

Enclosure 2 to Cemetery/Burial Ground Land Development Permit:

Analysis of Human Remains and Grave Artifacts

Available Facilities and Material Preparation

The field recovery of artifacts and human remains from the Densler Cemetery are detailed in Enclosure 1. All artifacts and human remains will be transported from the project area to New South's Stone Mountain, Georgia office via company vehicle for cleaning, analysis, and preparation for reinterment. These materials will remain under control of the project's mortuary archaeologist for the duration of analysis. If transfer to another consultant is needed, a chain of custody minimally identifying providing and receiving institutions, points of contact, dates of transfer and locations of transfer will be recorded after approval has been obtained from the client and other interested parties. When not in use, materials will be kept in a secured, pest-free, climate-controlled environment marked as containing mortuary remains. Access to the collections will be limited to project personnel. Remains will be handled in a respectful, professional manner and kept out of general public view.

Cleaning and preparation for analysis will largely be dependent on preservation. Durable remains, which may include well preserved bone, metal, glass, and ceramic materials will be carefully washed in room-temperature tap water with clean soft bristle brushes. Optimally, teeth will be dry brushed clean; if washing is necessary, they will be cleaned in tap water and then loosely wrapped in paper toweling and dried slowly to avoid spalling. Bone, wood, fabric, and other objects deemed too fragile or poorly preserved to withstand washing will be gently dry-brushed to remove attached soils. On a case-by-case basis, soft bristled artist's brushes may be used to spot clean specific parts of fragile remains. Cleaning will be withheld from any objects recognized as too fragile to withstand soil removal. All materials will be allowed to air dry in a shaded humidity-controlled environment. No materials will be labelled or reconstructed unless specifically directed by the client.

Artifact Examination

All artifacts will be examined by the project's mortuary archeologist. The goal of the artifact analysis will be to determine how the surviving material culture was used as part of the depositing community's burial program. Given that the funeral rituals practiced by the Densler burial community have not been extensively recorded, artifact data will be a critical resource for narrowing down the temporal and social affinities needed to define these assemblages.

Artifacts will be examined to identify characteristics including their form, composition, condition, recovery depth, length or diameter and unique qualities. Artifact measurements will be obtained using a Mitutoyo digimatic caliper, rounding to the nearest millimeter. Measurements will be presented in both metric and English values. When possible, artifact manufacturing and use dates will be obtained from a variety of historical and archaeological resources. When possible, nails will be defined by form and penny weight. Buttons will be defined by size, attachment form, decoration, and, if present, maker's mark. Coffin hardware will be researched through available catalogs and reports to refine temporal and social affiliations. Wood will be examined for evidence of shaping or finish and to help define what receptacles were used. Lacking a standardized typology for most grave inclusions, artifacts

exhibiting similar but unique forms will be assigned project-specific type numbers to group like objects across burials and to help contrast similar forms from one another. Representative photographs will be made of all artifact types and relevant forms.

Specific emphasis will be placed on determining how each grave was constructed, what type of receptacle (coffin, casket, shroud) was used to encapsulate the dead, how that receptacle was constructed and decorated, how the dead were clothed and prepared for interment, and what types of goods or personal possessions were included with the dead. Particular attention will be paid to identify temporally sensitive objects and potential ethnic markers that may help place the grave and the cemetery in temporal-cultural contexts. A specimen inventory will be generated and included as part of the final report.

Analysis of Human Remains

Skeletal materials will be examined to understand the burial community as representatives of the past and to aid in any potential positive identification of each individual. No human remains will be subjected to destructive examinations or retained by New South unless specifically directed by the client. Analysis will be accomplished by the project's physical anthropologist.

All elements will be inventoried. Inventory records will include presence of individual skeletal elements and their general condition (complete, fragmented, shattered). This inventory will be included as part of the final report.

Each skeleton will be examined following a standardized battery of metric and morphological observations developed specifically by NSA for historic cemetery examinations. This battery is capable of addressing both complete and fragmentary remains in single and commingled assemblages. Measurements will be made following the procedures outlined in Bass (1987) and Moore-Jansen et al. (1994) and will be accomplished using digital calipers, a paleo-tech spreading calipers, fiberglass measuring tapes, and an osteometric board. Morphological and metric observations will be compiled by skeletal element, observation type, and general anatomical location. Remains exhibiting notable features will be photographed.

Sex will be ascertained for adults and older adolescents using a composite estimate, based on pelvic, cranial, and limb morphology following morphological and metric standards currently in use by biological and forensic anthropologists. The age at death for fetuses, infants, and adolescents will be determined using dental and skeletal development. Crown and root development among adult and deciduous teeth will be recorded along with the appearance and fusion of epiphyseal and diaphyseal elements to estimate the degree of maturation. When possible, limb measurements will be employed to help determine age based on skeletal size. Age estimation among adults will focus on chronic skeletal responses to everyday stress, principally in the skull and pelvis with relative data obtained from dental wear and osteophytosis on the vertebrae and limbs.

Oral health will be scored using a series of observations and health assessments largely adapted from Hillson (1996). The dental battery will include inventories by form (deciduous or adult), presence and location of wear, calculus, trauma, modification or restoration, caries and abscesses, and enamel hypoplasias. Location of the alveolar margin will also be recorded.

Determination of ancestral origin (i.e. 'race') will be based on two lines of evidence. First morphological characteristics of adult skulls will be assessed if preservation allows. In particular, morphological characteristics of adult skulls including texture, prognathism, zygomatic projection, nasal and dental shape will be assessed following standards outlined in Bass (1987), Rhine (1990) and White et al. (2011). When possible a metric comparison to known samples via canonical analysis will be employed following (Ousley and Jantz, 1996).

Following Jurmain (1991) classification of skeletal health conditions will be based on macroscopic examination. Potential indicators of skeletal tissue stress will be defined as morphological variations that fell outside the range of normal human variation and could not be accounted for by mortuary behavior or taphonomic processes. The presence of osteological responses to stress by the specific location on afflicted skeletal elements will be noted. Data on location, general severity, degree of localization, and a brief description of each observed feature would be included. When possible, a potential diagnosis will be made for each observation.

Aspects of the metric and morphological data bases will be extracted and used to create a depiction of the individual's life prior to death, including their age at death, sex, stature, ancestral affiliation and general state of health.

If so directed by the client, New South is prepared to obtain DNA samples from skeletal materials. Sampling is recognized as a destructive procedure and if submitted for DNA extraction, the samples will potentially be fully consumed. New South has a pre-established protocol that will be implemented as part of the analysis regimen should DNA examination be requested.

References:

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