Forms that do not contain adequate information will be returned for completion.

SITE FORM GUIDE - FORM 8.

The following is a field-by-field guide to the types of information required to accurately fill out Archaeological Site Form VIII.

1. **STATE SITE NUMBER:** This field is for the permanent site number assigned by the OSA, as the central site data repository (since January 1983). This should be filled in after permanent site numbers have been obtained from the OSA.
2. **SITE NAME(S):** Record any name by which the site or vessel may be known. In cases where there are two or more site names, a semi-colon should be used to separate site names.
3. **OTHER SITE #:** This field primarily applies to site numbers assigned prior to 1983 by institutions or individuals other than the OSA. It is included on the form to allow cross-references to be made between these earlier designations and current permanent site numbers.
4. **INSTITUTION ASSIGNING:** This field is for recording the name of the institution reporting the site. Please include the name and the appropriate code for the reporting institution given in Appendix A of this guide. If the reporting institution is not on the current list, contact the OSA for an appropriate designation.
5. **PROJECT SITE #:** Individual archaeologists may wish to identify sites by a specific project abbreviation or otherwise temporary designation. Assigning specific project numbers will allow retrieval of information about a particular project area with only a knowledge of the alphanumeric prefix. Example: A site recorded during a survey of Bladen Lakes State Forest may be assigned the number BL77-142 (Bladen Lakes, 1977, site no. 142); information on all sites recorded during that survey would be retrieved by calling for BL77 data.
6. **SITE COMPONENT:** Choose the appropriate period and setting from the drop-down menu; e.g, prehistoric or historic.
7. **SITE REMAINS:** Describes whether the remains are above or below ground. Choose from the drop-down menu.

Site Location Information

8. **COUNTY:** Enter county name followed by the appropriate two letter abbreviation code (See Appendix B) to indicate the county where the site is located.
9. **QUAD MAP and MAPCODE:** Using the list of maps provided in Appendix D, record the name and code of the USGS quadrangle map on which the site is located. If the name or code of your specific quad map is not listed in Appendix D, contact the OSA for an appropriate designation.
10. **BODY OF WATER:** If the site is an underwater resource, write in the name of the body of water in which it is situated (e.g., Beaufort Inlet).
11. **COORDINATE SYSTEM and MAP UNITS:** Choose from the drop-down menu.
12. **MAP ZONE and MAP DATUM:** Choose from drop-down menus the UTM zone (16, 17, or 18) and datum.

13. **UTM EASTING and NORTHING:** Record the UTM coordinates of the site being reported.
14. **RECORDED WITH GPS? and GPS DATA POST-PROCESSED:** Choose yes or no from the drop-down menu.

ATTACH USGS MAP AND ANY ADDITIONAL SITE MAPS: Append at end of form.

15. **DATE RECORDED:** Use this space to record the MONTH, DAY, and YEAR on which the site was initially recorded, visited, or re-visited.
16. **SITE RECORDED AS RESULT OF COMPLIANCE PROJECT:** By checking the appropriate space, indicate if the site was recorded as a result of a compliance project.
17. **ER # / CH # /GRANT # (OBTAIN FROM OSA):** If the site was recorded as a result of a compliance or grant project, contact the OSA for an appropriate Environmental Review, Clearinghouse, or Grant number.
18. **CODING DATE:** Use this space to record the MONTH, DAY, and YEAR on which the site form was completed.
19. **CURATION FACILITY:** Indicate the name and INSTITUTIONAL CODE of the organization or institution where the artifacts from the site will be curated. A code listing is provided in Appendix A of this Guide. If the curating institution is not listed, then contact the OSA Site Registrar for an appropriate designation.
20. **ACCESSION NUMBER(S):** If applicable, indicate any accession or catalog number(s) assigned to artifacts recovered from the site by a particular curation facility. List accession numbers or ranges of numbers in historical order of assignment, if known.
21. **ARTIFACT INVENTORY SHEET ATTACHED:** Indicate if an artifact inventory sheet is included with the site form.
22. **BIBLIOGRAPHIC REFERENCE NUMBER:** Reserved for internal use by the OSA to be filled in with number assigned to report. Leave blank.
23. **RECOMMENDATIONS:** Choose the item(s) which best describes recommendations for further action or research at the site. If none of the listed items pertain to the site, choose OTHER and use the space provided in Item 91 for a brief explanation.

Environmental Information

24. **GEOGRAPHIC SITUATION:** Choose the landform category that best identifies the topographic location of the site. If none of the indicated categories fit the site's location, please indicate by choosing OTHER. Definitions for the categories listed on the form are provided in Appendix C of this guide and have been drawn primarily from the American Geological Institute's 1972 edition of the "Glossary of Geology."
25. **EVATION / DEPTH:** Record the elevation of the site in feet or meters above mean sea level, or the depth at which the site is located, if underwater.
26. **SLOPE PERCENT LOW / HIGH and SLOPE FACE DIRECTION:** Percent slope, may be calculated or obtained from NRCS soil data. Indicate the direction of the major downward slope at the site location.
27. **SOIL/BOTTOM COMPOSITION (SCS TYPOLOGY):** Note the soil composition category that best describes the soils present at the site location.
28. **NRCS SOIL TYPE CODE:** Record the specific soil type abbreviation and soil series name. This information may be obtained from U.S. Soil Conservation Service soils maps. If detailed maps are not available for the county where the site is located leave this space blank.

29. **MODERN VEGETATION:** Choose the category of vegetation currently covering the site. If none of the categories adequately describes the current site vegetation, please choose OTHER and describe the type of vegetation in the space provided.

30. **DISTANCE TO WATER / FROM SHORE:** Approximate distance (in meters) from site to nearest permanent water source, or to shore if underwater resource

31. **NEAREST PERMANENT WATER TYPE**: Choose the type of permanent water that is nearest to the site and record the name of that water source when available. Use the OTHER category for situations not described by the categories listed. In the case of farm ponds, canals, and other man-made bodies of water, this field should be left blank. However, if the underlying original stream or water source can be identified from the USGS map then the original water type and distance should be coded.

32. **DRAINAGE BASIN:** Choose name from drop-down menu.

33. **ESTIMATED SITE SIZE (m2):** Choose the category that best describes the maximum site area (in square meters).

34. **GROUND VISIBILITY LOW/ HIGH:** Record the estimated percentage of ground surface visibility at the time the site was surveyed.

35. **UNDERWATER VISIBILITY (FEET):** Record visibility conditions when the underwater resource was visited.

36. **SITE CONDITION:** Choose the relevant categories of environmental factors at the site. If none of the categories listed adequately describes the site, use the OTHER category and the space provided to describe the site's condition.

37. **PERCENT DESTROYED/ DATE DESTROYED:** Choose the estimated percentage of the site that has been destroyed, and record the month and year in which the destruction occurred.

38. **DESTRUCTION CAUSES:** Choose the item or items which best describe destruction causes at the site. If none of the listed categories adequately describe the circumstances, then select OTHER and use the space provided for explanation. Additionally, if excavations have occurred at the site, they should be listed even if other types of site destruction have destroyed a greater portion of the site.

Investigations

39. **COLLECTIONS MADE:** Indicate if a surface collection was obtained for the site at the time of survey.

40. **COLLECTION STRATEGY:** Indicate the type of collection strategy used to obtain the surface materials from the site. If none of the listed categories adequately describes the methodology used, then select OTHER and use the space provided for explanation.

41. **AREA COVERED IN CONTROLLED COLLECTION:** Record the approximate area (in square meters) covered in any controlled collections of surface materials from the site.

42. **TEST MADE:** Indicate if subsurface tests were conducted to determine the presence or absence of subsurface cultural deposits.

43. **TESTING METHODS:** Indicate the type of subsurface testing used at the site. If none of the listed categories adequately describe the methodology used, then select OTHER and use the space provided for explanation.

44. **EXCAVATION DATE and INSTITUTION EXCAVATING:** Use these fields only for investigations utilizing test units. Indicate the MONTH and YEAR when excavations were conducted. Additionally, record the institution and its appropriate identification code. A code listing is provided in Appendix A of this Guide. If the excavating institution is not listed, then contact the OSA for an appropriate designation.

Prehistoric Site Information

45. CULTURAL COMPONENT(S): List in order of intensity the cultural components observed at the site. If additional space is needed for more than five (5) components, continue the list on the same line as the other values with codes separated by commas.

46. SITE FUNCTION(S): Choose the category or categories that best describe the site functions.

47. MIDDEN: Indicate the presence or absence of midden deposits at the site.

48. LITHICS: Check the categories of lithic artifacts recovered from the site. If none of the categories adequately describe the artifacts, then select OTHER and describe in Item 96.

49. TOOL TYPES AND FREQUENCIES: Check the categories of tool types and indicate how many of each type were recovered from the site. If none of the categories adequately describe the artifacts, then select OTHER and describe in Item 96.

50. OTHER MISCELLANEOUS ITEMS: Check any miscellaneous items or samples categories other than ceramics that were recovered from the site. If none of the listed categories apply then select OTHER and describe in Item 96.

51-53. INDICATE COMBINATIONS OF CERAMICS: These three fields are used to describe categories of prehistoric ceramics recovered from the site. Use Items 51 and 52 to record the temper and surface treatment of a ceramic category (e.g., sand tempered simple-stamped), and Item 53 to record a type name if applicable.

Historic Site Information

54. PERIOD OF OCCUPATION BEGIN/ END: Indicate the general beginning and ending periods of the site's occupation.

55. REFINED DATES OF OCCUPATION: Use the space provided to record refined dates of occupation for the site.

56. HISTORIC AFFILIATION: Choose the cultural and ethnic affiliation categories that best describe the site. If none of the categories listed adequately describe the site.

57. HISTORIC DEFINITION: Choose the categories of historic site functions provided on the site form that best describe or define the main structure at the site.

58. SITE TYPE / FEATURE: Chose categories that best describe the overall definition of the site.

Vessel Information

Complete this section only if response to Item 58 is WATER VESSEL.

Historic Artifacts

77.-86. HISTORIC ARTIFACT GROUPS: Indicate the presence of artifact categories within each of the listed **Artifact Groups.** If none of the categories for a given group sufficiently describe artifacts recovered from the site then select OTHER and describe them in Item 96. The definitions and categories listed are based on those defined in South's (1977) Method and Theory in Historical Archaeology.

87. TEMPORALLY DIAGNOSTIC ARTIFACTS: Indicate if temporally diagnostic artifacts are present in the assemblage.

Comments

88. OWNER/TENANT INFORMATION: Record the name(s) and address(es) of the property owner or individual(s) who informed the archaeologist of the site's existence, or the individual(s) who lease the property from the landowner listed above.

89. DIRECTIONS TO SITE: Provide a brief narrative describing route to site using estimated distances and referencing roadways, waterways, and landmarks as applicable.

90. RESEARCH POTENTIAL: In the space provided, and if necessary on an additional page, evaluate as succinctly as possible the research potential of the site in terms of general and specific problems of archaeological and anthropological method and theory. National Register of Historic Places criteria of significance may or may not be of relevance.

91. EXPLANATION OF RECOMMENDATIONS: Use the space provided to record a more detailed but succinct explanation of the recommendations listed in Item 23.

92. EXACAVATION RESULTS: Use only for investigations utilizing formal test units. Indicate test unit size, placement, and number, and briefly summarize findings.

93. EXPLANATION OF IMPACTS: Briefly describe environmental and artificial impacts to the site.

94. TESTING RESULTS: Briefly summarize the results of any subsurface tests conducted at the site. Indicate the total number of tests and number of positive tests.

95. FEATURE DESCRIPTION: Give a brief description any prehistoric features identified.

96. OTHER IMPORTANT ARTIFACT TYPES: Describe any historic artifacts not listed in Items 77-86.

97. HISTORIC CERAMIC TYPES: Identify historic ceramic types collected from site.

98. HISTORIC SITE DESCRIPTION: Give a brief description of the site and any features observed.

99. COMMENTS: Use the space provided to record any additional or miscellaneous information about the site.

Office of State Archaeology Use Only

100. NATIONAL REGISTER STATUS: OSA USE ONLY. Archaeological sites reported during Section 106 or similar compliance-related projects will be evaluated in accordance with appropriate criteria for inclusion in the National Register of Historic Places. Investigators must include NRHP significance recommendations in reports; final determinations will be entered in the state site inventory by OSA personnel. For further reference see: *National Register Bulletin 15*: "How to Apply the National Register Criteria for Evaluation" (National Park Service).

101. NATIONAL REGISTER CRITERION: OSA USE ONLY.

102. DATE ON REGISTER: OSA USE ONLY.

103. TYPE OF FORM: OSA USE ONLY.

104. RECORDER STATUS: OSA USE ONLY.

105. FORM RELIABILITY: OSA USE ONLY.

106. LOCATIONAL RELIABILITY: OSA USE ONLY.

107. FORM CHECKED BY / DATE: OSA USE ONLY.

APPENDIX A: INSTITUTIONAL CODES

These codes are used to identify organizations and academic institutions that have reported archaeological sites or served as curation facilities within North Carolina as of May 18, 2017. Contact the OSA for a recent listing.

Code	Institution
0	Not Recorded
1	Appalachian State University
2	Office of State Archaeology--DCR
3	Underwater Archaeology Branch (Ft Fisher)/DCR
4	Catawba College
5	Duke University
6	East Carolina University
7	St. Andrews Presbyterian College
8	U.S. Corps of Engineers
9	University of North Carolina--Chapel Hill
10	University of North Carolina--Charlotte
11	University of North Carolina--Greensboro
12	University of North Carolina--Wilmington
13	Wake Forest University
14	Western Carolina University
15	Soil Systems, Inc.
16	Coastal Zone Resources
17	Commonwealth Associates, Inc.
18	Old Salem Inc.
19	Office of State Archaeology--Western DCR
20	Historic Sites Section--DCR
21	North Carolina State University
22	Survey Branch Personnel/DCR
23	Survey Branch S&P Grantee--DCR
24	Indian Museum of the Carolinas/Laurinburg
25	N.C. Department of Transportation
26	Gaston College
27	Archeological Research Consultants, Inc.
28	Carolina Archeological Services
29	U.S. Forest Service
30	U.S. Park Service
31	Archeological Research and Survey
32	Tidewater Atlantic Research
33	Resource Analysts, Inc.
34	Mid-Atlantic Archaeological Research, Inc.
35	GAI Consultants, Inc.

36 Thunderbird Archeologial Associates, Inc.
37 Foundation for N.C. Archaeology
38 Fayetteville-Cumberland Co. Planning Board
39 Schiele Museum
40 Cultural Heritage Research Services, Inc.
41 Garrow and Associates, Inc.
42 Southeastern Archaeological Services, Inc.
43 Espey, Huston & Associates, Inc.
44 Brockington & Associates, Inc.
45 Coastal Carolina Research
46 Louis Berger & Associates
47 New South Associates
48 Wapora
49 AF Consultants
50 Ebasco Environmental
51 Robert J. Goldstein & Associates
52 Hall & Baker Archaeological Consultants
53 Native American Resource Center
54 Wilbur Smith & Associates
55 SouthArch, Inc.
56 Southern Archaeological Consultants, Inc.
57 Ruth Wetmore
58 William and Mary Center for Archaeological Research
59 University of Tennessee
60 Panamerican Consultants, Inc.
61 KEMRON Environmental Services
62 3D/Environmental Services, Inc.
63 Law Environmental, Inc.
64 Archaeological Associates
65 Environmental Service, Inc.
66 Chespeake Quaternary, Inc.
67 Greenhorne O'Mara, Inc.
68 R. S. Webb and Associates
69 3/D Evironmental
70 Greiner, Inc.
71 John Milner Associates
72 Chicora Foundation, Inc.
73 South Carolina Institute of Archaeology and Anthropology
74 Museum of the Cherokee
75 Marine Corps Base Camp LeJeune
76 Randolph Community College
77 R. Christopher Goodwin & Associates, Inc.
78 Appalachian Archaeological Services

79 Archaeological and Historical Consultants,Inc.
80 Browning and Associates, Ltd.
81 University of Pittsburgh Center for Cultural Research
82 CHRS, Inc.
83 Dames and Moore
84 DuVall and Associates
85 Ecology and Environment, Inc.
86 Engineering-Science, Inc.
87 Fourth Creek Consultants
88 Greenhouse Consultants
89 Linda Hall
90 Institute for History of Technology and Industrial Arch
91 Thomas F. King, Ph.D.
92 MCH Archaeological Services
93 Preservation Technologies, Inc.
94 SJS Archaeological Services, Inc.
95 Tellus Environmental Consultants, Inc.
96 U. S. Natural Resources Conservation Service
97 AMEC Foster Wheeler Environment & Infrastructure,
98 Amateur
99 Other
100 Blue Ridge (Scott Shumate)
101 Fort Bragg Artifact Curation Facility
102 Big Blue Archaeological Research, Inc.
103 Gray & Pape, Inc.
104 Thomas E. Beaman, Jr.
105 Braun Intertec
106 Catawba Cultural Preservation Project
107 Linda Stine
108 Legacy Research Associates
109 Cultural Resource Assessment Group
110 US Fish and Wildlife Service
111 Trading Path Preservation Association
112 GeoMarine Engineering
113 Archaeological Consultants of the Carolinas
114 Warren Wilson College
115 Of Grave Concerns
116 Edwards-Pitman
117 James River Institute (JRI)
118 S&ME
119 SEARCH (Southeastern Archaeological Research)
120 e2M, Inc. (engineering-environmental Management, I
121 MACTEC

122 BAI Associates
123 Mid-AtlanticTechnology & Environmental Research, I
124 Palmetto Research Institute
125 Bland & Associates, Inc. (BAI)
126 Dovetail Cultural Resource Group I, Inc.
127 Lincoln County Historical Association
128 Ben Franklin Society
129 AK Environmental
130 Tennessee Valley Archaeological Research
131 Arrowstone Consulting Solutions, LLC
132 NRG (Natural Resource Group)
133 HDR, Inc.
134 Tower Engineering Professionals (TEP)
135 Stantec
136 eca (Environmental Corporation of America)

APPENDIX B: NORTH CAROLINA COUNTY NAME ABBREVIATION

AM ALAMANCE
AX ALEXANDER
AL ALLEGHANY
AN ANSON
AH ASHE
AV AVERY
BF BEAUFORT
BR BERTIE
BL BLADEN
BW BRUNSWICK
BN BUNCOMBE
BK BURKE
CA CABARRUS
CW CALDWELL
CM CAMDEN
CR CARTERET
CS CASWELL
CT CATAWBA
CH CHATHAM
CE CHEROKEE
CO CHOWAN
CY CLAY
CL CLEVELAND
CB COLUMBUS
CV CRAVEN
CD CUMBERLAND
CK CURRITUCK
DR DARE
DV DAVIDSON
DE DAVIE
DP DUPLIN
DH DURHAM
ED EDGECOMBE
FY FORSYTH
FK FRANKLIN
GS GASTON
GA GATES
GH GRAHAM
GV GRANVILLE
GR GREENE
GF GUILFORD
HX HALIFAX
HT HARNETT
HW HAYWOOD
HN HENDERSON
HF HERTFORD
HK HOKE
HY HYDE
ID IREDELL
JK JACKSON
JT JOHNSTON
JN JONES
LE LEE
LR LENOIR
LN LINCOLN
MA MACON
MD MADISON
MT MARTIN
MC MCDOWELL
MK MECKLENBURG
ML MITCHELL
MG MONTGOMERY
MR MOORE
NS NASH
NH NEW HANOVER
NP NORTHAMPTON
ON ONSLOW
OR ORANGE
PM PAMLICO
PK PASQUOTANK
PD PENDER
PQ PERQUIMANS
PR PERSON
PT PITT
PL POLK
RD RANDOLPH
RH RICHMOND
RB ROBESON
RK ROCKINGHAM
RW ROWAN
RF RUTHERFORD
SP SAMPSON
SC SCOTLAND
ST STANLY
SK STOKES
SR SURRY
SW SWAIN
TV TRANSYLVANIA
TY TYRRELL
UN UNION
VN VANCE
WA WAKE
WR WARREN
WH WASHINGTON
WT WATAUGA
WY WAYNE
WK WILKES
WL WILSON
YD YADKIN
YC YANCEY

APPENDIX C: TOPOGRAPHIC SITUATION DEFINITIONS

Listed below are definitions for the topographic situation categories used in Item 22, on page 2 of Archaeological Site Form V. These definitions have been drawn primarily from the American Geological Institute's 1972 edition of the "Glossary of Geology."

1 Undifferentiated floodplain: A surface (expanse) or strip of relatively level land adjacent to a stream or river.

2 Terrace remnant on floodplain: Section of an ancient dissected terrace now incorporated or surrounded by the present floodplain. These terrace remnants generally will have a cross-section featuring one steep face articulating in a sharp angle with the gently sloped back slope (wedge shaped).

3 Low rise on floodplain: Any major projection in a floodplain which is not a terrace or levee remnant. Examples would include elevated meander scars, former islands from ancient channels, and rock outcrops.

4 Natural Levee: A long, broad, low ridge or embankment of sand and silt, built up by a stream on its floodplain and channel banks. A typical cross-section would include a steep face or bank on the stream side of the levee and a gentle backslope which grades into the floodplain surface.

5 Levee Remnant: A dissected remnant of levee occurring near an existent or ancient stream channel. Such remains may or may not be in a floodplain. An example would be a former natural levee along a stream which has been segmented by flood erosion.

6 1st terrace: The first level surface in a stream valley above (if existent) the floodplain and more or less parallel to the stream channel. The first terrace may represent the only terrace or may be the lowest (in elevation) of a series of terraces in a stream valley.

7 2nd terrace: Terrace, as described above, which exists above the 1st terrace and below the third terrace.

8 3rd terrace: Terrace, as described above, which exists above both the 1st and 2nd terraces. Should there be more than three terraces (e.g., 4th terrace, 5th terrace) they should be coded as 3rd terrace and not 4th or 5th.

9 Sand dune: A low mound, ridge, band, or hill of loose sand piled or heaped up by the wind, commonly found along seashores and more rarely along the borders of large lakes or river valleys.

10 Upland or talus slope: An often steep, concave slope formed by the accumulation of loose rock fragments and soil (generally) at the base of a cliff or steep slope. This may be referred to as the foot of a mountain - the integration of a mountain or hill with the surrounding topography.

11 Upland flats: Also called upland plains. These consist of a relatively level area of land lying in the inland areas of North Carolina.

12 Hill or ridgetop: A hill is defined as a natural elevation of the land surface rising rather prominently above the surrounding land, usually of limited extent and having a well-defined outline (rounded rather than peaked or rugged) and is generally considered to be less than 300 meters (1000 feet) from base to summit. A ridgetop refers to the top of a long, narrow elevation of the earth's surface usually with steep sides, occurring either as an independent hill or as part of a larger mountain or hill. A steep-sided upland between valleys or a valley and mountain (hill) is also defined as a ridge.

13 Saddle (between ridge or hilltops): A level ridge connecting two higher elevations. A saddle typically is a small flat area with two upslopes in opposite directions and two downslopes at right angles to the upslopes.

14 Stream confluences: A place adjacent to the meeting of two or mo re streams. Should a site be located within 200 meters (656 feet) of a stream confluence, it should be coded as such (14) regardless of other topographic features on which the site is located.

15 Terrace face: The steep slope between the floodplain and terrace or between terraces. Sites once on the terrace may be found exposed on the terrace face, or sites buried within a terrace may be exposed by the erosion of a terrace edge.

16 Hammock: A fertile area of deep humus - rich soil - gently covered by hardwood vegetation, often rising slightly above a plain, swamp, or saltwater marsh. Also called a Hummock.

17 Beach: A gently sloping zone, typically with a concave profile of unconsolidated material (generally sand) that extends inward from the low water line to the place where there is a definite change in the material or physiography, as sand dunes or cliffs. Beaches are associated with bodies of water large enough to have waves and/or tides.

18 Rock shelter: An area protected by a ledge of overhanging rock. Typically such shelters are the result of undercutting erosion of a limestone or sandstone cliff or bluff face.

19 Island: A tract of land completely surrounded by water such as an ocean, sea, lake, orstream.

20 Fan (note whether colluvial or alluvial): A gently sloping fan-shaped mass of detritus, formed commonly at a place where there is a notable decrease in gradient (e.g., the intersection of a cliff and floodplain). An alluvial fan is stream deposited, and a colluvial fan is formed from rocks and soil eroded from a narrow portion of a cliff face.

21 Toe slope/ridge toe: A toe-shaped extension from the crest or side of a hill or other highland surface. Typically a ridge toe divides two drainages, however minor. Ridge toes are also called spurs.

22 Cave: A naturally formed, subterranean open area or chamber, or series of chambers.

23 Bluff: A high bank or bold headland with a broad precipitous, almost perpendicular, sometimes rounded cliff face overlooking a plain or a body of water, especially on the outside of a stream meander.

24 Cove: A small, straight valley extending into a mountain or down a mountainside. A term used in the southern Appalachian Mountains for a relatively level area sheltered by hills or mountains.

25 River shore: A narrow strip of unconsolidated sediments (i.e., sand or silt) immediately adjacent to a stream; usually nonvegetated.

26 Stream bank: The sloping margin of a stream, serving to confine the water to its normal channel.

27 Bench: A small terrace or step-like ledge breaking the continuity of a slope; an eroded bedrock surface between valley walls.

99 Other: Please describe the situation coded as Other in detail in the space provided.

APPENDIX D: USGS TOPOGRAPHIC QUAD MAPS

A63 ABBOTTSBURG 1987
A01 ACME 1954 (15')
A59 ACME 1984
A62 ACME 1980 (OQ) (IR)
A02 ADVANCE 1969
A66 ADVANCE 1969 (87PR)
A03 AFTON 1973
A52 AHOSKIE 1982
A04 ALARKA 1940
A23 ALBEMARLE 1957 (15')
A33 ALBEMARLE 1981
A30 ALBEMARLE NE 1977
A28 ALBEMARLE NW 1978
A29 ALBEMARLE SE 1977
A31 ALBEMARLE SW 1978
A32 ALBERTSON 1980
A05 ALTON 1968
A27 ALTON 1968 (79PR)
A64 AMMON 1987
A06 ANDERSON 1972
A07 ANDERSON CREEK 1956
A49 ANDERSON CREEK 1956 (81PR)
A08 ANDREWS 1938
A51 ANDREWS 1938 (73PR)
A71 ANDREWS 1938 (90PR)
A09 ANGIER 1964
A50 ANGIER 1964 (73PR)
A48 ANGIER 1964 (81PR)
A10 ANSONVILLE 1956
A69 ANSONVILLE 1956 (83PI)
A24 APEX 1974
A55 APEX 1974 (81PR)
A67 APEX 1974 (87PR)
A72 APEX 1974 (87PR) (88PI)
A11 AQUADALE 1971
A68 AQUADALE 1971 (83PI)
A57 ARAPAHOE 1950 (83PR)
A12 ARAPAHOE 1951
A74 ARAPAHOE 1950 REVISED 1993
A13 ASHEBORO 1957 (15')
A14 ASHEBORO 1970
A47 ASHEBORO 1970 (81PR)
A53 ASHEBORO 1981
A15 ASHEVILLE 1961
A73 ASHEVILLE 1961 (91PR)
A16 ASHFORD 1956
A26 ASKIN 1978
A60 ASKIN 1978 (83PR)
A17 ATKINSON 1955 (15')
A61 ATKINSON 1984
A18 ATLANTIC 1949
A19 AULANDER 1972
A25 AURELIAN SPRINGS 1973
A20 AURORA 1950
A54 AURORA 1950 (74PR)
A57 AURORA 1950 (83PR)
A75 AURORA 1950 REVISED 1993
A65 AUTRYVILLE 1987
A21 AYDEN 1902 (15')
A56 AYDEN 1982
A46 AYDEN SW 1977
A22 AYERSVILLE 1971
A70 AYERSVILLE 1971 (84PI)
B79 BADIN 1981
B143 BADIN 1981 (83PI)
B66 BAILEY 1978
B103 BAILEY 1978 (81PR)
B01 BAKERS 1971
B118 BAKERS 1971 (80PR)
B02 BAKERSVILLE TVA 1960
B74 BAKERSVILLE 1960 (78PR)
B03 BALD CREEK 1939
B130 BALD CREEK 1939 (78PR)
B146 BALD CREEK 1939 (90PR)
B04 BALD RIVER FALLS 1957
B05 BALDWIN GAP 1959
B06 BANOAK 1970
B119 BARCO 1982 (OM)
B07 BARCO CE 1940
B105 BARCO NE n. d.
B106 BARCO NW n. d.
B107 BARCO SE n. d.
B108 BARCO SW n. d.
B08 BARLEY 1963
B75 BARLEY 1963 (80PR)
B09 BARNARDSVILLE TVA 1946
B72 BARNARDSVILLE 1946 (78PR)
B10 BAT CAVE 1946 (69PR)
B147 BAT CAVE 1946 (69PR) (87PI)
B11 BATH 1951
B73 BATH 1951 (74PR)
B122 BATH 1951 (83PR)
B152 BATH 1951 REVISED 1993
B12 BAYBORO 1968
B110 BAYBORO 1968 (74PR)
B126 BAYBORO 1968 (83PR)
B13 BAYLEAF 1967 (73PR)
B102 BAYLEAF 1967 (81PR)
B133 BAYLEAF 1967 (87PR)
B14 BEAR CREEK 1970
B136 BEAR CREEK 1970 (80PI)
B131 BEARSKIN 1986
B15 BEAUFORT 1949 (71PR)
B121 BEAUFORT 1949 (83PR)
B148 BEAUFORT 1949 (83PR) (87PI)
B16 BEAUFORT 1953-72 (1:250,000)
B17 BECKFORD CE 1940
B70 BECKFORD NE 1974
B71 BECKFORD SW 1974
B18 BELEWS CREEK 1969
B134 BELEWS CREEK 1969 (86PR)
B153 BELEWS CREEK 1969 REVISED 1994
B19 BELEWS LAKE 1971
B137 BELEWS LAKE 1971 (84PI)
B154 BELEWS LAKE 1971 REVISED 1994
B20 BELHAVEN 1951
B111 BELHAVEN 1951 (74PR)
B63 BELMONT 1973
B21 BENN KNOB 1956
B140 BENN KNOB 1956 (84PI)
B22 BENNETT 1968
B23 BENSON 1973
B80 BEREA 1981
B64 BESSEMER CITY 1973

B24 BETHANY 1971
B25 BETHLEHEM 1970
B78 BEULAVILLE 1981
B26 BIG JUNCTION 1957
B27 BIG RIDGE 1964
B151 BIG RIDGE 1946 (91PR)
B123 BISCOE 1983
B28 BLACK MOUNTAIN 1941 (69PR)
B29 BLACKSBURG NORTH 1971
B30 BLADENBORO 1957 (15')
B135 BLADENBORO 1986
B31 BLAIRSVILLE 1966
B139 BLAIRSVILLE 1988
B32 BLOUNTS BAY 1953
B117 BLOUNTS BAY 1953 (74PR)
B124 BLOUNTS BAY 1953 (83PR)
B155 BLOUNTS BAY 1953 REVISED 1993
B33 BLUFF POINT 1951
B120 BOILING SPRINGS NORTH 1982
B34 BOILING SPRINGS SOUTH 1971
B35 BOLIVIA 1943
B129 BOLIVIA 1980 (OQ) (IR)
B144 BOLIVIA 1990
B36 BOLTON 1954
B132 BONNETSVILLE 1986
B37 BOOMER 1966
B38 BOONE TVA 1959
B76 BOONE 1959 (78PR)
B65 BOONES CROSSROADS 1974
B39 BOTTOM 1971
B156 BOTTOM 1971 REVISED 1994
B40 BOYDTON 1955 (15')
B41 BOYKINS 1966
B42 BRACEY 1968
B112 BRACEY 1968 (74PR)
B141 BRACEY 1968 (79PI)
B43 BRANT ISLAND 1950
B44 BREVARD TVA 1945-65
B69 BREVARD 1965 (78PR)
B149 BREVARD 1965 (91PR)
B45 BROAD CREEK 1951 (71PR)
B142 BROAD CREEK 1951 (71PR) (80PI)
B67 BROADWAY 1977
B101 BROADWAY 1977 (81PR)
B49 BROOKS CROSSROADS 1970
B46 BROSVILLE 1965
B113 BROSVILLE 1965 (78PR)
B47 BROWNS INLET 1952 (71PR)
B127 BROWNS INLET 1952 (83PR)
B150 BROWNS INLET 1952 (83PR) (88PI)
B48 BROWNS SUMMIT 1951 (68PR)
B50 BRYSON CITY TVA 1940-61
B68 BRYSON CITY 1961 (78PR)
B51 BUFFALO CITY 1953
B114 BUFFALO CITY 1953 (75PR)
B138 BUFFALO CITY 1953 (80PI)
B52 BUFFALO COVE 1967
B53 BUNCHES BALD 1964
B54 BUNNLEVEL 1956
B104 BUNNLEVEL 1956 (81PR)
B125 BUNN EAST 1978
B55 BUNN WEST 1968
B109 BUNN WEST 1968 (73PR)
B56 BUNYAN 1951
B115 BUNYAN 1951 (74PR)
B57 BURGAW CE 1942 (15')
B77 BURGAW 1981
B58 BURLINGTON 1969
B81 BURLINGTON 1969 (81PR)
B59 BURLINGTON NE 1969
B60 BURNSVILLE 1939
B145 BURNSVILLE 1939 (90PR)
B61 BUXTON 1948 (70PR)
B128 BUXTON 1948 (83PR)
B62 BYNUM 1968
C01 CADES COVE 1964
C194 CADES COVE 1964 (76PI)
C126 CALABASH 1975 (OQ)
C02 CALABASH CE 1943
C179 CALABASH 1990
C03 CALAHALN 1969
C04 CALDERWOOD 1964
C05 CALDWELL 1968
C146 CAMDEN POINT 1982 (OM)
C06 CAMP LEJEUNE 1952 (71PR)
C07 CANA 1968
C121 CANA 1968 (77PR)
C84 CANDOR 1974
C117 CANDOR 1974 (81PR)
C127 CANDOR 1981
C08 CANTON TVA 1941-67
C97 CANTON 1967 (79PR)
C180 CANTON 1967 (90PR)
C09 CAPE FEAR 1970 (OM)
C153 CAPE FEAR 1980 (OQ) (IR)
C10 CAPE HATTERAS 1948 (70PR)
C148 CAPE HATTERAS 1948 (83PR)
C11 CAPE LOOKOUT 1949
C12 CAROLINA BEACH 1970
C154 CAROLINA BEACH 1980 (OQ) (IR
C77 CARTHAGE 1974
C186 CARTHAGE 1974 (80PI)
C13 CARVERS GAP 1960
C14 CARY 1973
C118 CARY 1973 (81PR)
C160 CARY 1973 (87PR)
C187 CARY 1973 (87PR) (88PI)
C15 CASAR 1956
C16 CASHIERS 1946
C181 CASHIERS 1946 (91PR)
C90 CASTALIA 1979
C17 CASTLE HAYNE 1970 (OM)
C155 CASTLE HAYNE 1980 (OM) (IR)
C18 CATAWBA 1970
C19 CATAWBA NE 1968
C175 CATAWBA NE 1968 (88PR)
C128 CATFISH LAKE 1981
C151 CATFISH LAKE 1984
C132 CATHERINE LAKE 1980
C161 CEDAR CREEK 1986
C20 CEDAR GROVE 1967
C21 CELO 1960
C134 CENTER HILL 1982
C85 CENTERVILLE 1978
C22 CENTRAL 1969
C162 CERRO GORDO 1986
C23 CHADBOURN 1953 (15')
C163 CHADBOURN 1986
C164 CHADBOURN NE 1986
C133 CHAPANOKE 1982

C24 CHAPEL HILL 1946
C102 CHAPEL HILL 1978 (81PR)
C99 CHARITY 1981
C25 CHARLOTTE 1952-72 (1:250,000)
C26 CHARLOTTE EAST 1967
C120 CHARLOTTE EAST 1967 (80PR)
C170 CHARLOTTE EAST 1967 (88PR)
C27 CHARLOTTE WEST 1968
C135 CHARLOTTE WEST 1968 (80PR)
C28 CHATTANOOGA 1953-74 (1:250,000)
C29 CHERRY GROVE 1972
C188 CHERRY GROVE 1972 (77PI)
C30 CHERRY POINT 1951 (71PR)
C149 CHERRY POINT 1949 (83PR)
C78 CHERRYVILLE 1973
C147 CHESNEE 1983
C31 CHESTNUT MOUNTAIN 1956
C182 CHESTNUT MOUNTAIN 1956 (83PI)
C32 CHESTOA 1939
C88 CHESTOA 1939 (78PR)
C33 CHINA GROVE 1970
C165 CHINA GROVE 1970 (87PR)
C98 CHINQUAPIN 1981
C34 CHOCOWINITY 1903 (15')
C35 CHURCHLAND 1950
C171 CHURCHLAND 1950 (87PR)
C166 CLARKSTON 1987
C36 CLARESVILLE 1966
C136 CLARESVILLE 1966 (77PI)
C37 CLARKSVILLE 1939-57 (15')
C38 CLARKSVILLE SOUTH 1968
C103 CLARKSVILLE SOUTH 1968 (81PR)
C195 CLARKSVILLE SOUTH 1968 (81PR) (88PI)
C166 CLARKTON 1987
C39 CLAUDVILLE 1968
C40 CLAYTON 1964
C177 CLAYTON 1964 (80PI)
C189 CLAYTON 1964 (73PR) (88PI)
C41 CLEMMONS 1968
C167 CLEMMONS 1968 (86PR)
C196 CLEMMONS 1968 REVISED 1994
C42 CLEVELAND 1970
C176 CLEVELAND 1970 (88PR)
C43 CLIFDALE 1948 (15')
C44 CLIFDALE 1948 (71PR)
C137 CLIFDALE 1948 (82PR)
C45 CLIFFIELD MOUNTAIN 1946
C183 CLIFFIELD MOUNTAIN 1946 (91PR)
C46 CLIMAX 1970
C143 CLIMAX 1970 (82PR)
C47 CLINGMANS DOME 1964
C157 CLINTON NORTH 1986
C158 CLINTON SOUTH 1986
C48 CLOVER 1947 (15')
C49 CLUSTER SPRINGS 1968
C116 CLUSTER SPRINGS 1968 (81PR)
C50 CLYDE TVA 1941-67
C94 CLYDE 1967 (78PR)
C51 COATS 1973
C168 COATS 1973 (87PR)
C52 COHARIE 1907 (15')
C144 COINJOCK 1982 (OM)
C79 COKEBURY 1974
C138 COKEBURY 1974 (81PR)
C178 COKEBURY 1974 (83PI)
C131 COLERAIN 1982
C87 COLERAIN NE n. d.
C53 COLERIDGE 1968
C54 COLLETTSVILLE 1956
C55 COLON 1970
C139 COLON 1970 (81PR)
C57 COLUMBIA EAST 1953
C122 COLUMBIA EAST 1953 (74PR)
C56 COLUMBIA WEST 1953
C123 COLUMBIA WEST 1953 (74PR)
C95 COMFORT 1980
C58 CONCORD 1969
C172 CONCORD 1969 (87PR)
C59 CONCORD SE 1969
C173 CONCORD SE 1969 (87PR)
C100 CONETOE 1981
C80 CONWAY 1973
C60 COOL SPRINGS 1969
C61 COOLEEMEE 1969
C190 COOLEEMEE 1969 (83PI)
C62 COPELAND 1970
C197 COPELAND 1970 REVISED 1994
C63 CORAPEAKE 1954
C91 CORAPEAKE 1977 (OM)
C64 CORBIN KNOB 1946 (67PR)
C86 CORBIN KNOB 1946 (78PR)
C65 CORE CREEK 1951 (71PR)
C145 CORE CREEK 1949 (83PR)
C130 CORE CREEK 1981
C66 CORNELIUS 1970
C140 COROLLA 1982 (OM)
C150 COSTIN 1984
C159 COUNCIL 1986
C141 COVE CITY 1982
C67 COVE CREEK GAP 1967
C184 COVE CREEK GAP 1967 (87PI)
C68 COWPENS 1959 (15')
C93 COWPENS NE 1975
C92 COWPENS NW 1975
C69 CRAGGY PINNACLE TVA 1946
C89 CRAGGY PINNACLE 1946 (78PR)
C70 CREEDMOOR 1943 (15')
C81 CREEDMOOR 1974
C119 CREEDMOOR 1974 (81PR)
C191 CREEDMOOR 1974 (81PR) (90PI)
C169 CREEDMOOR 1974 (87PR)
C193 CREEDMOOR 1974 (87PR) (90PI)
C71 CREEDS 1954 (71PR)
C72 CRESWELL 1954
C101 CRESWELL 1954 (74PR)
C73 CRESWELL SOUTHEAST 1954
C124 CRESWELL SOUTHEAST 1954 (74PR)
C83 CROATAN NATIONAL FOREST 1964
C74 CRUSO TVA 1941 (67PR)
C96 CRUSO 1941 (79PR)
C185 CRUSO 1941 (79PR) (87PI)
C82 CRUTCHFIELD CROSSROADS 1974
C75 CULBERSON TVA 1941
C125 CULBERSON 1941 (73PR)
C174 CULBERSON 1988
C76 CUMBERLAND KNOB 1965
C156 CURRIE 1980 (OQ) (IR)
C152 CURRIE 1983
C192 CURRIE 1983 (88PI)

C142 CURRITUCK 1982 (OM)
D01 DANBURY 1971
D52 DANBURY 1971 (84PI)
D02 DANVILLE 1965 (70PR)
D28 DANVILLE 1965 (78PR)
D48 DANVILLE 1965 (84PR)
D26 DARLINGTON 1974
D46 DAVIS 1949 (83PR)
D03 DAVIS 1949
D04 DAVY CROCKETT LAKE 1939
D29 DAVY CROCKETT LAKE 1939 (78PR)
D05 DAWSON CROSSROADS 1960
D06 DEEP GAP 1967
D07 DEEP RUN 1958 (15')
D36 DEEP RUN 1980
D09 DELLWOOD TVA 1941 (67PR)
D34 DELLWOOD 1941 (79PR)
D47 DELWAY 1984
D27 DENTON 1957 (15')
D35 DENTON 1980
D30 DENTON NORTHEAST 1977
D32 DENTON NORTHWEST 1977
D08 DENTON NW 1949
D31 DENTON SOUTHEAST 1977
D10 DENVER 1970
D11 DERITA 1972
D12 DIGGS 1971
D42 DIGGS 1971 (82PR)
D13 DILLARD 1946 (67PR)
D50 DILLARD 1988
D14 DILLION EAST 1960
D43 DILLION EAST 1960 (82PR)
D33 DOBBERSVILLE 1978
D15 DOBSON 1971
D54 DOBSON 1971 REVISED 1994
D45 DOVER 1982
D16 DRAKE 1963
D25 DRAPER 1965
D17 DRAUGHN 1960
D18 DREXEL 1956
D51 DAURT 1986
D49 DUBLIN 1987
D19 DUFORD 1949
D37 DUFORD 1949 (80PR)
D20 DUNN 1973
D44 DUNN 1973 (81PR)
D21 DUNSMORE MOUNTAIN 1967
D22 DURHAM NORTH 1943-51 (15')
D23 DURHAM SOUTH 1941-51 (15')
D24 DYSARTSVILLE 1962
D53 DYSARTSVILLE 1962 (83PI)
E01 EAST BEND 1966
E02 EAST LAKE 1953
E51 EAST LAKE 1953 (75PR)
E03 EAST LAKE SE 1953
E52 EAST LAKE SE 1953 (74PR)
E78 EAST LAKE SE 1953 (74PR) (87PI)
E04 EASTATOE GAP 1946 (69PR)
E69 EAST OF CAROLINA BEACH 1980 (OQ) (IR)
E05 EASTVILLE 1946-69 (1:250,000)
E62 EDENHOUSE 1982
E34 EDENTON 1981
E06 EDENTON CE 1940 (15')
E32 EDENTON NW n. d.
E07 EDMONDSON 1964
E53 EDMONDSON 1964 (73PR)
E79 EDMONDSON 1964 (73PR) (88PI)
E08 EDWARD 1950
E54 EDWARD 1950 (74PR)
E65 EDWARD 1950 (83PR)
E09 EFLAND 1968
E80 EFLAND 1968 REVISED 1994
E30 ELEAZER 1973
E59 ELEAZER 1981
E61 ELIZABETH CITY 1982 (OM)
E10 ELIZABETH CITY CE 1940 (15')
E47 ELIZABETH CITY NE n. d.
E48 ELIZABETH CITY NW n. d.
E49 ELIZABETH CITY SE n. d.
E50 ELIZABETH CITY SW n. d.
E42 ELIZABETHTOWN 1955 (15')
E70 ELIZABETHTOWN NORTH 1987
E71 ELIZABETHTOWN SOUTH 1987
E12 ELK MILLS 1959
E13 ELK PARK TVA 1960
E33 ELK PARK 1960 (78PR)
E14 ELKIN NORTH 1971
E81 ELKIN NORTH 1971 REVISED 1994
E15 ELKIN SOUTH 1971
E16 ELLENDALE 1970
E17 ELLERBE 1956
E63 ELLERBE 1956 (82PR)
E18 ELLISBORO 1971
E31 ELM CITY 1977
E72 EMERSON 1987
E19 ENFIELD 1961
E20 ENGLEHARD EAST 1951
E55 ENGLEHARD EAST 1951 (75PR)
E64 ENGLEHARD EAST 1951 (83PR)
E56 ENGELHARD NE 1953 (75PR)
E22 ENGELHARD NORTHEAST 1953
E74 ENGELHARD NE 1953 (80PI)
E21 ENGLEHARD NORTHWEST 1953
E57 ENGLEHARD NW 1953 (75PR)
E66 ENGLEHARD NW 1953 (83PR)
E75 ENGLEHARD NW 1953 (83PR) (87PI)
E23 ENGELHARD WEST 1951
E58 ENGELHARD WEST 1951 (74PR)
E68 ENGELHARD WEST 1951 (83PR)
E24 ENKA 1961
E77 ENKA 1961 (90PR)
E25 ENOCHVILLE 1970
E26 ERECT 1968
E60 ERECT 1981
E67 ERNUL 1983
E27 ERWIN 1973
E46 ERWIN 1973 (81PR)
E28 ESSEX 1963
E73 EVERGREEN 1986
E29 EXUM 1943
E76 EXUM 1990
F01 FAIR BLUFF 1962
F02 FAIR BLUFF 1962 (15')
F59 FAIR BLUFF 1962 (82PR)
F03 FAIR GROVE 1951
F73 FAIR GROVE 1951 (87PR)
F04 FAIRFIELD 1951
F53 FAIRFIELD 1951 (74PR)
F68 FAIRFIELD 1951 (83PR)

F05 FAIRFIELD NE 1953
F54 FAIRFIELD NE 1953 (74PR)
F06 FAIRFIELD NW 1953
F55 FAIRFIELD NW 1953 (74PR)
F67 FAIRFIELD NW 1953 (83PR)
F07 FAIRMONT 1962
F31 FAISON 1975
F08 FALKLAND 1904 (15')
F43 FALKLAND 1980
F80 FALKLAND 1980 (88PI)
F34 FALKLAND NE 1978
F37 FALKLAND NW 1978
F36 FALKLAND SE 1978
F38 FALKLAND SW 1978
F60 FALLING CREEK 1983
F28 FARMER 1974
F58 FARMER 1981
F78 FARMER 1974 (80PI)
F09 FARMINGTON 1966
F82 FARMINGTON 1966 REVISED 1994
F40 FARMLIFE 1978
F44 FARMVILLE 1981
F10 FARNER 1957
F75 FARNER 1957 (78PR)
F11 FARRINGTON 1951
F56 FARRINGTON 1978
F61 FARRINGTON 1978 (81PR)
F12 FAYETTEVILLE 1948-57 (15')
F13 FAYETTEVILLE 1948-57 (71PR)
F62 FAYETTEVILLE 1957 (82PR)
F74 FAYETTEVILLE 1957 (87PR)
F14 FINES CREEK 1967
F65 FINGERVILLE 1983
F64 FINGERVILLE EAST 1983
F15 FLAG POND 1939
F16 FLORENCE 1953-74 (1:250,000)
F17 FLOWERS 1964
F52 FLOWERS 1964 (73PR)
F42 FOLKSTONE 1981
F18 FONTANA DAM TVA 1940-61
F32 FONTANA DAM 1961 (78PR)
F19 FOREST CITY 1966
F66 FORT BARNWELL 1983
F20 FORT LANDING 1953
F41 FORT LANDING 1953 (74PR)
F21 FORT MILL 1968
F63 FORT MILL 1968 (80PR)
F46 FOUNTAIN 1981
F22 FOUR OAKS 1906 (15')
F70 FOUR OAKS 1986
F71 FOUR OAKS NE 1986
F23 FRANKLIN 1946 (67PR)
F33 FRANKLIN 1946 (78PR)
F30 FRANKLINTON 1978
F24 FREELAND 1943
F76 FREELAND 1990
F72 FREEMAN 1986
F39 FREMONT 1978
F45 FROG POND 1981
F81 FROG POND 1981 (83PI)
F25 FRUITLAND TVA 1942-65
F35 FRUITLAND 1965 (78PR)
F79 FRUITLAND 1965 (90PR)
F26 FRYING PAN 1953
F57 FRYING PAN 1953 (74PR)
F27 FUNSTON 1943
F69 FUNSTON 1980 (OQ) (IR)
F77 FUNSTON 1990
F29 FUQUAY-VARINA 1974
F51 FUQUAY-VARINA 1974 (81PR)
G01 GADDYSVILLE 1962
G43 GAFFNEY 1907 (15')
G44 GALATIA 1975
G81 GARDNERVILLE 1983
G02 GARLAND 1959 (15')
G86 GARLAND 1986
G03 GARNER 1964
G04 GARNER 1964 (15')
G77 GARNER 1964 (73PR)
G87 GARNER 1964 (87PR)
G05 GASBURG 1963
G54 GASBURG 1963 (80PR)
G06 GASTONIA 1914 (15')
G07 GASTONIA NORTH 1970
G08 GASTONIA SOUTH 1973
G09 GATES 1967
G84 GATES 1967 (78PI)
G61 GATESVILLE 1980
G50 GATESVILLE 1979
G62 GATESVILLE 1981
G90 GATESVILLE 1981 (90PI)
G10 GEORGETOWN 1944 (1:250,000)
G11 GHIO 1949
G78 GHIO 1949 (82PR)
G12 GIBSON 1949
G79 GIBSON 1949 (82PR)
G13 GIBSONVILLE 1970
G94 GIBSONVILLE 1970 REVISED 1994
G14 GILREATH 1966
G15 GLADE VALLEY 1968
G16 GLEN ALPINE 1962
G17 GLENDALE SPRINGS 1967
G18 GLENOLA 1970
G71 GLENOLA 1970 (81PR)
G19 GLENVILLE TVA 1946 (67PR)
G56 GLENVILLE 1946 (79PR)
G20 GLENWOOD 1962
G21 GLOBE 1959
G22 GOLD HILL 1962
G91 GOLD HILL 1962 (83PI)
G48 GOLD SAND 1978
G88 GOLD SAND 1978 (81PI)
G23 GOLDSBORO 1957 (15')
G76 GOLDSBORO NE n. d.
G74 GOLDSBORO NW n. d.
G73 GOLDSBORO SE n. d.
G75 GOLDSBORO SW n. d.
G24 GOLDSTON 1970
G92 GOLDSTON 1970 (80PI)
G25 GORETOWN 1962
G26 GRANDFATHER MOUNTAIN TVA 1960
G53 GRANDFATHER MOUNTAIN 1960 (78PR)
G27 GRANDIN 1966
G27 GRANDIN 1966
G28 GRANITE FALLS 1970
G45 GRANTHAM 1974
G29 GRASSY CREEK 1966
G47 GRAYS CHAPEL 1974

G30 GRAYSON 1959
G31 GREAT ISLAND 1951
G34 GREAT SMOKY MTNS. NATIONAL PARK (EAST) 1931
G32 GREAT SMOKY MTNS. NATIONAL PARK AND VICINITY 1949-72
G33 GREAT SMOKY MTNS. NATIONAL PARK (WEST) 1931
G85 GREEN ISLAND 1950 (83PR)
G35 GREEN ISLAND 1950
G72 GREEN LEVEL 1973 (81PR)
G36 GREEN LEVEL 1973
G46 GREENSBORO 1953-62 (1:250,000)
G38 GREENSBORO 1951 (68PR)
G37 GREENS CREEK TVA 1940
G49 GREENS CREEK 1940 (78PR)
G39 GREENSBORO 1954-64 (1:250,000)
G60 GREENVILLE NE 1981
G59 GREENVILLE NORTHWEST 1981
G80 GREENVILLE NW 1982
G83 GREENVILLE SE 1982
G58 GREENVILLE SW 1981
G40 GREYSTONE TVA 1939
G52 GREYSTONE 1939 (78PR)
G82 GRIFTON 1983
G51 GRIMESLAND 1979
G55 GRISSOM 1978
G93 GRISSOM 1978 (87PR)
G57 GRIST MOUNTAIN 1981
G89 GRIST MOUNTAIN 1981 (83PI)
G41 GROVER 1971
G42 GUILFORD 1951 (68PR)
H01 HACKNEY 1951
H60 HACKNEY 1951 (74PR)
H107 HACKNEY 1951 (83PR)
H83 HADNOT CREEK 1984
H45 HALIFAX 1974
H55 HAMILTON 1981
H03 HAMLET 1949 (15')
H02 HAMLET 1949-57
H78 HAMLET 1957 (82PR)
H04 HAMPSTEAD 1970 (OM)
H88 HAMPSTEAD 1980 (OQ) (IR)
H49 HANDY 1980
H70 HANDY 1981
H05 HANGING ROCK 1964 (71PR)
H102 HANGING ROCK 1964 (71PR) (77PI)
H84 HARKERS ISLAND 1949 (83PR)
H06 HARKERS ISLAND 1951 (71PR)
H07 HARMONY 1969
H87 HARRELLS 1984
H65 HARRELLSVILLE 1982
H08 HARRISBURG 1969
H93 HARRISBURG 1969 (88PR)
H09 HARRISVILLE 1956
H71 HARRISVILLE 1981
H75 HARRISVILLE 1956 (82PR)
H10 HARTFORD 1940 • (68PR)
H53 HARTSEASE 1981
H66 HARVEY NECK 1982
H11 HATTERAS 1950 (70PR)
H85 HATTERAS 1950 (83PR)
H103 HATTERAS 1950 (83PR) (87PI)
H12 HAVELOCK 1949
H61 HAVELOCK 1949 (71PI)
H82 HAVELOCK 1949 (83PR)
H72 HAVELOCK 1981
H54 HAWS RUN 1981
H46 HAYESVILLE 1966 (78PR)
H13 HAYESVILLE TVA 1966
H99 HAYESVILLE 1966 (78PR) (87PI)
H14 HAZELWOOD TVA 1941 (66PR)
H50 HAZELWOOD 1941 (79PR)
H97 HAZELWOOD 1941 (90PR)
H15 HENDERSON 1970
H76 HENDERSON 1970 (82PR)
H16 HENDERSONVILLE TVA 1946-65
H48 HENDERSONVILLE 1965 (78PR)
H100 HENDERSONVILLE 1965 (90PR)
H17 HERTFORD 1904-CE 1940 (15')
H67 HERTFORD 1982
H18 HEWITT TVA 1940
H62 HEWITT 1940 (73PR)
H63 HEWITT 1940 (73PR) (76PI)
H101 HEWITT 1940 (90PR)
H19 HIAWASEE 1966
H94 HIAWASSEE 1988
H20 HICKORY 1970
H21 HIDDENITE 1970
H22 HIGHLANDS TVA 1946 (67PR)
H23 HIGH POINT EAST 1950 (68PR)
H79 HIGH POINT EAST 1950 (82PR)
H24 HIGH POINT WEST 1969
H90 HIGH POINT WEST 1969 (87PR)
H25 HIGH ROCK 1949
H51 HIGH ROCK 1980
H96 HIGH ROCK 1980 (83PI)
H73 HIGH ROCK 1981
H52 HIGHLANDS 1946 (80PR)
H26 HIGHTOWER BALD 1946
H95 HIGHTOWER BALD 1988
H27 HILLSBOROUGH 1968
H64 HILLSBOROUGH 1973
H77 HILLSBOROUGH 1968 (81PR)
H108 HILLSBOROUGH 1968 REVISED 1994
H68 HOBBSVILLE 1982
H28 HOBGOOD 1962
H29 HOFFMAN 1949
H80 HOFFMAN 1949 (82PR)
H44 HOKE 1978
H30 HOLDEN BEACH 1943
H43 HOLLAND 1957 (15')
H42 HOLLISTER 1973
H31 HOLLY RIDGE 1970 (OM)
H89 HOLLY RIDGE 1980 (OQ) (IR)
H32 HONEY ISLAND 1943
H98 HONEY ISLAND 1990
H81 HOOKERTON 1982
H91 HOPE MILLS 1986
H33 HORNSBORO 1971
H34 HORSE GAP 1968
H35 HORSEPEN POINT 1950
H36 HORSE SHOE TVA 1942-65
H47 HORSE SHOE 1965 (78PR)
H105 HORSE SHOE 1965 (91PR)
H37 HOT SPRINGS 1940
H106 HOT SPRINGS 1940 (91PR)
H38 HOWARD REEF 1950 (70PR)
H92 HOWARD REEF 1950 (80PI)
H39 HUBERT 1952 (71PR)
H86 HUBERT 1952 (83PR)
H104 HUBERT 1952 (83PR) (88PI))

H40 HUNTDALE 1939
H41 HURDLE MILLS 1968
I01 INEZ 1971
I06 INGLESIDE 1979
I09 INGOLD 1986
I02 INMAN 1961 (15')
I03 IRON MOUNTAIN GAP 1960 (68PR)
I04 ISABELLA TVA 1957
I05 ISABELLA 1957 (78PR)
J09 JACKSON 1974
J01 JACKSON SPRINGS 1949-57 (15')
J15 JACKSONVILLE NE 1978
J11 JACKSONVILLE NORTH 1978
J10 JACKSONVILLE NW 1975
J02 JACKSONVILLE SOUTH 1952
J18 JACKSONVILLE SOUTH 1952 (71PI)
J23 JACKSONVILLE SOUTH 1952 (88PI)
J12 JAMESVILLE 1978
J20 JARVISBURG 1982 (OM)
J19 JASON 1982
J16 JASPER 1978
J21 JASPER 1978 (83PR)
J03 JEFFERSON 1968
J22 JEROME 1987
J04 JOHN H. KERR DAM 1968
J17 JOHN H. KERR DAM 1968 (81PR)
J05 JOHNS 1971
J06 JOHNSON CITY 1957-66 (1:250,000)
J07 JONES BAY 1950
J14 JONES BAY 1950 (74PR)
J24 JONES BAY 1950 REVISED 1993
J08 JUNIPER CREEK 1942
J13 JUSTICE 1979
K01 KANNAPOLIS 1969
K48 KANNAPOLIS 1969 (88PR)
K15 KELFORD 1973
K17 KELLUM 1977
K46 KELLY 1986
K03 KENANSVILLE CE 1942 (15')
K23 KENANSVILLE 1980
K03 KENLY 1902 (15')
K21 KENLY EAST 1978
K20 KENLY WEST 1978
K04 KERNERSVILLE 1969
K47 KERNERSVILLE 1969 (87PR)
K50 KERNERSVILLE 1969 REVISED 1994
K05 KIMESVILLE 1970
K42 KIMESVILLE 1970 (82PR)
K06 KING 1964 (71PR)
K07 KINGS CREEK 1970
K16 KINGS MOUNTAIN 1906 (15')
K08 KINGS MOUNTAIN 1971
K09 KINSTON 1914 (15')
K44 KINSTON 1983
K34 KINSTON NE n. d.
K35 KINSTON NW n. d.
K36 KINSTON SE n. d.
K37 KINSTON SW n. d.
K18 KITTRELL 1979
K10 KITTY HAWK CE 1940 (15')
K43 KITTY HAWK 1982 (OM)
K38 KITTY HAWK NW n. d.
K39 KITTY HAWK SW n. d.
K11 KNIGHTDALE 1967
K41 KNIGHTDALE 1967 (73PR)
K40 KNIGHTDALE 1967 (81PR)
K49 KNIGHTDALE 1967 (81PR) (88PI)
K12 KNOTTS ISLAND 1954 (71PR)
K13 KNOXVILLE 1957-72 (1:250,000)
K14 KURE BEACH 1970 (OM))
K19 KURE BEACH 1970 (OM) (79PR)
K45 KURE BEACH 1970 (OM) (IR)
L74 LA GRANGE 1983
L01 LAKE BRANDT 1951 (68PR)
L103 LAKE BRANDT 1951 REVISED 1994
L02 LAKE BURLINGTON 1969
L03 LAKE DRUMMOND 1940-54
L52 LAKE DRUMMOND 1977 (OM)
L04 LAKE DRUMMOND SE 1940-54 (71PR)
L84 LAKE DRUMMOND SE 1977 (OM)
L05 LAKE LURE 1959 (15')
L75 LAKE LURE 1982
L101 LAKE LURE 1982 (87PI)
L61 LAKE LURE NORTHEAST 1977
L59 LAKE LURE NORTHWEST 1976
L58 LAKE LURE SOUTHEAST n. d.
L60 LAKE LURE SOUTHWEST n. d.
L45 LAKE MICHIE 1977
L102 LAKE MICHIE 1977 (90PI)
L06 LAKE NORMAN NORTH 1970
L07 LAKE NORMAN SOUTH 1970
L08 LAKE TOXAWAY 1946 (69PR)
L09 LAKE VIEW 1962
L90 LAKE WACCAMAW EAST 1986
L94 LAKE WACCAMAW WEST 1987
L10 LAKE WHEELER 1964
L68 LAKE WHEELER 1964 (73PR)
L92 LAKE WHEELER 1964 (87PR)
L55 LAKE WYLIE 1973
L81 LAMBS CORNER 1982 (OM)
L11 LAMBSBURG 1965
L82 LANDRUM 1983
L12 LAUREL SPRINGS 1968
L14 LAURINBURG 1949 (15')
L13 LAURINBURG 1949-57
L79 LAURINBURG 1957 (82PR)
L76 LAWNDALE 1982
L15 LEASBURG 1968
L49 LEGGETTS CROSSROADS 1979
L16 LEICESTER TVA 1942
L56 LEICESTER 1942 (78PR)
L98 LEICESTER 1942 (90PR)
L87 LELAND 1980 (OQ) (IR)
L86 LELAND 1984
L17 LEMON GAP 1940
L95 LEMON GAP 1940 (76PI)
L18 LENOIR 1956
L44 LENOIR 1956 (15')
L19 LEONARDS POINT 1954
L69 LEONARDS POINT 1954 (74PR)
L20 LEWIS SWAMP 1943
L88 LEWIS SWAMP 1980 (OQ) (IR)
L21 LEXINGTON EAST 1950
L93 LEXINGTON EAST 1950 (87PR)
L104 LEXINGTON EAST 1950 REVISED 1994
L22 LEXINGTON WEST 1950
L91 LEXINGTON WEST 1950 (87PR)
L105 LEXINGTON WEST 1950 REVISED 1994

L42 LIBERTY 1974
L23 LILESVILLE 1956 (82PR)
L77 LILESVILLE 1956 (82PR)
L46 LILLINGTON 1978
L24 LINCOLNTON 1909 (15')
L25 LINCOLNTON EAST 1970
L41 LINCOLNTON WEST 1973
L27 LINVILLE FALLS 1951 (15')
L26 LINVILLE FALLS 1956
L96 LINVILLE FALLS 1956 (84PI)
L47 LITTLE FISHING POINT 1951 (74PR)
L28 LITTLE KINNAKEET 1950 (70PR)
L85 LITTLE KINNAKEET 1948 (83PR)
L29 LITTLE RIVER CE 1943
L30 LITTLE SWITZERLAND TVA 1960
L53 LITTLE SWITZERLAND 1960 (79PR)
L43 LITTLETON 1973
L31 LOBELIA 1947-57
L78 LOBELIA 1957 (81PR)
L70 LOCKWOODS FOLLY 1943
L32 LOCKWOODS FOLLY 1943 (1:31680)
L89 LOCKWOODS FOLLY 1980 (OQ) (IR)
L54 LOCUST 1980
L99 LOCUST 1980 (83PI)
L33 LONE HICKORY 1966
L34 LONG BAY 1950
L80 LONG BAY 1949 (83PR)
L100 LONG BAY 1949 (83PR) (87PI)
L36 LONG SHOAL POINT 1951
L35 LONGS CE 1943
L37 LONGVIEW 1970
L50 LOUISBURG 1978
L97 LOUISBURG 1978 (84PR)
L83 LOVEJOY 1983
L39 LOWLAND 1950
L38 LOWESVILLE 1970
L51 LOWLAND 1950 (74PR)
L106 LOWLAND 1950 REVISED 1993
L48 LUCAMA 1978
L40 LUFTEE KNOB 1964
L57 LYMAN 1981
L62 LYNCHS CORNER 1982
M01 MACEDONIA 1966
M155 MACEDONIA 1988
M02 MACON 1970
M03 MAIDEN 1970
M70 MAMERS 1974
M105 MAMERS 1974 (81PR)
M04 MANCHESTER 1947-57 (71PR)
M123 MANCHESTER 1957 (81PR)
M146 MANCHESTER 1957 (87PR)
M05 MANGUM 1956
M124 MANGUM 1956 (82PR)
M06 MANNS HARBOR 1953
M108 MANNS HARBOR 1953 (74PR)
M138 MANSFIELD 1949 (83PR)
M138 MANSFIELD 1949 (83PR)
M07 MANSFIELD 1951 (71PR)
M112 MANSFIELD 1981 (FS)
M08 MANTEO 1953
M113 MANTEO 1953 (75PR)
M136 MANTEO 1953 (83PR)
M74 MANTEO 1957 (1:250,000)
M09 MAPLE HILL CE 1943 (15')
M90 MAPLE HILL 1981
M91 MAPLE HILL SW 1981
M10 MAPLE SPRINGS 1966
M11 MARBLE TVA 1938
M109 MARBLE 1938 (73PR)
M169 MARBLE 1938 (90PR)
M12 MARGARETTSVILLE 1966
M13 MARION 1962 (15')
M14 MARION EAST 1962
M92 MARION NW 1978
M89 MARION SW n. d.
M145 MARION WEST 1985
M165 MARION WEST 1985 (90PR)
M16 MARSHALL 1945 (67PR)
M77 MARSHALL 1945 (78PR)
M166 MARSHALL 1945 (90PR)
M15 MARS HILL 1945 (69PR)
M78 MARS HILL 1945 (78PR)
M167 MARS HILL 1945 (90PR)
M17 MARSHVILLE 1970
M156 MARSHVILLE 1970 (88PR)
M18 MARSTON 1949
M125 MARSTON 1949 (82PR)
M133 MARTIN POINT 1982 (OM)
M142 MASONTOWN 1949 (83PR)
M19 MASONTOWN 1951 (71PR)
M114 MASONTOWN 1981
M22 MATTHEWS 1971
M126 MATTHEWS 1971 (80PR)
M149 MATTHEWS 1971 (88PR)
M20 MAXTON 1974
M127 MAXTON 1974 (80PR)
M21 MAYODAN 1971
M170 MAYODAN 1971 (77PI)
M23 MAYSVILLE CE 1942 (15')
M139 MAYSVILLE 1984
M135 MCCAIN 1948 (83PR)
M66 MCCOLL 1972
M128 MCCOLL 1972 (82PR)
M67 MCDANIEL BALD 1957
M159 MCDANIEL BALD 1957 (76PI)
M71 MCDONALD 1972
M68 MCGRADY 1968
M160 MCGRADY 1968 (84PI)
M69 MCLEANSVILLE 1952 (68PR)
M24 MEBANE 1969
M175 MEBANE 1969 REVISED 1994
M93 MERCHANTS MILLPOND 1981
M25 MERRIMON 1951 (71PR)
M131 MERRY HILL 1982
M129 MERRY OAKS 1969 (81PR)
M26 MICAVILLE TVA 1960
M81 MICAVILLE 1960 (78PR)
M27 MIDDLEBURG 1970
M130 MIDDLEBURG 1970 (82PR)
M88 MIDDLESEX 1978
M28 MIDDLETOWN 1951
M137 MIDDLETOWN 1951 (78PR)
M29 MIDDLETOWN ANCHORAGE 1951
M143 MIDDLETOWN ANCHORAGE 1951 (85PR)
M30 MIDLAND 1971
M118 MIDLAND 1971 (80PR)
M171 MIDLAND 1971 (80PR) (83PI)
M31 MIDWAY 1969
M147 MIDWAY 1969 (87PR)

M176 MIDWAY 1969 REVISED 1994
M134 MILL SPRING 1982
M173 MILL SPRING 1982 (90PR)
M32 MILLERSVILLE 1970
M33 MILLSTONE LAKE 1949
M140 MILLSTONE LAKE 1949 (84PR)
M75 MILTON 1956 (15')
M34 MILTON 1968
M141 MILTON 1968 (83PR)
M35 MINERAL BLUFF TVA 1941
M110 MINERAL BLUFF 1941 (73PR)
M150 MINERAL BLUFF 1988
M72 MINGO 1974
M36 MINT HILL 1971
M119 MINT HILL 1971 (80PR)
M157 MINT HILL 1971 (88PR)
M111 MINTONSVILLE 1982
M37 MINTURN 1971
M38 MOCKSVILLE 1969
M177 MOCKSVILLE 1969 REVISED 1994
M132 MOFFITT HILL 1982
M39 MONCURE 1970
M106 MONCURE 1970 (81PR)
M40 MONROE 1971
M151 MONROE 1971 (88PR)
M41 MONTREAT 1942 (69PR)
M42 MOORESVILLE 1969
M152 MOORESVILLE 1969 (83PI)
M43 MOORETOWN 1970 (OM)
M144 MOORETOWN 1980 (OQ) (IR)
M44 MORAVIAN FALLS 1966
M45 MORGANTON NORTH 1956
M46 MORGANTON SOUTH 1956
M84 MORIAH 1980
M120 MORIAH 1981
M148 MORIAH 1981 (87PR)
M85 MORROW MOUNTAIN 1980
M162 MORROW MOUNTAIN 1981 (83PI)
M47 MORVEN EAST 1971
M163 MORVEN EAST 1971 (83PI)
M158 MORVEN WEST 1971 (88PR)
M121 MOSSEY ISLANDS 1982 (OM)
M49 MOUNT AIRY 1957 (15')
M50 MOUNT AIRY NORTH 1968
M83 MOUNT AIRY NORTH 1968 (77PR)
M51 MOUNT AIRY SOUTH 1970
M52 MOUNT CROGHAN 1970
M164 MOUNT CROGHAN 1970 (83PR)
M53 MOUNT GILEAD EAST 1956
M122 MOUNT GILEAD EAST 1956 (82PR)
M117 MOUNT GILEAD EAST 1981
M54 MOUNT GILEAD WEST 1956
M154 MOUNT GILEAD WEST 1956 (87PR)
M55 MOUNT GUYOT 1964
M56 MOUNT HOLLY 1970
M57 MOUNT LECONTE 1964
M58 MOUNT MITCHELL 1900 (1:125,000)
M59 MOUNT MITCHELL 1946
M76 MOUNT OLIVE 1977
M60 MOUNT PLEASANT 1957 (15')
M87 MOUNT PLEASANT 1980
M86 MOUNT PLEASANT NE 1978
M79 MOUNT PLEASANT NW 1978
M82 MOUNT PLEASANT SE 1978
M80 MOUNT PLEASANT SW 1978
M61 MOUNTAIN ISLAND LAKE 1969
M153 MOUNTAIN ISLAND LAKE 1969 (83PI)
M62 MOUTH OF WILSON 1966
M161 MOUTH OF WILSON 1966 (84PI)
M172 MOUTH OF WILSON 1966 (88PI)
M174 MOUTH OF WILSON 1966 (91PR)
M63 MOYOCK 1954 (71PR)
M64 MURCHISONTOWN 1957
M107 MURCHISONTOWN 1957 (81PR)
M73 MURFREESBORO 1973
M65 MURPHY 1957
M168 MURPHY 1957 (90PR)
N70 NAKINA 1990
N01 NAKINA CE 1943
N30 NASHVILLE 1977
N02 NELSON 1968
N03 NETTLERIDGE 1967
N54 NETTLERIDGE 1967 (82PI)
N04 NEW BERN 1901 (15')
N05 NEW BERN 1950
N36 NEW BERN 1950 (74PR)
N51 NEW BERN 1950 (83PR)
N71 NEW BERN 1950 (83PR) (88PI)
N46 NEW BERN 1981
N28 NEW HILL 1974
N38 NEW HILL 1974 (81PR)
N67 NEW HILL 1974 (83PI)
N06 NEW HOLLAND 1951
N42 NEW HOLLAND 1951 (74PR)
N07 NEW HOPE DAM 1969
N08 NEW LAKE 1954
N43 NEW LAKE 1954 (74PR)
N57 NEW LAKE 1954 (83PR)
N09 NEW LAKE NORTHWEST 1954
N41 NEW LAKE NW 1954 (74PR)
N61 NEW LAKE NW 1954 (85PR)
N10 NEW LAKE SOUTHEAST 1951
N44 NEW LAKE SE 1951 (74PR)
N55 NEW LAKE SE 1951 (83PR)
N11 NEWLAND TVA 1960
N34 NEWLAND 1960 (78PR)
N35 NEW LONDON 1980
N69 NEW LONDON 1980 (83PI)
N47 NEW LONDON 1981
N58 NEWPORRT 1949 (83PR)
N12 NEWPORRT 1951 (71PR)
N13 NEW RIVER INLET 1952 (72PR)
N72 NEW RIVER INLET 1952 (71PR) (88PI)
N14 NEWTON 1970
N62 NEWTON GROVE NORTH 1986
N63 NEWTON GROVE SOUTH 1986
N15 NIAGARA 1947-57
N52 NIAGARA 1957 (83PR)
N16 NICHOLSON CREEK 1948
N53 NICHOLSON CREEK 1948 (82PR)
N37 NIXONTON 1982
N17 NOLAND CREEK TVA 1940-61
N31 NOLAND CREEK 1961 (78PR)
N18 NORFLEET 1962
N19 NORFOLK 1953-69
N20 NORMAN 1949
N59 NORMAN 1950 (83PR)
N21 NORTH BAY 1948
N45 NORTH BAY 1948 (71PI)

N22 NORTHEAST DURHAM 1973
N49 NORTHEAST DURHAM 1973 (81PR)
N64 NORTHEAST DURHAM 1973 (87PR)
N73 NORTHEAST DURHAM 1973 (87PR) (90PI)
N23 NORTHEAST EDEN 1965
N33 NORTHEAST EDEN 1965 (79PR)
N60 NORTHEAST EDEN 1965 (83PR)
N56 NORTHEAST GOLDSBORO 1983
N65 NORTHEAST LUMBERTON 1986
N24 NORTHWEST DURHAM 1973
N39 NORTHWEST DURHAM 1973 (81PR)
N66 NORTHWEST DURHAM 1973 (87PR)
N25 NORTHWEST EDEN 1964
N32 NORTHWEST EDEN 1964 (78PR)
N29 NORTHWEST GOLDSBORO
N40 NORTHWEST GOLDSBORO 1974 (81PR)
N26 NORTHWEST LUMBERTON 1972
N50 NORTHWEST LUMBERTON 1972 (82PR)
N27 NOTTELY DAM 1966
N68 NOTTELY DAM 1988
O19 OAK CITY 1981
O01 OAK HILL 1956
O02 OAKBORO 1971
O28 OCRACOKE 1948 (83PR)
O03 OCRACOKE 1950 (70PR)
O04 OLD DOCK 1943
O32 OLD DOCK 1990
O15 OLD FORD 1979
O27 OLD FORT 1982
O26 OLD SPARTA 1981
O05 OLIVE BRANCH 1970
O06 OLIVE HILL 1968
O34 OLIVE HILL 1968 REVISED 1994
O07 OLIVIA 1957
O24 OLIVIA 1957 (81PR)
O08 OREGON INLET 1953
O25 OREGON INLET 1953 (83PR)
O09 ORIENTAL 1948
O23 ORIENTAL 1948 (75PR)
O29 ORIENTAL 1948 (83PR)
O33 ORIENTAL 1948 (83PR) (87PI)
O10 OSBORNVILLE 1970
O11 OSSIPEE 1970
O12 OTEEN 1962
O31 OTEEN 1962 (90PR)
O13 OVERHILLS 1957 (71PR)
O14 OXFORD CE 1943 (15')
O21 OXFORD 1981
O30 OXFORD 1981 (84PI)
O17 OXFORD NE 1977
O20 OXFORD NORTHEAST 1981
O16 OXFORD SE 1977
O18 OXFORD SW 1977
P01 PAGELAND 1971
P02 PAINT ROCK 1940
P93 PAINT ROCK 1940 (91PR)
P03 PALMYRA 1962
P04 PAMLICO BEACH 1951
P45 PAMLICO BEACH 1951 (74PR)
P05 PAMLICO POINT 1951
P06 PANTEGO 1951
P63 PANTEGO 1951 (74PR)
P07 PARK TVA 1959
P38 PARK 1959 (78PR)
P08 PARK SPRING 1972
P90 PARK SPRING 1972 (77PI)
P34 PARKTON 1972
P71 PARKTON 1972 (82PR)
P09 PARMELE 1901 (15')
P46 PARMELE SE 1978
P43 PARMELE SW 1978
P51 PASQUOTANK 1982
P11 PEACHTREE 1937
P64 PEACHTREE 1937 (73PR)
P10 PEA ISLAND 1950 (70PR)
P80 PEA ISLAND 1950 (83PR)
P72 PEA RIDGE 1982
P87 PEACOCKS CROSSROADS 1986
P35 PEMBROKE 1972
P73 PEMBROKE 1972 (82PR)
P12 PERSIMMON CREEK TVA 1957
P39 PERSIMMON CREEK 1957 (78PR)
P81 PHILLIPS CROSSROADS 1982
P13 PIKE ROAD 1954
P65 PIKE ROAD 1954 (74PR)
P14 PILOT MOUNTAIN 1964 (71PR)
P89 PILOT MOUNTAIN 1964 (77PI)
P50 PIN HOOK 1981
P15 PINE BLUFF 1948
P74 PINE BLUFF 1948 (82PR)
P49 PINETOPS 1980
P16 PINETOWN 1950
P66 PINETOWN 1950 (74PR)
P47 PINK HILL 1980
P17 PINNACLE 1964 (71PR)
P88 PINNACLE 1964 (87PR)
P18 PIREWAY CE 1943
P91 PIREWAY 1990
P19 PISGAH FOREST TVA 1945- 65
P40 PISGAH FOREST 1965 (78PR)
P20 PITTSBORO 1970
P58 PITTSBORO 1970 (81PR)
P21 PLEASANT GARDEN 1970
P77 PLEASANT GARDEN 1970 (82PR)
P22 PLYMOUTH EAST 1954
P67 PLYMOUTH EAST 1954 (74PR)
P42 PLYMOUTH WEST 1979
P92 PLYMOUTH WEST 1979 (87PR)
P86 POINT CASWELL 1980 (OQ) (IR)
P82 POINT CASWELL 1983
P78 POINT HARBOR 1982 (OM)
P85 POINT OF MARSH 1949 (83PR)
P23 POINT OF MARSH 1950
P68 POINT OF MARSH 1950 (71PI)
P24 POLKTON 1970
P75 POLKVILLE 1982
P25 POLLOCKSVILLE 1950
P83 POLLOCKSVILLE 1950 (83PR)
P70 POLLOCKSVILLE 1981
P26 PONZER 1951
P44 PONZER 1951 (74PR)
P79 PONZER 1951 (83PR)
P84 PORTSMOUTH 1948 (83PR)
P27 PORTSMOUTH 1950 (70PR)
P48 POTTERS HILL 1980
P28 POWELLS POINT CE 1940 (15')

P59 POWELLS POINT NE n. d.
P60 POWELLS POINT NW n. d.
P76 POWELLSVILLE 1982
P29 POWHATAN 1964
P69 POWHATAN 1964 (73PR)
P61 POWHATAN 1964 (81PR)
P30 PRENTISS TVA 1946
P41 PRENTISS 1946 (78PR)
P31 PRICE 1964
P36 PRINCETON 1974
P32 PUNGO LAKE 1954
P62 PUNGO LAKE 1954 (74PR)
P33 PURLEAR 1966
P37 PUTNAM 1974
Q01 QUITSNA 1981
R01 RABUN BALD 1946 (67PR)
R109 RABUN BALD 1988
R47 RAEFORD 1972
R88 RAEFORD 1972 (82PR)
R02 RAINBOW SPRINGS TVA 1957
R54 RAINBOW SPRINGS 1957 (78PR)
R03 RALEIGH 1940-51 (15')
R04 RALEIGH 1953-69 (1:250,00)
R05 RALEIGH EAST 1968
R62 RALEIGH EAST 1968 (73PR)
R89 RALEIGH EAST 1968 (81PR)
R108 RALEIGH EAST 1968 (87PR)
R06 RALEIGH WEST 1968
R82 RALEIGH WEST 1968 (73PR)
R81 RALEIGH WEST 1968 (81PR)
R102 RALEIGH WEST 1968 (87PR)
R115 RALEIGH WEST 1968 (87PR) (88PI)
R07 RAMSEUR 1968
R110 RAMSEUR 1968 (80PI)
R08 RANDLEMAN 1970
R90 RANDLEMAN 1970 (81PR)
R09 RANSOMVILLE 1951
R83 RANSOMVILLE 1951 (74PR)
R94 RANSOMVILLE 1951 (83PR)
R10 RED OAK 1963
R11 RED SPRINGS 1974
R12 REELSBORO 1969
R84 REELSBORO 1969 (74PR)
R96 REELSBORO 1969 (83PR)
R13 REEPSVILLE 1970
R14 REID 1946
R113 REID 1946 (90PR)
R15 REIDSVILLE 1972
R118 REIDSVILLE 1972 REVISED 1994
R16 RENNERT 1972
R48 REPUBLICAN 1972
R49 RICH SQUARE 1974
R66 RICHFIELD 1981
R111 RICHFIELD 1981 (83PR)
R17 RICHLANDS 1942 (15')
R63 RICHLANDS 1981
R18 RIDGEVILLE 1968
R19 RINGGOLD 1965 (70PR)
R56 RINGGOLD 1965 (78PR)
R99 RINGGOLD 1965 (85PR)
R20 RINGWOOD 1963
R21 RIVERDALE 1967
R64 RIVERMONT 1980
R22 ROANOKE ISLAND NE 1953
R97 ROANOKE ISLAND NE 1953 (83PR)
R50 ROANOKE RAPIDS 1974
R23 ROARING GAP 1971
R24 ROARING RIVER 1966
R61 ROBBINS 1977
R25 ROBBINSVILLE TVA 1940
R85 ROBBINSVILLE 1940 (73PR)
R116 ROBBINSVILLE 1940 (90PR)
R65 ROBERSONVILLE EAST 1981
R67 ROBERSONVILLE WEST 1981
R26 ROCKINGHAM 1956
R91 ROCKINGHAM 1956 (82PR)
R27 ROCKWELL 1962
R103 ROCKWELL 1962 (87PR)
R28 ROCKY MOUNT 1902 (15')
R29 ROCKY MOUNT 1953 (1:250,000)
R53 ROCKY MOUNT 1977
R30 ROCKY POINT 1970 (OM)
R117 ROCKY POINT 1970 (88PI)
R100 ROCKY POINT 1980 (OQ) (IR)
R31 RODANTHE 1939-48
R95 RODANTHE 1948 (83PR)
R32 ROLESVILLE 1967
R86 ROLESVILLE 1967 (73PR)
R112 ROLESVILLE 1967 (73PR) (80PI)
R33 ROME 1958-72 (1:250,000)
R34 RONDA 1971
R35 ROPER NORTH 1954
R57 ROPER NORTH 1954 (78PR)
R36 ROPER SOUTH 1954
R87 ROPER SOUTH 1954 (74PR)
R98 ROSE HILL 1984
R37 ROSEBORO 1959 (15')
R104 ROSEBORO 1987
R38 ROSE HILL 1962 (15')
R39 ROSMAN TVA 1945 (67PR)
R55 ROSMAN 1945 (78PR)
R114 ROSMAN 1945 (90PR)
R51 ROUGEMONT 1974
R105 ROUGEMONT 1974 (87PR)
R101 ROWAN 1986
R40 ROWAN MILLS 1969
R107 ROWAN MILLS 1969 (87PR)
R52 ROWLAND 1972
R92 ROWLAND 1972 (82PR)
R41 ROXBORO 1943 (15')
R93 ROXBORO 1982
R58 ROXBORO NE 1977
R59 ROXBORO NW 1977
R60 ROXBORO SE 1977
R42 RUFFIN 1971
R43 RURAL HALL 1951 (71PR)
R106 RURAL HALL 1951 (87PR)
R44 RUSSELLVILLE 1971
R45 RUTHERFORDTON NORTH 1966
R46 RUTHERFORDTON SOUTH 1966
S01 SAINT PAULS 1959 (15')
S179 SAINT PAULS 1986
S85 SALEMBURG 1974
S02 SALISBURY 1962
S171 SALISBURY 1962 (87PR)
S03 SALTER PATH 1951 (71PR)
S162 SALTER PATH 1949 (83PR)
S154 SALUDA 1983
S190 SALUDA 1983 (87PI)
S04 SAM KNOB TVA 1946

S91 SAM KNOB 1946 (78PR)
S05 SAMS GAP TVA 1939
S96 SAMS GAP 1939 (78PR)
S06 SANATORIUM 1948
S07 SANDYMUSH 1941
S74 SANFORD 1974
S146 SANFORD 1974 (81PR)
S08 SANTEETLAH CREEK TVA 1940
S89 SANTEETLAH CREEK 1940 (78PR)
S86 SARATOGA 1978
S09 SATOLAH 1961
S112 SATTERWHITE 1981
S82 SAXAPAHAW 1977
S10 SCALY MOUNTAIN TVA 1946 (67PR)
S101 SCALY MOUNTAIN 1946 (79PR)
S11 SCOTIA 1953
S128 SCOTIA 1953 (74PR)
S12 SCOTLAND NECK 1962
S13 SCOTTS HILL 1970 (OM)
S166 SCOTTS HILL 1980 (OQ) (IR)
S14 SCRANTON 1951
S129 SCRANTON 1951 (74PR)
S75 SEAGROVE 1973
S138 SEAGROVE 1981
S15 SELMA 1964
S80 SELMA 1964 (15')
S130 SELMA 1964 (73PR)
S191 SELMA 1964 (73PR) (88PI)
S16 SEVEN SPRINGS 1957 (15')
S102 SEVEN SPRINGS 1980
S17 SHALLOTTE 1943
S182 SHALLOTTE 1990
S18 SHELBY 1950 (15')
S151 SHELBY 1983
S98 SHELBY SE 1976
S19 SHEPHERDS 1969
S20 SHERWOOD 1938 (69PR)
S155 SHILOH 1982 (OM)
S150 SHINGLE HOLLOW 1982
S21 SHINING ROCK TVA 1946
S92 SHINING ROCK 1946 (78PR)
S22 SHOOTING CREEK TVA 1957
S90 SHOOTING CREEK 1957 (78PR)
S185 SHOOTING CREEK 1957 (90PR)
S23 SILER CITY 1969
S196 SILER CITY 1969 (88PI)
S24 SILER CITY NE 1970
S186 SILER CITY NE 1970 (80PI)
S25 SILERS BALD 1964
S76 SILK HOPE 1974
S26 SILOAM 1970
S27 SILVER HILL 1949
S156 SILVER HILL 1949 (83PR)
S169 SINGLETARY LAKE 1986
S28 SKIPPERS 1963
S29 SKYLAND TVA 1942-65
S93 SKYLAND 1965 (78PR)
S187 SKYLAND 1965 (91PR)
S30 SLOCOMB 1948 (71PR)
S125 SLOCOMB 1948 (81PR)
S31 SMOKEMONT 1964
S192 SMOKEMONT 1964 (87PI)
S32 SNEADS FERRY 1952 (71PR)
S193 SNEADS FERRY 1952 (71PR) (88PI)
S108 SNOW CAMP 1978
S157 SNOW HILL 1982
S33 SNOW HILL 1946
S34 SOUTH BOSTON 1953-57 (15')
S35 SOUTH CREEK 1950
S131 SOUTH CREEK 1950 (74PR)
S158 SOUTH CREEK 1950 (83PR)
S202 SOUTH CREEK 1950 REVISED 1993
S163 SOUTH RIVER 1949 (83PR)
S40 SOUTHEAST DURHAM 1973
S126 SOUTHEAST DURHAM 1973 (81PR)
S176 SOUTHEAST DURHAM 1973 (87PR)
S41 SOUTHEAST EDEN 1971
S197 SOUTHEAST EDEN 1971 (77PI)
S148 SOUTHEAST GOLDSBORO 1982
S194 SOUTHEAST GOLDSBORO 1982 (88PI)
S172 SOUTHEAST LUMBERTON 1986
S42 SOUTHERN PINES 1948-57
S43 SOUTHERN PINES 1948-57 (15')
S165 SOUTHERN PINES 1957 (84PR)
S36 SOUTH HILL 1955
S81 SOUTH HILL 1955 (15')
S37 SOUTH HILL SE 1968
S99 SOUTH HILL SE 1968 (74PR)
S38 SOUTH MILLS CE 1940
S136 SOUTH MILLS 1982
S100 SOUTH MILLS SE n. d.
S44 SOUTHMONT 1962
S132 SOUTHMONT 1962 (76PI)
S173 SOUTHMONT 1962 (87PR)
S167 SOUTHPORT 1980 (OQ) (IR)
S183 SOUTHPORT 1990
S45 SOUTHPORT CE 1943
S39 SOUTH RIVER 1950
S77 SOUTHWEST DURHAM 1973
S152 SOUTHWEST DURHAM 1973 (81PR)
S177 SOUTHWEST DURHAM 1973 (87PR)
S46 SOUTHWEST EDEN 1971
S78 SOUTHWEST GOLDSBORO 1974
S195 SOUTHWEST GOLDSBORO 1974 (88PI)
S47 SOUTHWEST LUMBERTON 1972
S149 SOUTHWEST LUMBERTON 1972 (82PR)
S48 SPARTA EAST 1966
S198 SPARTA EAST 1966 (91PR)
S49 SPARTA WEST 1966
S200 SPARTA WEST 1966 (91PR)
S109 SPEED 1980
S147 SPEED 1981
S199 SPEED 1981 (88PI)
S51 SPENCER 1967
S133 SPENCER 1967 (71PR)
S52 SPICER BAY 1952
S141 SPICER BAY 1952 (71PR)
S168 SPICER BAY 1980 (OQ) (IR)
S83 SPIES 1977
S142 SPIES 1981
S53 SPRAY 1964
S54 SPRING CREEK 1946
S55 SPRING HOPE 1902 (15')
S87 SPRING HOPE 1978
S127 SPRING HOPE 1978 (81PR)
S106 SPRING HOPE NE 1973
S56 SPRUCE PINES 1960
S103 SPRUCE PINES 1960 (78PR)
S180 SPRUCE PINES 1960 (90PR)

S110 STAG PARK 1981
S107 STANCILS CHAPEL 1978
S58 STANDFIELD 1971
S175 STANDFIELD 1971 (87PR)
S57 STANDING STONE MOUNTAIN TVA 1945-65
S97 STANDING STONE MOUNTAIN 1965 (78PR)
S188 STANDING STONE MOUNTAIN 1965 (90PR)
S175 STANFIELD 1971 (87PR)
S88 STANTONBURG 1978
S159 STAR 1983
S59 STATESVILLE EAST 1969
S60 STATESVILLE WEST 1969
S84 STEDMAN 1974
S178 STEDMAN 1974 (87PR)
S164 STELLA 1984
S189 STELLA 1984 (88PI)
S79 STEM 1974
S174 STEM 1974 (87PR)
S153 STEVENSON POINT 1982
S61 STONEY POINT 1970
S113 STOVALL 1981
S201 STOVALL 1981 (93MR)
S62 STUART SOUTHEAST 1967
S161 STUART SE 1968 (83PR)
S63 STUMPY POINT 1953
S64 STYRON BAY 1949 (71PI)
S65 SUFFOLK 1918-54 (15')
S170 SUGAR HILL 1985
S66 SUMMERFIELD 1969
S104 SUMMERLINS CROSSROADS 1980
S67 SUNBEAM 1966
S134 SUNBEAM 1966 (77PI)
S111 SUNBURY 1981
S68 SUNSHINE 1965
S69 SUPPLY 1943
S184 SUPPLY 1990
S70 SWANQUARTER 1951
S135 SWANQUARTER 1951 (74PR)
S71 SWANSBORO 1952 (71PR)
S160 SWANSBORO 1952 (83PR)
S72 SYLVA NORTH TVA 1941-67
S94 SYLVA NORTH 1967 (78PR)
S73 SYLVA SOUTH TVA 1946
S95 SYLVA SOUTH 1946 (78PR)
S181 SYLVA SOUTH 1946 (90PR)
T01 TABLE ROCK 1946
T26 TABLE ROCK 1946 (78PR)
T02 TABOR CITY 1962 (15')
T03 TABOR CITY EAST 1962
T04 TABOR CITY WEST 1962
T05 TAPOCO TVA 1940
T27 TAPOCO 1940 (78PR)
T58 TAR HEEL 1986
T06 TARBORO 1902 (15')
T35 TARBORO 1981
T34 TARBORO NORTHEAST 1974
T30 TARBORO NW 1978
T29 TARBORO SE 1978
T28 TARBORO SW 1978
T07 TAYLORSVILLE 1970
T08 TELLICO PLAINS TVA 1957
T31 TELLICO PLAINS 1957 (78PR)
T24 THELMA 1973
T09 THUNDERHEAD MOUNTAIN 1964
T10 THURMOND 1971
T11 TIGERVILLE 1959 (15')
T33 TIMBERLAKE 1981
T56 TIMOTHY 1986
T12 TODD 1966
T57 TOMAHAWK 1986
T13 TOPSAIL 1970 (OM)
T55 TOPSAIL 1980 (OQ) (IR)
T14 TOPTON 1957
T60 TOPTON 1957 (76PI)
T15 TOWNSVILLE 1970
T16 TRADESVILLE 1971
T17 TRAPHILL 1968
T18 TRENT RIVER 1903 (15')
T47 TRENT RIVER NE n. d.
T48 TRENT RIVER NW n. d.
T53 TRENTON 1982
T32 TRIPLE SPRINGS 1980
T19 TROUTMAN 1969
T20 TROY 1957 (15')
T50 TROY 1981
T52 TROY 1982
T51 TROY NW 1973
T36 TROY SE 1977
T21 TUCKASEGEE TVA 1946
T25 TUCKASEGEE 1946 (78PR)
T59 TUCKASEGEE 1946 (87PR)
T22 TUNGSTEN 1968
T49 TUNGSTEN 1968 (74PI)
T54 TURKEY 1984
T23 TUSKEGEE 1961
T61 TUSKEGEE 1961 (87PI)
U01 UNAKA TVA 1957
U07 UNAKA 1957 (78PR)
U02 UNICOI 1939
U06 UNION 1977
U03 UNITY 1971
U04 UPPER BROAD CREEK 1950
U09 UPPER BROAD CREEK 1950 (83PR)
U10 UPPER BROAD CREEK 1950 REVISED 1993
U05 UWHARRIE NATIONAL FOREST 1963
V01 VALDESE 1956
V02 VALENTINES 1963
V14 VALHALLA 1982
V03 VALLE CRUCIS TVA 1960
V12 VALLE CRUCIS 1960 (78PR)
V04 VAN WYCK 1968
V05 VANCEBORO 1902 (15')
V21 VANCEBORO 1983
V06 VANDEMERE 1950
V18 VANDEMERE 1950 (74PR)
V22 VANDEMERE 1950 (83PR)
V25 VANDEMERE 1950 REVISED 1993
V10 VANDER 1957
V19 VANDER 1957 (71PR)
V20 VANDER 1957 (82PR)
V24 VANDER 1957 (87PR)
V11 VASS 1974
V07 VICKSBORO 1970
V08 VIENNA 1968
V23 VIENNA 1968 (86PR)
V09 VIRGILINA 1968

V13 VIRGILINA 1968 (80PR)
W47 WACO 1973
W53 WADE 1974
W137 WADE 1974 (83PI)
W01 WADE POINT CE 1940 (15')
W119 WADE POINT 1982 (OM)
W102 WADE POINT NE n. d.
W103 WADE POINT NW n. d.
W104 WADE POINT SW n. d.
W145 WADE POINT 1982 (90PI)
W02 WADESB ORO 1956
W142 WADESBORO 1956 (88PR)
W03 WAGRAM 1949
W115 WAGRAM 1949 (82PR)
W04 WAINWRIGHT ISLAND 1949
W118 WAINWRIGHT ISLAND 1949 (71PI)
W05 WAKE FOREST 1967
W106 WAKE FOREST 1967 (73PR)
W114 WAKE FOREST 1967 (81PR)
W130 WAKE FOREST 1967 (87PR)
W06 WAKULLA 1949
W113 WAKULLA 1949 (82PR)
W07 WALKERTOWN 1951 (71PR)
W131 WALKERTOWN 1951 (86PR)
W81 WALLACE EAST 1981
W124 WALLACE WEST 1984
W08 WALNUT COVE 1971
W132 WALNUT COVE 1971 (86PR)
W80 WALSTONBURG 1981
W09 WANCHESE 1953
W116 WANCHESE 1953 (83PR)
W10 WARRENSVILLE 1966
W11 WARRENTON 1970
W109 WARSAW NORTH 1977
W125 WARSAW SOUTH 1984
W12 WASHINGTON 1951
W111 WASHINGTON 1951 (74PR)
W120 WASHINGTON 1951 (83PR)
W13 WATERVILLE 1940 (68PR)
W14 WATSON 1970
W133 WATSON 1970 (87PR)
W15 WAXHAW 1970
W138 WAXHAW 1970 (88PR)
W16 WAYAH BALD 1957
W57 WAYAH BALD 1957 (78PR)
W17 WAYNESVILLE TVA 1941 (66PR)
W71 WAYNESVILLE 1941 (79PR)
W18 WEAVERVILLE 1962
W147 WEAVERVILLE 1962 (93PR)
W19 WEDDINGTON 1968
W79 WEDDINGTON 1968 (80PR)
W139 WEDDINGTON 1968 (88PR)
W121 WEEKSVILLE 1982 (OM)
W20 WELCOME 1969
W134 WELCOME 1969 (87PR)
W48 WELDON 1974
W21 WESSER 1961
W143 WESSER 1961 (87PI)
W22 WEST END 1949
W117 WEST END 1949 (82PR)
W23 WESTOVER 1954
W107 WESTOVER 1954 (78PR)
W24 WHALEYVILLE 1967
W78 WHALEYVILLE 1967 (81PR)
W25 WHITAKERS 1961
W26 WHITE CROSS 1968
W105 WHITE CROSS 1968 (81PR)
W49 WHITE HILL 1974
W29 WHITE LAKE 1954 (15')
W129 WHITE LAKE 1986
W59 WHITE ROCK 1939 (78PR)
W32 WHITE ROCKS MOUNTAIN 1960
W27 WHITEHEAD 1968
W30 WHITE OAK FLATS 1957
W108 WHITE OAK FLATS 1957 (78PR)
W31 WHITE OAK FLATS 1939
W33 WHITEVILLE 1955 (15')
W135 WHITEVILLE 1987
W28 WHITTIER TVA 1940-67
W58 WHITTIER 1967 (78PR)
W34 WILKESBORO 1966
W75 WILLIAMS 1980
W146 WILLIAMS 1980 (88PI)
W35 WILLIAMSBURG 1972
W36 WILLIAMSTON 1901 (15')
W112 WILLIAMSTON 1982
W67 WILLIAMSTON NE 1978
W73 WILLIAMSTON SE 1977
W74 WILLIAMSTON SW 1978
W37 WILLISTON 1951
W123 WILLISTON 1949 (83PR)
W122 WILMAR 1983
W51 WILMINGTON 1948 (15')
W38 WILMINGTON 1970 (OM)
W72 WILMINGTON 1970 (79PR) (OM)
W126 WILMINGTON 1980 (OQ) (IR)
W39 WILSON 1904 (15')
W56 WILSON 1978
W77 WILTON 1977
W66 WINDSOR NORTH 1979
W82 WINDSOR NORTH 1981
W60 WINDSOR SOUTH 1978
W40 WINGATE 1970
W140 WINGATE 1970 (88PR)
W41 WINNABOW 1943
W127 WINNABOW 1980 (OQ) (IR)
W144 WINNABOW 1990
W54 WINSTEAD CROSSROADS 1977
W52 WINSTON-SALEM 1962 (1:250,000)
W42 WINSTON-SALEM EAST 1950 (71PR)
W141 WINSTON-SALEM EAST 1950 (87PR)
W43 WINSTON-SALEM WEST 1950 (71PR)
W136 WINSTON-SALEM WEST 1950 (87PR)
W44 WINTERVILLE 1904 (15')
W68 WINTERVILLE NE 1978
W69 WINTERVILLE SE 1978
W70 WINTERVILLE SW 1978
W45 WINTON 1906 (15')
W110 WINTON 1982
W61 WOODARD 1979
W55 WOODLAND 1977
W50 WOODVILLE 1972
W46 WRIGHTSVILLE BEACH 1970 (OM)
W128 WRIGHTSVILLE BEACH 1980 (OQ) (IR)
Y01 YADKINVILLE 1966
Y02 YANCEYVILLE 1972
Y03 YEOPIM RIVER 1982
Z01 ZEBULON 1968
Z09 ZEBULON 1968 (73PR)

Z07 ZEBULON 1968 (81PR)
Z05 ZION GROVE 1977
Z08 ZION GROVE 1977 (81PR)
Z02 ZIONVILLE TVA 1959
Z06 ZIONVILLE 1959 (76PI)
Z04 ZIRCONIA 1959 (78PR)
Z03 ZIRCONIA 1946-59
Z10 ZIRCONIA 1946 (91PR)