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An Architectural Analysis of Caddo Structures at the Ferguson Site (3HE63)

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An Architectural Analysis of Caddo Structures at the Ferguson Site (3HE63)

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Abstract

Since the earliest excavations in Arkansas and the Southeast, prehistoric architecture related to mound building societies has been of particular interest. The Caddo of the Trans-Mississippi South are a Mississippian period mound building culture that emerged as early as A.D. 1000 and persisted to and beyond European contact. Many Caddo structures are found under and on mounds. Some of these structures, identified as special-purpose or non-domestic in function, were burned and buried. Often structures were purposefully burned and buried forming a conical or platform mound. The Ferguson site (3HE63), located in the Little Missouri River basin of Southwest Arkansas, contains architectural remains in Middle Caddo contexts. Many of the structures excavated from within the large platform Mound A and the smaller conical Mound B were burned and buried, resulting in a complex mound building sequence. The larger mound, Mound A, contained the "A-6 house," which was extremely well preserved in the stratigraphic record as a result of the burning and burying process, which carbonizes organic material. This thesis provides an analysis of the A-6 structure, which has had no formal analysis since its excavation in 1974. This thesis focuses on identifying the architectural characteristics of this special-purpose building in order to gain better understanding of the characteristics of buildings of its variety in the Caddo archaeological area.

Acknowledgements

This research could not have been accomplished without the help and resources offered from the individuals at the Arkansas Archaeological Survey. The advice from my committee members, Dr. George Sabo III, Dr. Ann M. Early and Dr. Marvin Kay, allowed me to grow as student and researcher. I would like to extend gratitude to all of the faculty and staff of the Anthropology department and the Graduate School at the University of Arkansas, whose guidance was pertinent to acquiring this degree.

Special thanks go to my parents and family for allowing me to pursue a career, which has taken me so far from home. I also would like to acknowledge my twin sister, whose determination and support throughout our lives helped me to be confident and courageous.

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Chapter One: Introduction

Purpose of Study

This study focuses on the construction and destruction of the "A-6 house" at the Ferguson site. The unique manner of its destruction preserved most of the structure's superstructure. The structural, behavioral, and functional characteristics of the "A-6 house" offer an insight to the construction and destruction of special-purpose buildings in the Little Missouri River basin and possibly in the greater Caddo archaeological area. There are still too few sites studied and excavated in the Caddo archaeological area to gain a clear understanding of behavioral, structural and functional characteristics for special-purpose buildings. The goals of this study are: 1) to discuss the construction and destruction of the "A-6 house" and its contribution to a wider study of the characteristics of special-purpose buildings within the Caddo area; 2) to determine whether there are cultural similarities or patterns in the construction of special-purpose buildings throughout the Caddo archaeological area; 3) to consider whether geographical or environmental location influences structural specifications; and to 4) offer a holistic and thorough approach to the interpretation of southeastern architecture.

Introduction

Prehistoric North American architecture in the Southeast is known for its structural variability. Structures are found in varying shapes and sizes, under, and on top of mounds, not burned and burned, and with varying directional orientation that may be associated with the cosmological world (Bohannon 1973; Brown et al 1978; Early 1982a, 1982b, 1988, 1993, 2000; Kelley 1997; Lacquement 2007; McKinnon 2013; Lockhart 2010, 2012; Pauketat and Emerson ed. 1997; Perttula 1996, 2009, 2012; Pluckhahn 2010; Rudolph 1984; Schambach 1982, 1996; Schultz 2010; Swanton 1942, 1952; Trubitt 2009, 2012). Architectural data have been collected

and interpreted using various methods. Some reports include architectural information as a portion of a larger site analysis (Brown et al 1978; Harrington 1920; Lockhart 2010). Some approach buildings from a structural perspective (Bohannon 1973; Early 1988, 2000; Perttula 1996). And yet others approach architecture within a wider cultural framework (Kay and Sabo 2006; Nabokov and Easton 1989; Perttula 2009; Trubitt 2009).

During the Mississippian period indigenous peoples constructed mounds in civic-ceremonial centers, villages and towns. Among these mound builders were the Caddo in the Southeastern Woodlands. The Caddo are indigenous to the Trans-Mississippi South in southwestern Arkansas, eastern Oklahoma, eastern Texas and northwestern Louisiana (Perttula 2012). The Caddo homeland sits between the Lower Mississippi Valley and the western Plains (Schambach 1996). There are three subareas recognized within the Caddo Area for their geographical and cultural distinctions: the Northern Caddo, the Western Caddo, and the Central Caddo (Perttula 2012). This research focuses primarily on the Central Caddo subarea which centers on the Great Bend region of the Red River and the Ouachita River valley.

Mark Harrington was one the first to undertake a study of the Caddo of Arkansas in the early 20th century. His description and excavation of many mounds in the Caddo area provided a basic understanding of the characteristics of these structures (Harrington 1920). There is limited access to such archaeology today as a result of site loss from vandalism, looting, modern construction and agriculture (Trubitt 2009). The function of specific buildings has been of interest to archaeologists in the Caddo region since Harrington's excavations; however, the small number of sites studied in this geographically and environmentally diverse region make it difficult to identify structure function just based on shape, the manner of destruction (Trubitt 2009), entrance orientation (Perttula 2009) or artifact content alone (Early, ed. 2000). While

some have published on the structural details of buildings found in the Caddo archaeological area, not all sites have been completely excavated and those that have may not have publications. Frank Schambach and his crew discovered some of the best preserved burned and buried structures at the Ferguson site (3HE63). The data for this site had not been formally analyzed since its excavation in 1972 through 1974. The analysis of these structures can aid in the understanding of architectural variability in the Caddo area.

Figure 1: Location of the Ferguson Site (3HE63)

Study Area

Arkansas is composed of four major geographical regions: the Ozark Mountains in the northwest, Ouachita Mountains in the central/southwest, the Mississippi Alluvial Plains along the Mississippi River in the east, and the West Gulf Coastal Plain in the southwest. Situated in the Little Missouri drainage at the southern edge of the Ouachita Mountain Region and the northern extent of the West Gulf Coastal Plain, is the Ferguson site (3HE63)(Figure 1). The Little Missouri River crosses the Athens Piedmont Plateau and joins the Ouachita River in the west Gulf Coastal Plain. Here the terrain is described as gentle with easily tillable soils (Early ed. 2000).

The Ferguson site in the Little Missouri River basin of southwest Arkansas was excavated extensively (Schambach 1974, 1996); however, little has been written about it. The site contains Dalton, Archaic, Fourche Maline and Caddo components. The Caddo occupation spanned from A.D. 1200s to early A.D. 1500s. It contains two Caddo mounds, a Fourche Maline midden, cemetery areas identified as Caddoan and Fourche Maline, and an underlying Early Archaic component (Schambach 1996).

Mound A was the larger of the two mounds and is identified as a two-stage mound that contains three primary mounds with a platform connecting them. Fifteen structures excavated from within Mound A were identified and sequenced by Schambach and his team. Site vandalism and land leveling damaged three of these structures from Mound A. Many of the structures were well preserved, including superstructures that contain organic materials that typically decompose over time. The ritual burning and burying of buildings halts the decomposition of organic material through the process of carbonization and smothering (Hally 1981). One of these structures, the A-6, is of particular interest because of the manner in which it was destroyed and the extent of its preservation.

Methods

Instead of interpreting the data through the lens of past studies, I worked directly with the raw data available for the "A-6 house". I used the data to create a structure-specific interpretation. Before cross-referencing Caddo area archaeology, I used the data to identify attributes specific to the "A-6 house." I describe the structure as it was found and before it was assigned a function. An analysis of site records, .35mm color slides, and drawings led to the understanding of architectural attributes of the building. After identifying the architectural attributes, I referenced multiple interpretations and approaches to prehistoric southeastern

architecture. This allowed me to identify the significance of the location of the structure and to apply a cultural framework for its construction and position. This approach does not necessarily counter past approaches; rather, it builds upon all of these to identify the architectural characteristics of a single structure.

Patterning in the use of structural elements can be identified in Caddo architecture; however, lack of data reported in the literature to date limit the study of structural variability. This can be improved with more thorough investigation and reporting of architectural attributes, site context, and cultural framework. Excavations should be done carefully and completely (as exemplified at the Ferguson site) and data should be analyzed and published in a timely manner. The data available for the Ferguson A-6 house allows for the investigation of structural, functional, and behavioral characteristics of a single building, and the results contribute significantly to our understanding of Caddo architecture.

Chapter Two: The Caddo and the Trans Mississippi South

There are five distinct adaptation models identified in the Ozark and Ouachita regions by Early (2000). These are the Early-Middle Holocene (9,500 to 5,000 years ago), the Late Holocene Semi-Sedentary (5,000 years BP), the Late Holocene Sedentary (A.D. 1000 to A.D 1700), the Historic Pioneer (1803 to 1860), and the Historic Development Settlement (began A.D 1860). The Late Holocene Sedentary is the period in which the Caddo culture emerged (Early, ed. 2000).

Past archaeological investigations identified a Paleo-Indian occupation from before 8000 B.C. The Paleo-Indian peoples lived in small nomadic groups who traversed the Mississippi River taking advantage of the valley's resources (McKinnon 2014). The Archaic Period followed this Paleo-Indian occupation. The Archaic Period has three distinct phases: Early, Middle, and

Late (McKinnon 2013). Especially notable was the extensive trade networks that developed during this time (8000 B.C. to 500 B.C.). Evidence of this can be seen with the Late Archaic Poverty Point culture (Nabokov and Easton 1989).

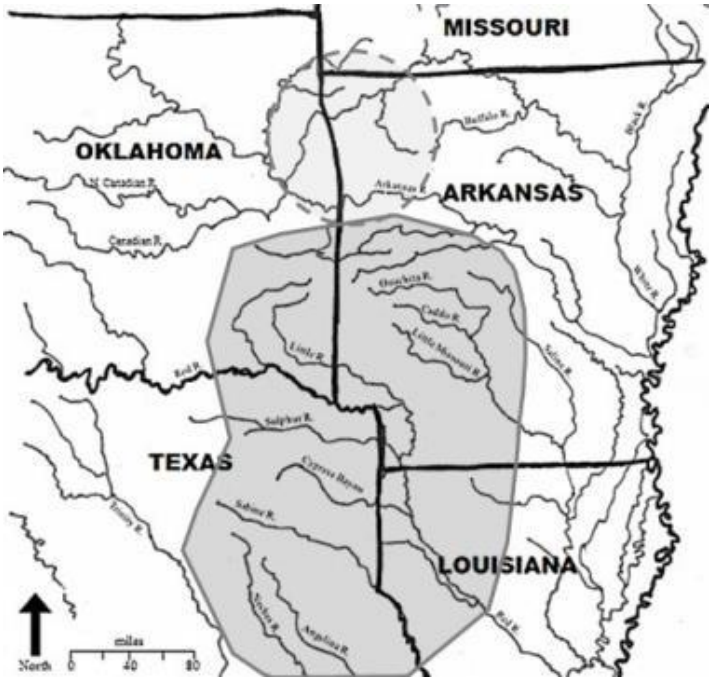

Figure 2: The Trans-Mississippi South

The Fourche Maline period emerged around 500 B.C. and lasted until A.D. 900. This time is marked by an introduction of agriculture and more sedentary lifestyles. (McKinnon 2013; Perttula 2012; Schambach 1996). There are several indicators of transition from the Fourche Maline tradition to the Caddo tradition. The extended family resided in farmsteads that had shared gardens and woodlots and were located in proximity to favored resources. The presumed favored places for domestic settlement were in broad fluvial valleys (Early ed. 2000; Prewitt 1974; Swanton 1942; 1953). Ethnohistoric records reported dwellings that were circular or bee-hive shaped and postmold patterns found in the archeological record show other architectural styles for buildings including oval and rectangular homes (Early ed. 2000; Swanton 1942). The Caddo subsisted on horticulture which included cultivation of crops such as maize, beans,

squashes, sunflowers and gourds as well as participating in some hunting and gathering (Early ed. 2000; Swanton 1942, 1953). While mounds were built by the Fourche Maline peoples (Samuelsen 2009), the Caddo furthered this practiced using multi-staged mounds as centers for ritual activity (Early ed. 2000; Prewitt 1974). The Caddo shared a distinctive ceramic assemblage as well. The Caddo also show a more intensive system of social stratification, which is validated in the "…elaborate and differential mortuary treatment afforded some members of the society" (Early 2000: 126). Through extensive trade networks the Caddo peoples shared ritual paraphernalia, tokens of rank and personal wealth, and mortuary offerings (Early 2000: 126). The archaeological record shows remnants of these farmsteads, community centers, hamlets, villages, and small and large mound centers, platforms, plazas, and burials of elite peoples (Perttula 2012).

There are several periods of the Caddo culture marked by subtle differences in subsistence strategies and cultural change: the Formative Period (A.D. 800-A.D. 1000), the Early Caddoan (A.D. 1000-A.D. 1200), Middle Caddoan (A.D. 1200-A.D. 1400), Late Caddoan (A.D. 1400-A.D. 1680), and finally the Historic Caddoan (A.D. 1680-A.D 1860+) (McKinnon 2013; Perttula 2012). While these are the general dates for the Caddo periods, there are regional differences in the manner of transition from one period to the other. The Caddo occupied a large geographical area, and experienced change differently, especially after European contact (Figure 2).

There were many groups and clusters of peoples that comprised the Caddo. Earliest reports of encounters with the Historic Caddo groups identified the Hasinai Caddo population in east Texas. Distributed along the Great Bend region of the Red River was the Kadohadacho cluster. Another cluster downstream on the Red River included the Doustioni and Natchitoches

villages (Early 2000) (**Error! Not a valid bookmark self-reference.**). These groups all composed the greater Caddo group encountered by French and Spanish explorers.

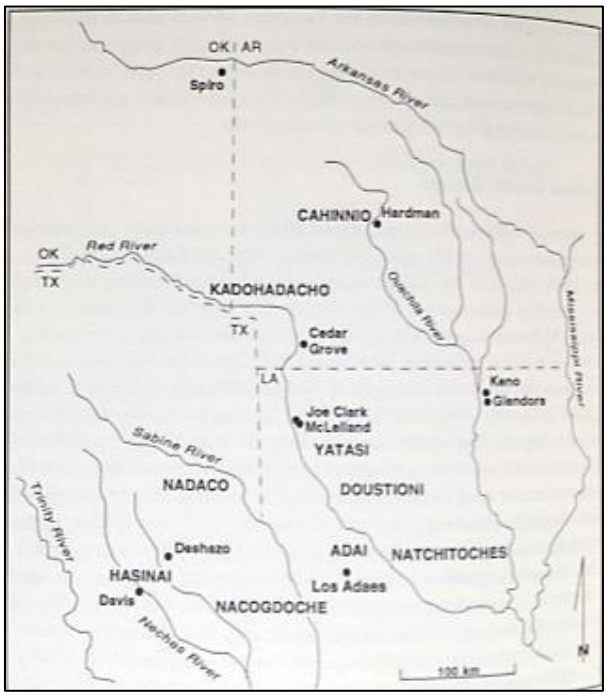

Figure 3: Map showing historic Caddo Locations (Early 200: 124)

The word "Caddoan" is a linguistic term defining a language group that can be divided in to the Northern and Southern Caddoan languages. The archaeology of the Caddo focuses on the people in the southern dialect area of the Caddoan language family (Perttula 2012). The term "Caddo" refers to these people and their adaptations seen through archaeological and ethnohistorical records.

Chapter Three: The Ferguson Site (3HE63)

The Ferguson Site (3HE63) was recorded by the Arkansas Archaeological Survey in 1971 and excavated in 1972, 1973, and 1974. The project, led by Frank Schambach, was a salvage archaeology attempt after the landowner began leveling the mounds on his property. At the time it was the most completely excavated Middle Caddo ceremonial center in Arkansas (Schambach 1996). Radiocarbon dates indicate that the Caddo occupation extended from the A.D. 1200s to the early A.D. 1500s (Table 2 and Table 3). The site contains two Caddo mounds, a Fourche Maline midden, and cemetery areas—identified as Caddoan and Fourche Maline. It also contains an underlying Early Archaic component (Schambach 1972, 1996) (Figure 4).

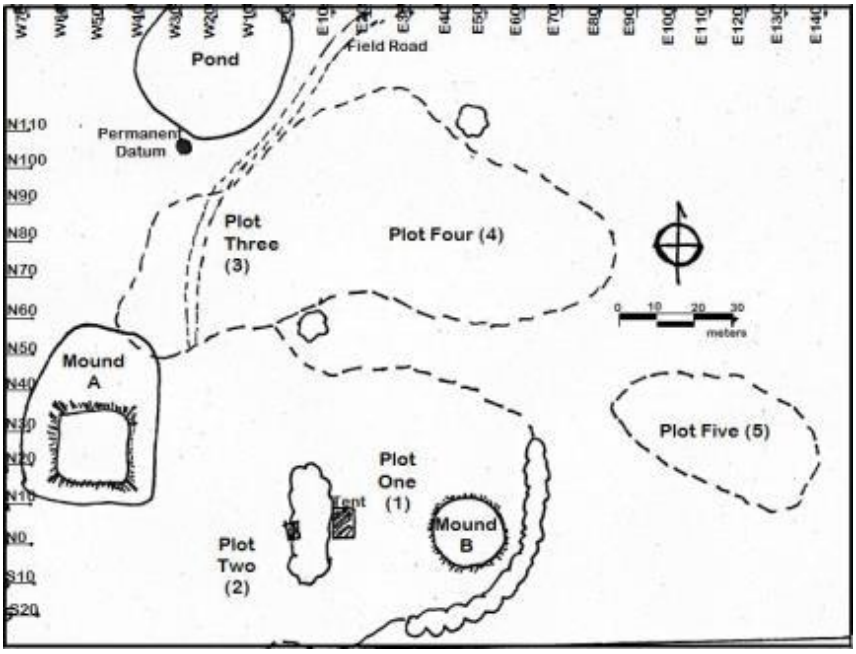

Figure 4: Sketch map of the Ferguson Site 3HE63 (Schambach 1872; original drawing by Robert L. Taylor)

As with many mound sites, digging has occurred for several decades with the primary focus on pot hunting. Because of these activities in Mound A, a few large potholes have disrupted some of the stratigraphy within the mound (Schambach 1972). There are no records of the artifacts looted from this area. While Mound A was disturbed by digging, Mound B was not disturbed. Both Mound A and B were capped with hardened clay. Mound A was located in the western extent of the area of focus. Mound B was located in the southcentral area. Five off-mound plots were also excavated during the 1972 through 1974 excavations (Figure 4).

Excavations on both Mound A and Mound B began in 1972. During this field season, the western end of Mound B was profiled, the hardened clay cap was removed, and a burned structure as well as three Caddo graves were uncovered (Schambach 1972). During this same year, three structures were uncovered in Mound A. The base of Mound A measured approximately 46m north to south and 21m east to west (Figure 5). The term “house,” initially chosen by Schambach, for the structures on Mound A may be a misnomer as the function of

these structures was/is unknown. On the north-end of Mound A the "A-1 house" and "A2 house" were excavated, as well as part of the "A-3 house," which was on the southern end. According to Schambach "detailed profiles revealed a complex mound construction of flat-topped platforms, shouldering stages, an inter-platform filling stages, surfaces of which showed varying degrees of weathering and repair" (1972). It was established that the south end of Mound A was built first and later expanded northward (Schambach 1972).

During the 1973 field season excavations continued on Mound A and the "A-3 house" was completely revealed. This structure was rectangular in shape and had been intentionally burned and buried with clean soil. Other structures excavated within the north platform of Mound A during 1973 were Features 118 and the "A-4 house" which had coinciding wall lines.

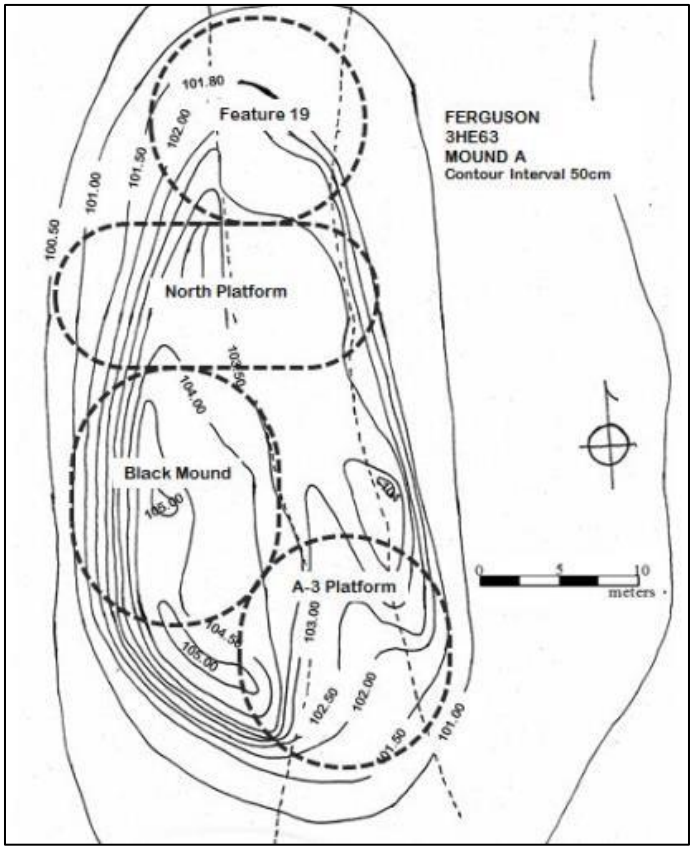

Figure 5: Locations of A-3 Platform, Black Mound, North Platform and Feature 19 over Mound A contour map (Schambach 1972: Contour, Mound A)

Finally, in 1974, the A-6 and A-7 structures as well as the building Features 345, 318, 20, 1-168, and 69-356 were excavated within Mound A (Table 1 and Figure 7). Mound A was completely excavated by the end of the field season in 1974. As previously mentioned, the south end was built first and was constructed by joining two mounds containing two structures. The northern part of the mound resulted from filling in the area between the southern platform and a mound to the north (Schambach 1996). By 1974, a total of fifteen structures had been identified and excavated from on or under Mound A; however three of these structures were damaged by land-leveling and digging.

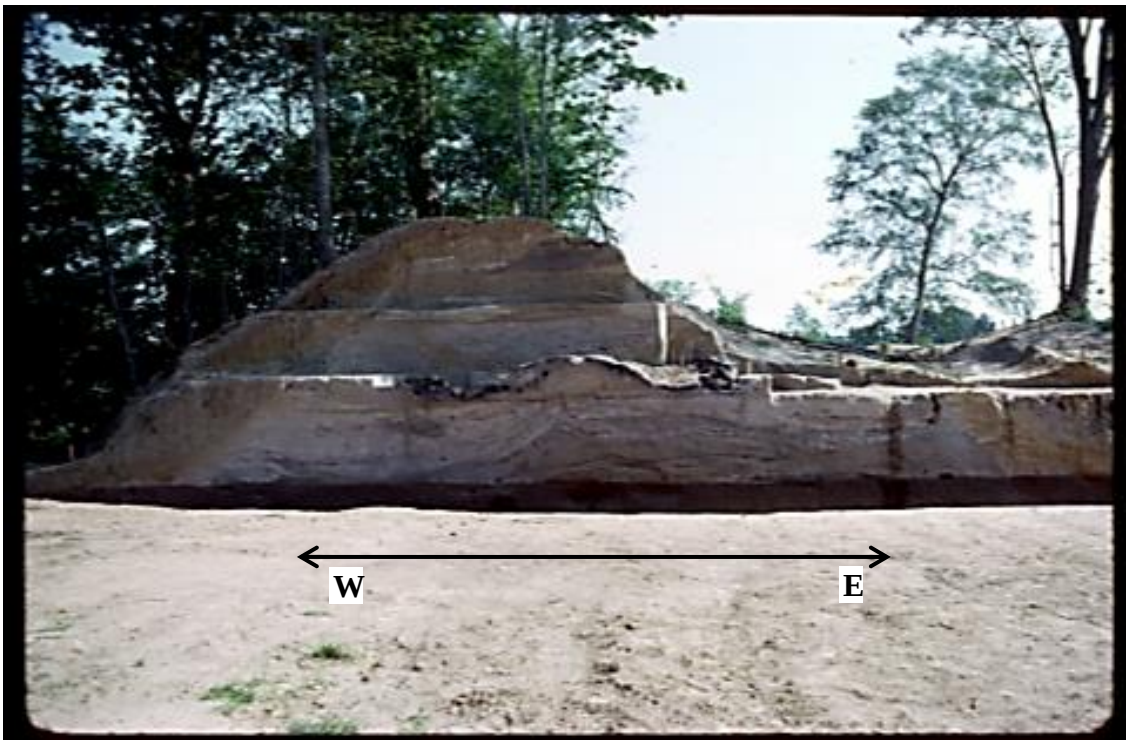

Figure 6: Southern End of Mound A at Ferguson Site (3HE63) (SAU1972-1072: Schambach 1972)

When Schambach completed a preliminary written description of Mound A, he was only able to make a tentative interpretation of the stratigraphy (Schambach 1972). The stratigraphy is complicated because Mound A is essentially three primary mounds connected by soil fill (Figure 5). On Mound A are several structures that have been constructed and disposed of by burning

and burying. Not all of the features were damaged by burning. The fifteen structures excavated from within Mound A were found on and under these three primary mounds as well as on and under the filled platform area connecting the two southern and one northern mound. Each platform mound was given a different designation (Figure 5). The southernmost mound containing the "A-3 house" is referred to as the A-3 platform. The other "southern" or central mound was designated as the "Black Mound" because of its dark midden layers within the stratigraphy. The platform between the southern mounds and the northern mound is called the "North platform." And the north mound is referred to as "Feature 19," because it was not identified as a distinct mound until the end of the first field season (Schambach 1972). The southern platform was given a dome-shaped appearance by a mound cap. The height of the southern section was about 6.5m high, while the north platform was about 3m in height (Schambach 1996: 41).

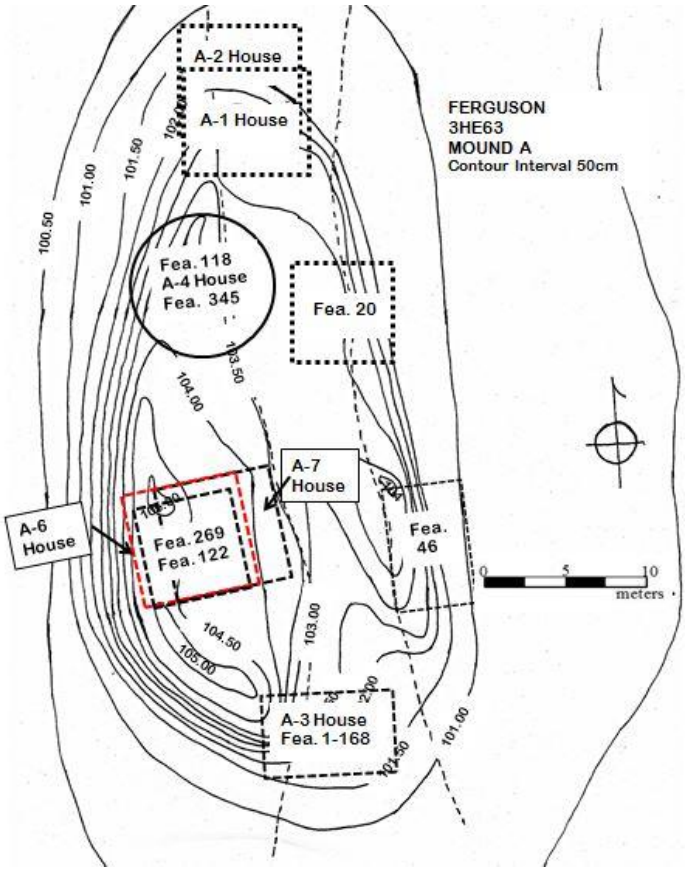

Figure 7: Location of the major structural features, Mound A at Ferguson, aerial. A-6 structure is in red.

The sequence of the building construction of Mound A was determined after the entire mound had been excavated in 1974. This was done using soil stratigraphy as well as a preliminary ceramic analysis. While this

was asserted the sequence is not certain (Table 1). Later, radiocarbon dates partially confirmed the sequence of construction (Table 2 and Table 3).

The "A-7 house" is stratigraphically the oldest structure excavated from within Mound A. After burning it was buried with sand (Feature 254 and Feature 321), which created the "Sand Mound." The Sand Mound was the first primary mound in the construction sequence of Mound A. The Sand Mound became the platform for the "A-6 house." Surrounding the Sand Mound was a 2 meter flat-topped mound designated as the "Black Mound" because of its dark artifact rich clay and sand midden that contained Fourche Maline and Early Caddo materials. This feature appeared like a doughnut surrounding the Sand Mound. The soil from the Black Mound did not cover the top of the Sand Mound; though it was laid over the sand mound and built up toward the location of the A-6 structure The Black Mound seems contemporaneous with the "A-6 house." The blue clay lenses found within the Black Mound were not present in any of the excavated mound areas or plots; so, it is possible that it was laid over the Sand Mound and continuously repaired using soil from a borrow pit outside the excavated areas.

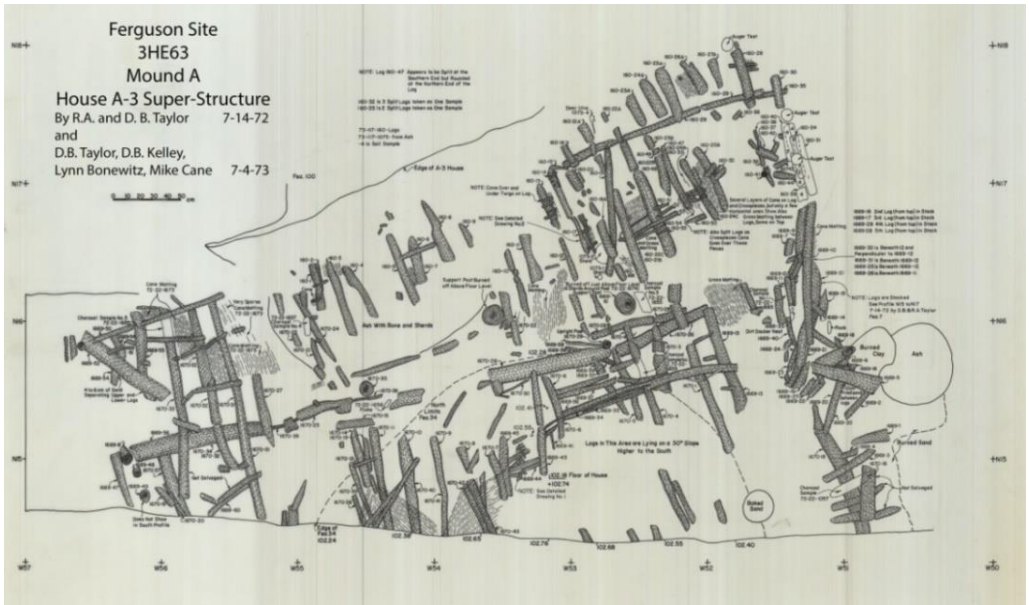

Figure 8: House A-3, Super-Structure (R.A. and D.B Taylor (1972) and D.B. Taylor, D.B. Kelley, Lynn Bonewitz, Mike Conine (1973))

A building, Feature 1-168, was built just south of the black mound. It was not burned, however after destruction it was buried as a premound structure in order to start the construction of the A-3 platform where the "A-3 house" stood (Figure 8). The "A-3 house" was built following the burning of A-6. After the destruction of the "A-6 house," Feature 122 was built. Most of the feature was damaged by digging; however, the postmold pattern of the south wall of Feature 122 partially aligns with the underlying south wall of the "A-6 house." Above Feature 122, is Feature 269, which was also mostly removed by a large pothole, Feature 127. It appeared that this structure shares the same postmold pattern as Feature 122; however, the disturbance by digging made the relationship between these two structures unclear (Schambach 1974).

A square/rectangular building, Feature 69-356 was built on the premound midden to the north and buried, eventually becoming Feature 19. The "A-2 house" was built above this and may have been burnt, then it was buried and the "A-1 house" was built above a layer of red clay fill, Feature 13 (Figure 9) (Schambach 1974).

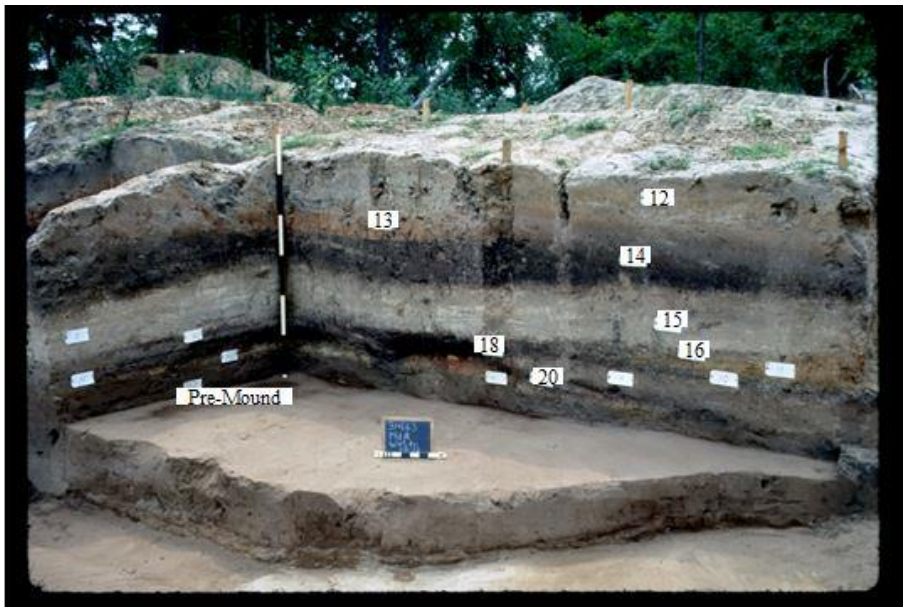

Figure 9: North Platform, W45 Trench, showing Pre-mound midden, Fea. 20, Fea. 16-18, Fea. 15 (Basket Loaded Sands), Fea. 14 (Dark Brown Silty Midden), Fea. 13 (red clay), Fea. 12 (Yellow Sandy Clay) (SAU1972-1044, Schambach 1972)

After the "A-6 house" was built as well as Feature 69-356, the construction of Feature 318 began as a pre-mound structure for the north platform. It was burned and partially covered with the artifact-rich Feature 16-18 (Figure 9). Feature 20 also makes up the North Platform and is covered with Feature 16-18 as well. Features 16-18 and 148-10 were artifact rich layers in the North Platform. While these layers were rich in artifacts there is no evidence of postmolds; however together Features 16-18 and 148-10 have the appearance of a living floor. Feature 345 was built later on the premound midden and not burned; however, it was buried and covered by two structures (The "A-4 house" and Feature 118) (Schambach 1974). The "A-4 house" and Feature 118 were separate buildings but had coinciding entrances and wall lines. The final feature on the North Platform, Feature 118, is one of the latest structures built on Mound A. Another structure, Feature 46, was, unfortunately, damaged before excavation began and cannot be added to the sequence of structures (Schambach 1974).

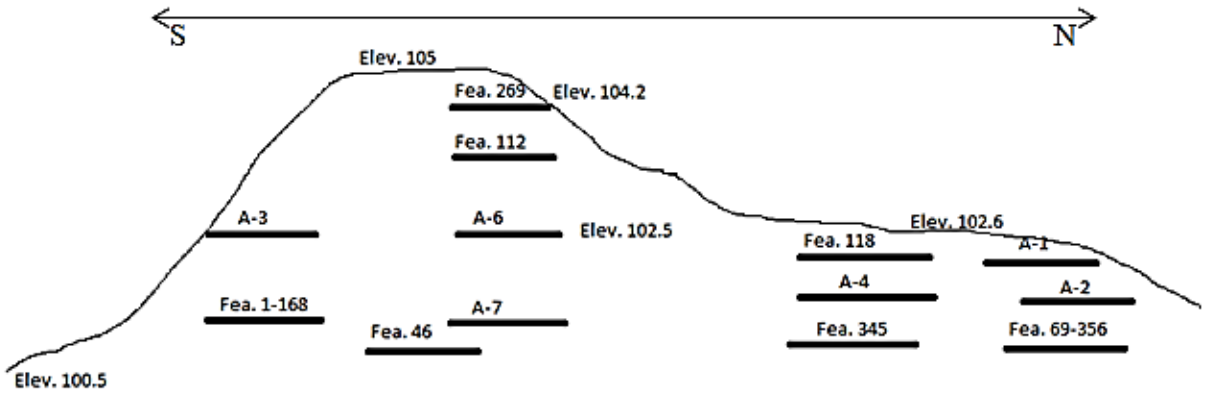

Figure 10: Feature Locations in Mound A at Ferguson Site.

As a result of burning and burying there is a significant amount of remaining debris for many of the structures on Mound A (Schambach 1996). The buildings on the southern platform ("A-3 house," "A-6 house," "A-7 house," Feature 269, and Feature 122) were square or rectangular, some had extended entranceways, thatched roofs (if present), and weaved wall matting (Schambach and Early 1985). The superstructures of these buildings were well preserved

including carbonized logs, wall matting, and grass thatch. The debris was found contained within the postmold outlines for the walls of these structures (Schambach 1996).

Structure	Location Description	Shape	Burned	Buried	Artifacts
A-7	Built directly on top of sub-mound midden-stratigraphically the earliest structure	Square/ rectangular With covered extended entrance	Yes	Yes	No
A-6	2 meters above A-7- built on top of Black Mound and Sand Mound	Square/ rectangular Clay ramp to entrance	Yes	Yes	No
Feature 1-168	Built directly on top of sub-mound midden on south end of Md. A. capped by A-3 platform	Circular	No	Yes	Yes
A-3	Built on A-3 platform constructed over Fea. 1-168. (May have been constructed before the destruction of the A-6, but was standing after it burned)	Rectangular?	Yes	Yes	few
Feature 318	Beneath North Platform- Built ‘after the construction of the A-6 house and probably after the destruction of Fea. 69-356	Square	Yes	Partially	Yes
Feature 69-356	Built on top of sub-mound midden on north end of Md. A. covered by Fea. 19	Square/rectangular	No	Yes	Yes
Feature 122	About 1m above A-6-One of the structures removed by the large pothole, and only the postmolds remained at the time of survey excavations	Rectangular with wall trenches	Damaged by digging	Damaged by digging	None recovered
Feature 269	Built over Fea. 122 after 122 remnants had been covered with another mound stage. Also removed by large pothole	Rectangular	Damaged by digging	Damaged by digging	None recovered
Feature 20	Built in north platform soon after destruction of Fea. 318		?	Yes	Yes
Feature 16-18 and	Artifact rich sandy midden which accumulated over the north half of Fea. 318 and	Fea. 16-18 might be floor. Fea.	Maybe Maybe	Yes Yes	Yes-rich Yes-rich

Feature 148-10	Fea. 20 after its destruction. No postmolds for 16-18. No wall lines	148-10 might be roof.			
Feature 345	Built on top of Fea. 148-10 on north platform	Circular	No	Yes	Yes-rich
A-4	Built above Fea. 345 on north platform. Capped by Fea. 13, red clay building stage	Circular	Yes	Yes	
A-2	Daub covered square or rectangular structure built at north end of Md. A. also capped by Fea. 13	Square/rectangular	Maybe?	Yes	Yes-few
Feature 118	Built above A-4 in north platform. The two structures have coinciding entranceways and concentric wall lines	Circular-same exact shape as A-4	No	Yes	Yes
A-1	Built above A-2 at north end of Md. A. on Fea. 13, red clay		Yes	?	Yes-few

Table 1: Structures on Mound A at the Ferguson Site (3HE63) excluding Fea. 46. (Original Feature Descriptions: "R. Taylor's list of Md. A house floors," 1974)

This preservation was due to the action of burying and burning. In these instances, sand would be brought in and piled up on the outside or over the building's walls. Because there is little evidence of roof logs and thatch in some of the superstructure remnants, it was assumed that the roofs would be removed; however this remains uncertain. Finally, the building would be set on fire and walls pushed in. A layer of sand would be piled on top of the burning walls and would smother the fire (Schambach 1996: 41). This intentional burning and burial resulted in the carbonization of the organic material and its protection from erosion preserving that debris and halting its decomposition (Hally 1981).

In 1979 the University of Texas radiocarbon laboratory analyzed six samples of C-14 samples from the structures on Mound A (Table 2). Schambach hypothesized that the mound construction would have taken 50 to 100 years. He felt that three of the C-14 dates from the University of Texas supported this hypothesis. Two dates from the A-7 structure, which was stratigraphically the oldest, dated from A.D. 1270 to 1280. A sample from the bottom of the

central hearth of Feature 118, which is considered one of the latest structures on the mound dated to A.D. 1280 (Table 2).

Sample ID	Location	Conventional Age	Calibrated Age
73-117-13-178-1	floor of A-4- carbonized interior post	540 +/- 70 BP	A.D. 1340-1480
73-117-261-1	Fea. 118- bottom of central hearth (Fea. 118c)	670 +/- 70 BP	A.D. 1210-1350
73-117-256-1	Fea. 118- hearth feature (118c)	400 +/1 50 BP	A.D. 1500-1600
74-267-39-184-1	Structure A6	300 +/- 70 BP	A.D. 1580-1720
74-267-122-6-1	Structure A7	680 +/- 60 BP	A.D. 1210-1330
74-267-122-127-1	Structure A7	670 +/- 50 BP	A.D. 1230-1330

Table 2: All dates are based on half-life 5570yr, are before A.D. 1950, and are uncorrected. The +/- figure is the one sigma error (Samples from the Ferguson Site (3HE63) ran at Radiocarbon Laboratory at the University of Texas at Austin, 1978)

Eleven more C-14 samples from various structures from Mound A were sent to Krueger Enterprises, Inc. to further confirm this hypothesis (Table 3). Many of these dates support the hypothesis that this was a Middle Caddo occupation (Between A.D. 1200 and 1400); however some of the dates are very late and the error margin is large (Table 3). The C-14 samples are wood charcoal and were taken immediately upon exposure from either the buildings' superstructures or floors. In the past 35 years, since these samples were analyzed, radiocarbon dating methods have improved greatly. Another analysis of samples from multiple plant materials found among the remnants of the structures of Mound A will definitely improve the study and interpretation of the Ferguson site occupation.

Sample ID	Location	Conventional Age	Calibrated Age
74-267-39-1-1	A-6 structure- Single log 10-15cm in diameter, from superstructure of A-6, major rootlet contamination 41.1gm wood charcoal	485 +/- 110 BP	A.D. 1355-1575
74-267-39-9-1	A-6 structure-	320 +/- 115 BP	A.D. 1515-1745

	Single log approximately 8cm in diameter from A-6 superstructure, minor rootlet contamination, 41.4gm wood charcoal		
74-267-39-170-1	A-6 structure- A single log approximately 8cm diameter from A-6 superstructure, minor rootlet contamination 64.9gm wood charcoal	455 +/- 115 BP	A.D. 1380-1610
72-22-1057-1	A-3 structure- Fea. 7 log- 7cm in diameter from A-3 superstructure, major rootlet contamination, 66.0gm wood charcoal	550 +/- 115 BP	A.D. 1285-1515
72-22-1655-2-1	A-3 structure Fea. 7-32- a single log 6-12cm in diameter from superstructure of A-3 superstructure. Major rootlet contamination. 31.4gm of wood charcoal	580 +/- 120 BP	A.D. 1250-1490
74-267-144-2-1	Fea. 318 Single log 8cm in diameter, structure associate with Fea. 318 floor, Minor rootlet contamination 85.1gm of wood charcoal and unburned wood	440 +/- 120 BP	A.D. 1390-1630
74-267-144-28-1	Fea. 318 Single log 8cm diameter, 318 floor major rootlet contamination 70.0gm of wood charcoal	420 +/- 115 BP	A.D. 1415-1645
73-117-13-20-1	A-4 structure Single log 8cm in diameter floor A-4 major rootlet contamination 33.8gm wood charcoal	390 +/- 115 BP	A.D. 1445-1675
73-117-13-39-1	A-4 structure Single log 10.5cm in diameter from floor of A-4, major root contamination 51.7gm wood charcoal	635 +/- 120 BP	A.D. 1195-1435
72-22-1096-1	A-2 structure Single log greater than 8cm diameter, Fea. 30 (support post on floor) major rootlet contamination 30.9gm wood charcoal	545 +/- 120 BP	A.D. 1285-1525
2-22-1120-1	A-1 structure Not possible to determine if sample is from a single log or several, from Fea.	340 +/- 120 BP	A.D. 1490-1730

	22 (superstructure), minor root contamination 30.8gm of wood charcoal		

Table 3: Wood Charcoal samples from features in Mound A, Ferguson Site. Based on the Libby half-life (5570 years) for C14. The age is referenced to the year A.D. 1950 (Krueger Enterprises, Inc. Geochron Laboratories Division, 1980).

Chapter Four: "Black Mound" and the "A-6 House"

The excavation of Mound A was done in two meter strips from east to west. Because this was a salvage project the entire mound was excavated. The property owner originally began removing the eastern portion of the mound before Schambach was contacted; so some of the mound and structures in it were damaged. The "Black Mound" (Feature 141-182) was a dark midden that first appeared in the W49 strip (Figure 5 and Figure 6). At first it appeared that the A-6 structure was built on the Black Mound. However, as previously described, the Black Mound was actually a flat-topped doughnut-shape feature composed of artifact-rich midden that lay about 2m in height around the Sand Mound.

The first building found above the Black Mound was Feature 269 with the tops of postmold elevation at 104.20. Most of the structure was damaged by Ferguson's bulldozing and a pothole (Feature 127); however, the western and southern wall post patterns were still intact. These were deep postmolds measuring almost 1.04m. These were abnormally deep postmolds for such a structure and later it was discovered that the molds originally belonged to the underlying building, Feature 122 that was constructed after the A-6 structure. The southern postmold pattern aligns with the southern postmolds of the A-6 structure. The posts may have been purposefully placed to align with the previous structure. The postmolds of Feature 122 were within wall trenches with base elevations at 103.50 to 103.60. These trenches may have been dug to align with the A-6 walls. Clean soil (stages 121 and 123) was brought in to cover the A-6 structure and

form the stage for Feature 122. The A-6 structure, however, was a larger structure than features 122 and 269 by about $8m^2$.

Remnants of the superstructure of the A-6 structure were first found in the N25W57 trench at elevation 103.57 and the feature was designated as Feature 120-265. A burned structure with carbonized logs and woven matting that was capped by a soil layer (Feature 121) lay well preserved in the mound (Figure 13 and Figure 14). The structure may have been recognized sooner if two potholes (Feature 127 and Feature 267) had not compromised the eastern portion of the building remnants. After the burned mass of logs belonging to the A-6 structure was initially revealed, the strip style excavations were abandoned and the building's superstructure was fully revealed.

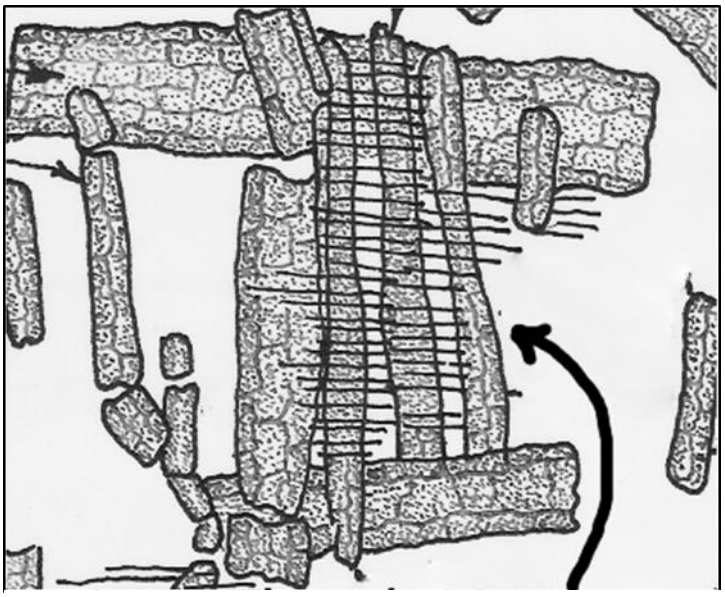

Figure 12: Matting from west wall of the A-6 (from Plan of Fea. 120-265, R. Taylor, D. Kelly, C. McGimsey 1974)

Figure 11: Charred wall matting atop wattle and some logs "A-3 house," Md. A (SAU1972-1092: Schambach 1972)

The topmost layer of logs belonged to the west wall. It was composed of logs that would have once stood vertically held in place with horizontal withes with wall mats still in place. The

woven matting was fixed on the outside of the walls during use. Similar matting was also part of the superstructure of the A-3 structure (Figure 12). It was established that no roof remained with the carbonized superstructure debris. It is assumed the roof was removed before the building was destroyed by burning and burial because there was no evidence of remains from the roof among the burnt superstructure or on the building's floor (Figure 15).

Figure 13: Slide of burned superstructure of "A-6 House" from the northwest corner (SAU1973-2132: Schambach 1974)

Figure 14: Shot of burned superstructure of "A-6 House" taken from uppermost remaining part of the south end of Mound A (LC-POR-14: Schambach 1974)

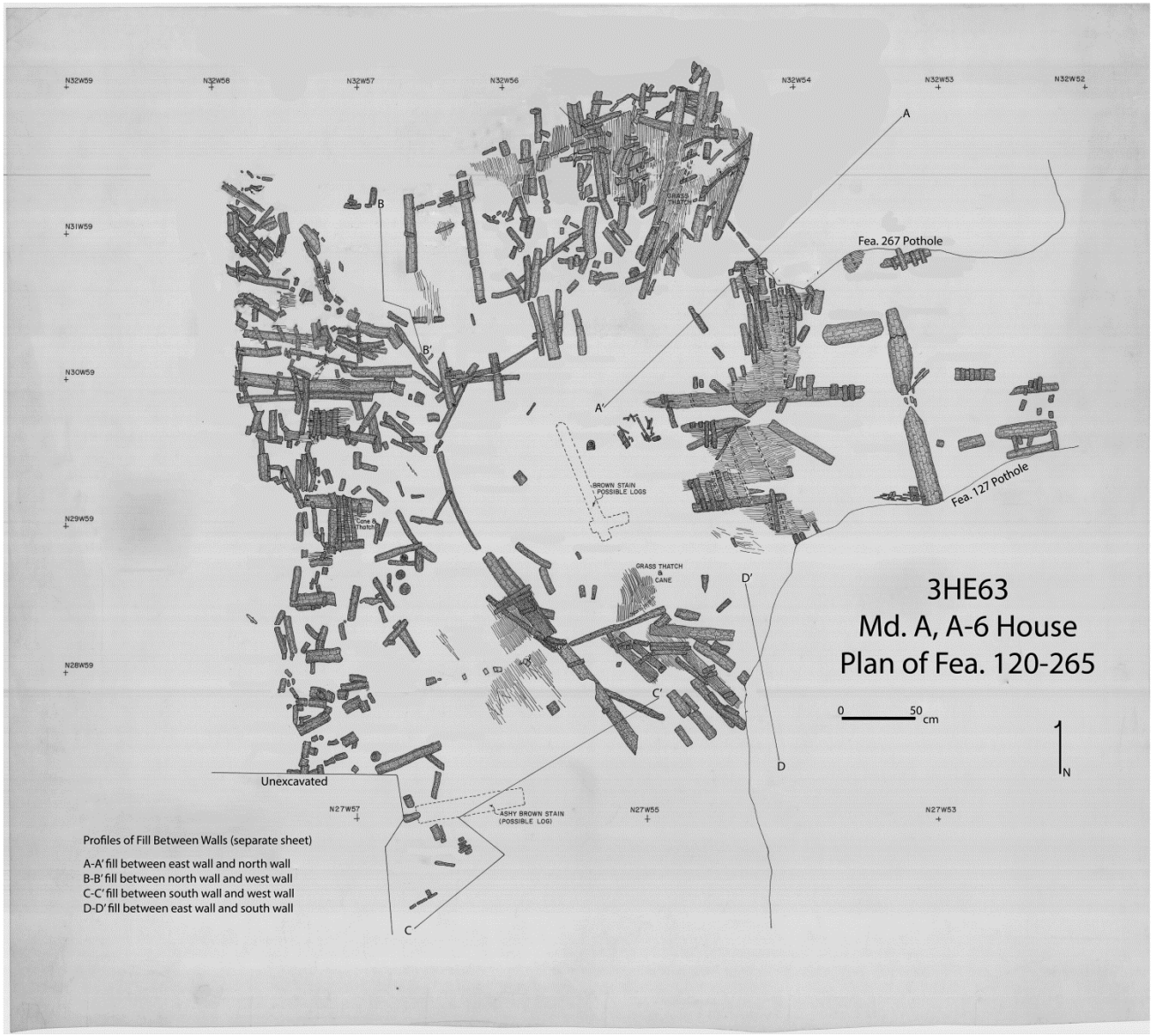

Figure 15: Md. A., "A-6 House:" Plan of Feature 120-265
(Schambach 1974; original drawing by R. Taylor, D. Kelley, and C. McGimsey)

After burning, the walls were purposefully pushed inward one at a time and buried with clean soil (Feature 121). The first wall to be pushed in was the east wall. This wall laid flat on the structure floor and was capped with a layer of soil that was up to 1m in height (Figure 16). The soil smothered the burning timbers and wall matting and carbonized the materials. The north and south walls fell or were pushed in next over the soil fill that was thrown on the east wall. The sequence for the collapse of the north and south walls could not be established because they did not overlap each other upon collapse. These were also covered in soil before the west wall fell. Because of the burial process the only wall that lay flat was the east wall. The wall posts were measured to determine the approximate height of the wall when it stood. The tallest post from the west wall measured 1.78m. The tallest from the south wall was 1.75m. The north wall had a wall post measuring 1.68m. Finally, the East wall had a post measuring 2.58m. The wall post from the east wall measured significantly longer than the other walls. This may be attributed to the burning process which will be discusses later.

David Kelley and Robert Taylor profiled fill layers between the walls of the "A-6 house" (Figure 16). The structure's floor was at elevation 102.50 and the uppermost wall (the west wall) was initially found at elevation 103.57. The fill between the east wall and north wall measured between .35-1m. The fill here was mixed with yellow brown sandy clay and light brown sand. A section of pothole Feature 267 was composed of highly mixed and mottled clay and sand. Just beneath the logs of the north wall laid a 10cm thick layer of burned clay. Most of the fill between the north wall and west wall was yellow brown sandy clay and light brown sand much like the fill between the east and north walls. The fill layer was about .5m deep. Again the clay along the burned logs of the walls was also burned. Yellow brown sandy clay was piled between the south wall and the west wall. The same fill was placed above the east wall before the south wall

collapsed. The majority of the fill between each wall was yellow brown sandy clay suggesting the soil was removed from the same location. The soils nearest to the walls were either red or black burned clay.

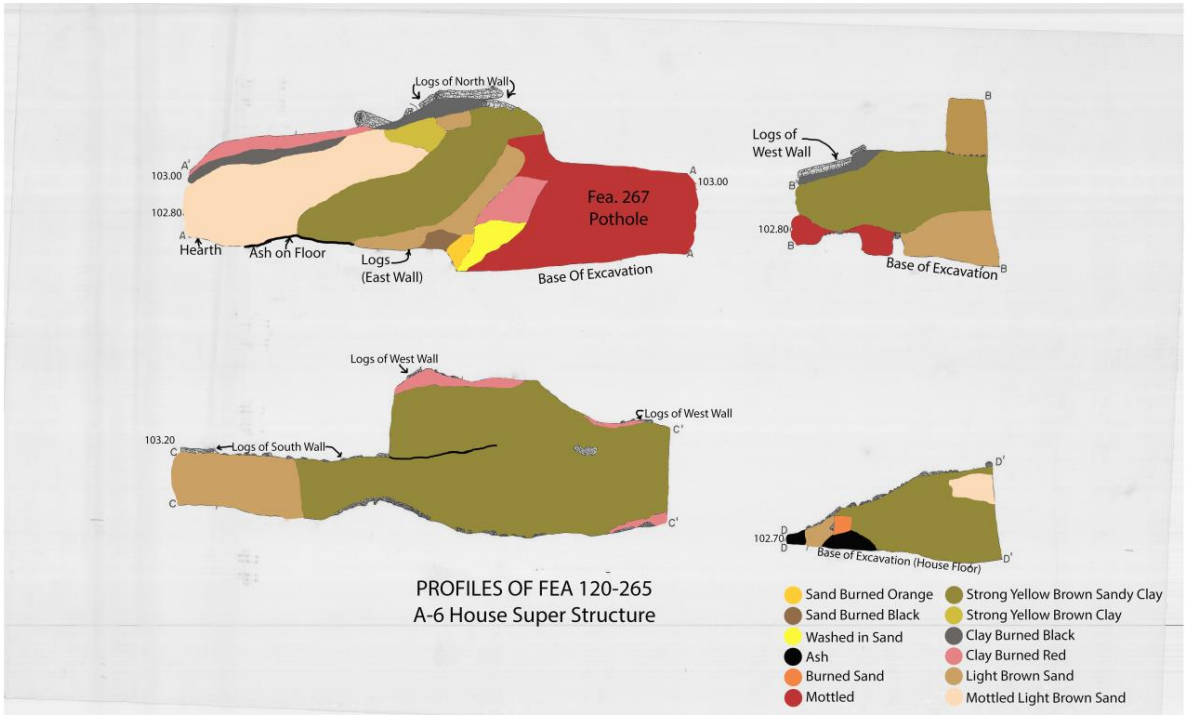

Figure 16: Cross sections of fill between walls. A-A' fill between east wall and north wall. B-B' fill between north wall and west wall. C-C' fill between south wall and west wall. D-D' fill between east wall and south wall (Location of cross section lines shown in Figure 15) (Schambach 1974: profiles drawn by D. Kelley and R. Taylor)

To build the A-6 structure vertical wall posts were set 30 to 40cm apart. The carbonized remains of these logs measured 5cm to 11cm in diameter. The postmolds measured from 12cm to 25cm in diameter. Horizontal split withes cut in half served as a foundation for the wall mats on the outside of the wall posts. The split wall mats were attached on the outside of the structure walls with the woven unsplit sides facing outward (Figure 11 and Figure 12). There were also horizontal withes that were weaved in and out of the wall posts used to bind the walls together. Though the longest continuous trace of these was not more than 30cm, it seems that they "were

run on the outside over 3 or 4 posts then brought in behind one post and then back out again for three or more posts" (Schambach 1974)(Figure 17).

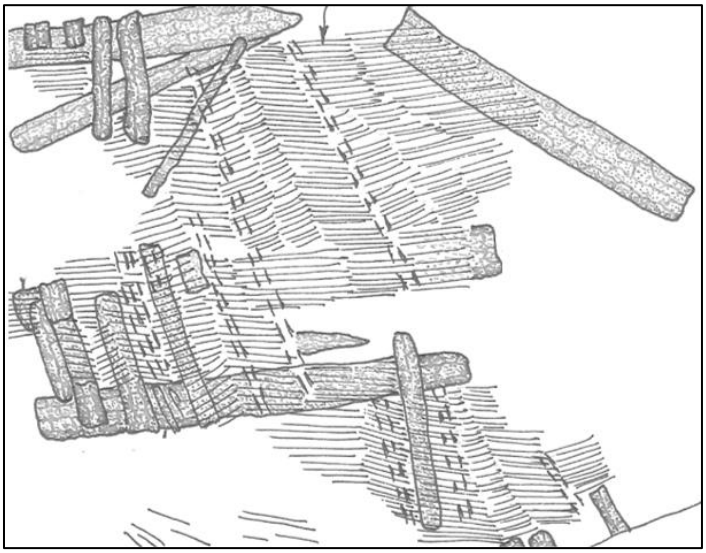

Figure 17: Horizontal Withes weaved in and out of vertical wall posts (from Plan of Fea. 120-265, R. Taylor, D. Kelly, C. McGimsey 1974)

The postmold pattern for the A-6 structure was fully revealed after excavating beyond the depth of pothole Features 127 and 267 at elevation 101.70, which was about a 70cm below the building's floor (Figure 19). The postmold pattern of the A-6 structure was nearly square and measured 5.7m north to south and by 5.8 m east to west. The diameters of the post holes are narrower nearer to their bases. The postmolds in the south east portion of the structure, beneath feature 127, were pointed. Wall posts might have been prepared by tapering the ends before placing them in the ground (Tapered posts were found at Winding Stair (Early, ed. 2000)). The top of one exterior post mold that was first revealed at elevation 101.91 about 2.25m east of the east wall may represent the extent of a covered entranceway; however no superstructure and no additional postmolds were found between the wall and this exterior mold. There are a few interior postmolds in the southwest corner of the building. These may represent a platform or shelf (Figure 19).

As mentioned, no remnants among the superstructure or floor of the A-6 structure seem to belong to the roof. Some interior postmolds found within the wall post line of the building's floor may belong to roof posts that could have been removed. A possible post on the north-south line between the north wall and central hearth is about 20cm deep and was described as an ash filled depression (Figure 27). Another post between the south wall and the central hearth measured 40cm deep and was also filled with ash. About 1m between the west wall line and the hearth and 1.5m from the north wall is a possible postmold about 13cm deep described as a midden filled depression. Finally, about 1m in from the west wall and 1m east of the hearth and about 1.5m north of the south wall line is a postmold described as brown sand with charcoal flecks measuring 64cm deep (Figure 27). These four posts together show an interior postmold pattern that was also observed elsewhere at the Ferguson site (Figure 19). These may have been interior posts for roof support; however, it is not necessary that structures of this size would have had interior posts. Typically some remnants of roof material are present among structural remains. The fact that no materials among the remains were identified as belonging to the roof poses a issue that must be addressed with further analysis of the drawings and pictures of the features belonging to this structure (Figure 27 and Figure 30).

The structure's floor contained a few small sherds and no whole vessels. A Haley pipe recovered near the north wall and associated with the building may be a ceremonial object. There were no other ceremonial remains found among the structural remains. The structure could have been purposefully cleared before destruction. The artifact content could reflect that only certain activities were performed in the building. Or the building may never have been used or rarely used. There was evidence of a circular hearth (Feature 296-1) in the center of the structure. This

appeared as a hardened yellowish clay circle. An irregular feature (296) of ash laid in conjunction with the hearth feature (Figure 19).

A clay ramp and step lead to the doorway on the east wall of the building. The clay slopes directly up to the door and stops at an opening along the east wall line. Beneath this clay ramp is a sub-ramp that served as the entrance for the "A-7 house." The entranceway of the A-6 structure showed little evidence of being covered. The A-7 structure lay approximately 2m beneath the A-6 structure. This feature was also square or rectangular and measured 6m north to south and 5.8m east to west. Though similarly constructed, the destruction of the A-7 structure differed from the A-6. Sand (Feature 254) was piled up about 1.8m high around the building walls also surrounding the entranceway. There was no roof among the preserved superstructure of this building. The roof was likely removed before burning; although more analysis must be done to confirm this. After the sand was piled and roof was removed, the walls were burned. More sand was thrown on top of the burning walls. These walls stood while burning top to bottom. The bottom portion of many of the wall posts still remain within postmolds (Figure 18). The crater of sand that covered the burning superstructure of the A-7 walls became the Sand Mound. This crater was about a meter deep and 8mx8m wide. In order to level the stage for the A-6 structure, light brown sand filled the crater (Feature 321). The relationship between the A-6 and A-7 structures is significant. The 8mx8m square crater of sand would have been easy to use as an indication of where the A-7 structure stood. This would have been used to create the stage for the "A-6 house." The two structures share a very similar postmold pattern (Figure 20).

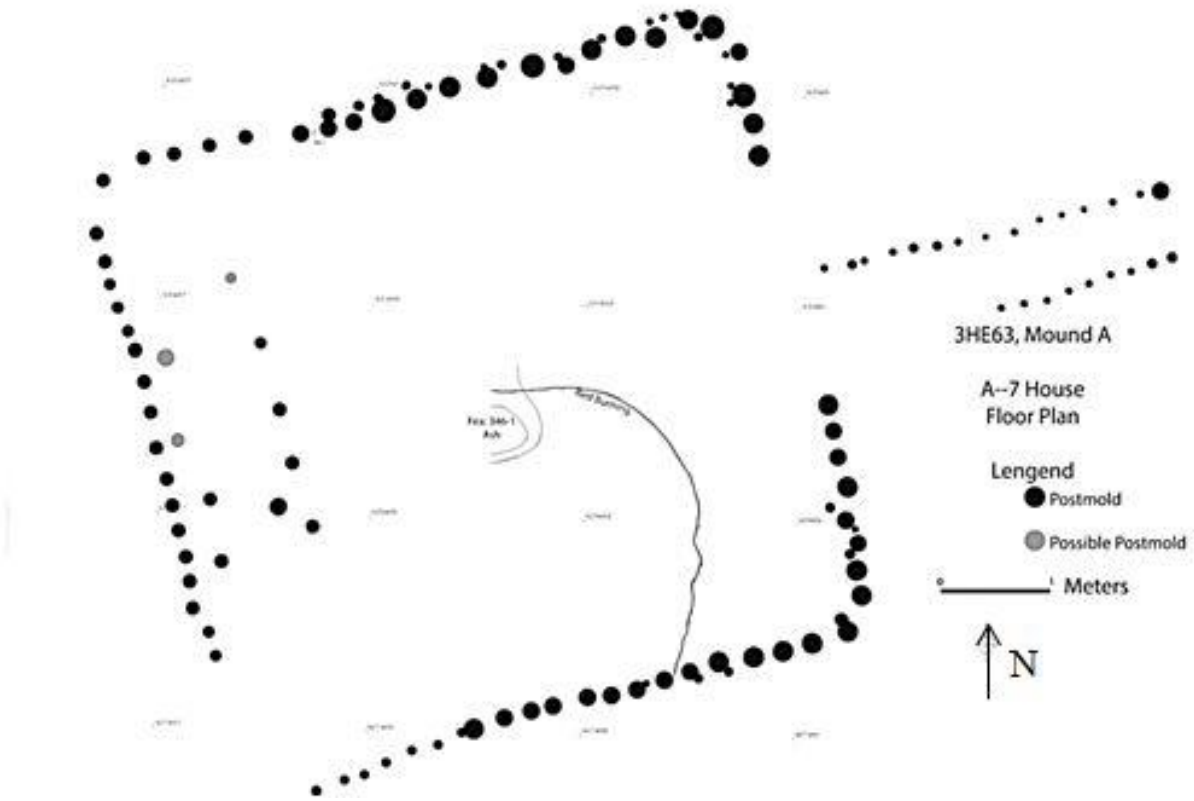

Figure 18: 3HE63, Mound A, A-7 House (Fea. 339) Floor Plan (Schambach 1974; original drawing by D. Kelly and R. Taylor)

The extent the A-6 structure's preservation allows for more complete understanding of its construction and context within a cultural landscape. While its function cannot fully be determined, this structure can be considered special-purpose. The structure was found on a raised platform elevated above its surroundings. The construction over this location with the underlying A-7 structure and the overlying features 122 and 269 further confirm that this particular location was desirable or important for specific activities.

From a structural standpoint, the A-6 structure was typical of many previously excavated Caddo structures. It contained vertical posts that would have stood about one to two meters in postmolds that measured about .5m deep. Weaved matting was affixed to the outside of the walls like clapboard siding on houses today. Because there was no roof, little can be said about the materials used. The structure may have had a covered extended entranceway evidenced by a

single post mold and a clay ramp and step that led to the northeast facing doorway. The structure was built on a platform that was prepared by filling a crater formed by the destruction of the A-7 structure.

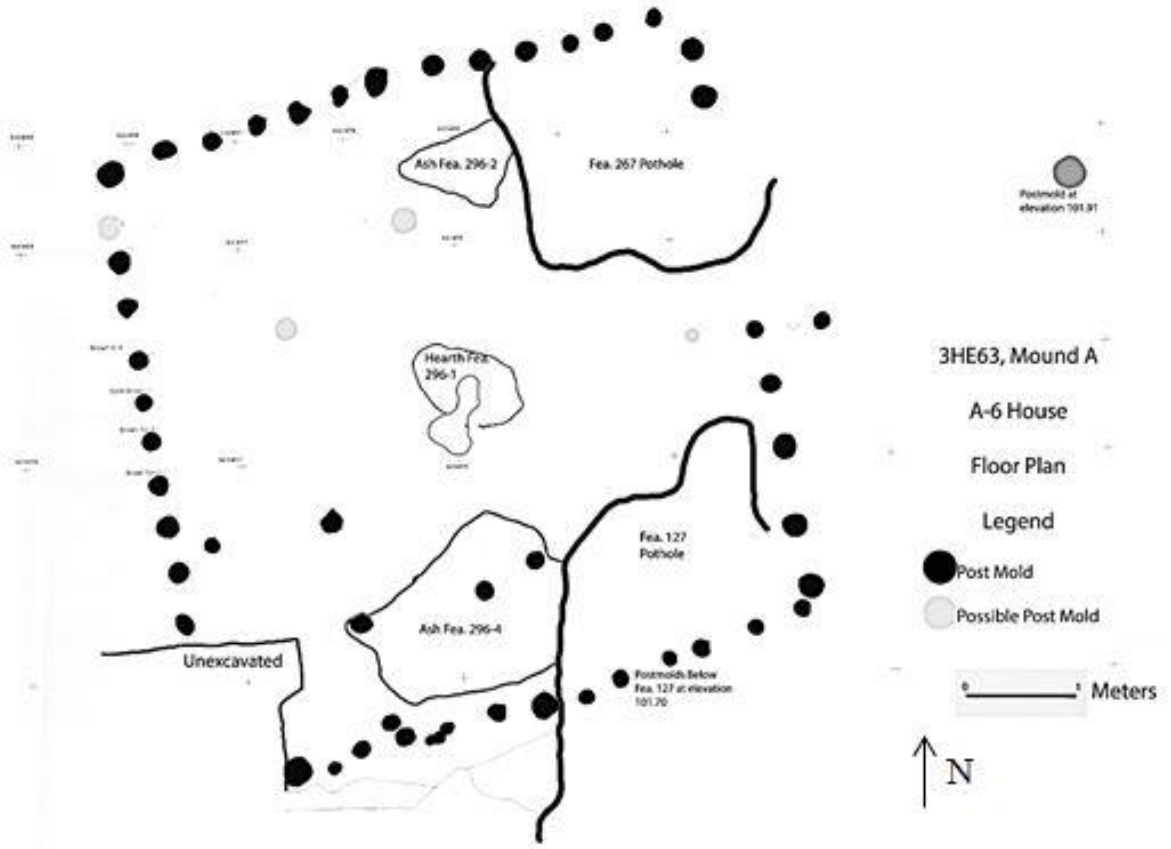

Figure 19: Postmold pattern for "A-6 House"
(Schambach 1974; original drawing by D. Kelley and R. Taylor)

The A-6 structure succeeded the A-7 structure and shared many of the same features including a shared ramp location (Figure 20). However, the manner of destruction for each structure varied. The burning and burial process for both structures was complex and would have taken a number of participants and some amount of time. The burial of the A-6 structure was a methodical, purposeful action that required the hauling in of clean soil to cover each collapsed wall.

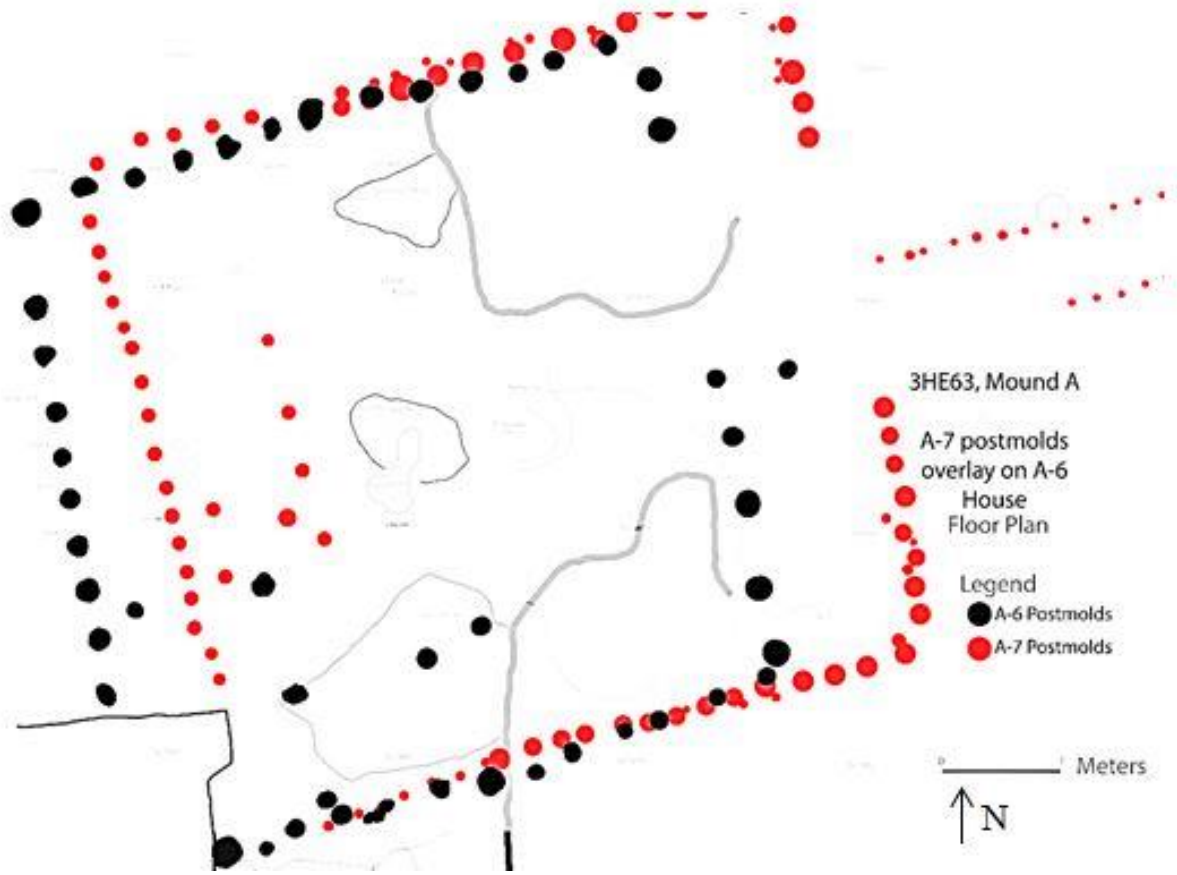

Figure 20: Postmold overlay: A-6 Postmolds in black and A-7 postmolds in red

There are many complex aspects to architectural variability. The scarcity of architectural data makes it difficult to determine the extent of variability in the Caddo area; however, the extent that the "A-6 house" has been preserved and the details of its excavation allow for a more complete interpretation of the process of construction and destruction of buildings of its variety.

Construction and Destruction of the A-6 Structure

Construction:

Step 1) Burn A-7 Structure:

- Feature 254 (Sand Mound) was a meter deep 8x8m square sand crater used to set the stage for the postmolds of the A-6 structure
- had knowledge of doorway location and ramp

Step 2) Bring in sand and clay from borrow pit to create Black Mound

- doughnut-shaped feature surrounding Sand Mound
- taken from a borrow pit containing Fourche Maline and Early Caddo materials

Step 3) Prepare floor

- establish the elevated position of the A-6 above the Sand Mound/Black Mound

- hierarchical subdivision within the civic-ceremonial center, which sets this feature above surroundings

Step 4) Build up A-7 entrance ramp and add clay step to reach the entrance of the A-6

- East-Northeast facing entrance
- Doorway Faces Mound B

Step 5) Dig post molds

- approximately 30cm to 40cm apart
- two (or four) possible interior roof support posts on north-south axis

Step 6) Prepare wall posts

- 12cm to 25cm in diameter and approximately 2.5m to 3m tall
- Taper ends and place in molds- culturally shared practice

Step 7) Attach roof (not sure of the sequence for this step because of the lack of a roof in the remains of the A-6 superstructure)

- Materials unknown

Step 8) Attach horizontal posts

- weave withes on the outside of 3 to 4 horizontal posts then inside one and back around 3 to 4 posts
- secured the position of the vertical posts

Step 9) Affix wall matting to outside of wall

- secure with the horizontal withes
- provided protection from the elements
- weaved matting- believed to be culturally shared practice

Step 10) Continue to care for structure integrity during active use

- Central hearth
- Possible platforms in SW corner of building

Step 11) Continue to repair the Black Mound

Destruction:

Step 1) clear building floor- leaving few remaining artifacts

Step 2) Remove roof (not sure of sequence of this step)

- Perhaps removing roof allowed smoke to rise, or
- Makes it easier to smother the fire

Step 3) Bring basket loaded sands to smother burning walls

- Have sands nearby to save time while the walls are actively burning
- Mostly yellowish brown sands

Step 4) Burn the four walls

Step 5) Push in walls

- East wall first- cover with mostly yellowish brown sands
- South/north next- cover with mostly yellowish brown sands
- West wall last- cover with mostly yellowish brown sands

Step 6) Permanently bury A-6 structure

- Un-breachable structure- forever preserved within mound

Step 7) Begin construction of Feature 122: prepare floor for new structure

- Dig trenches for post molds- culturally shared practice
- Align postmolds in the same orientation as A-6 within trench
- Succeeding structures (Feature 122 and 269) are slightly smaller

Chapter Five: Archaeological Approaches to Southeastern Architecture

Cultural data have complex social, political, ritual, environmental, and geographical contexts. Previous reports of architectural information in the Southeast have brought to attention these complex details; however, few have applied a holistic approach that includes details of functionality, relationship to larger site patterning, and an all-encompassing cultural framework.

The physical properties of structures and their situations on or off-mounds or not in association with mounds are a result of a greater cultural belief system and socio-political influence. Until recently these measurable details have been the primary focus in archaeology. There is, however, a system of beliefs that guides the day-to-day lives of individuals and the use of space. Aspects of ritualistic behavior such as the use of extended entranceways (Kay and Sabo 2006; Perttula 2009) and the practice of burning and burying (Trubitt 2009; Schambach 1996) have been of great interest to some archaeologists. The physical properties as well as their relationship to Caddo ritual and behavior are all details of architectural specifications for all buildings.

Vogel et al analyzed the construction of the Norman site (34WG2) platform mound using an all-encompassing cultural framework (2005). The site is in northeastern Oklahoma in the Arkansas River Valley. The report considered the vertical hierarchy of the construction of stages of a large platform mound. The soil color within the stratigraphy of these stages was extremely contrastive. “Each fill layer is a dynamic platform for pit construction when active, but becomes something not to be breached again when covered by a subsequent stage” (Vogel et al 2005: 43). Even when portions of the mound were repaired and remodeled the stages maintained their primary colors. Colors hold symbolic meaning in Caddo ritual. In this instance, Vogel et al

concluded that the contrast of soil colors buried within the Norman platform mound seems to be purposeful and was meant to be maintained (2005).

Most architectural data previously discovered has been just one part of a larger site report. In Harrington's excavations, he focused primarily on mounds and their construction. He reported the size and shape of mounds, the number of mounds at a site, but gave little information on architectural details besides identifying whether a mound contained a "town house" or not (Harrington 1920). At the time understanding mound construction and the cultures that built mounds was most important (Nabokov and Easton 1989). Harrington and his crew reported the physical characteristics of these earthen structures without much interpretation related to reasons for building mounds or the possible importance of mounds in daily rituals.

Early examined Caddo sites in the Ouachita River valley in order to identify settlement patterns for this region (1982b). She argued that there were no ethnographic works specific to this area and identified settlement types based on previous archaeological reports. The data about sites in the Ouachita River basin allowed Early to identify the types of settlements in the region and their relationship to one another. The result was a report of the settlement systems of the Early, Middle and Late Caddo within the Upper and Middle Ouachita River Basins. Some results countered previous assumptions for settlement patterns for this area (Early 1982b).

Many studies have also focused on structural characteristics from a structural perspective. This includes identifying key elements of construction such as materials used, stability, size, etc. The data provided for the building at the Mineral Springs site are purely from a functional perspective (Bohannon 1973). This report also is part of a larger site analysis focused primarily on ceramics, lithics, and graves. Little analysis is done in regards of the specific functions of that building. Studies of such structural details are important from a purely functional perspective.

Many patterns of cultural behavior can be identified through this approach. Just as elements of pottery design can be identified cross-culturally so can elements of structural specifications related to physical characteristics. These cross-cultural similarities can often be utilized to identify types of behavior that are shared through trade and communication. The study of physical characteristics can also reflect the available or desirable resources found in specific environments. Early's studies at Standridge focused on the environment of the Ouachita Mountain region within the Caddo area (Early 1988). Prior to this analysis there was little understanding of Caddo adaptation to this mountain environment. By studying structural details of five-mound related structures and other site features, Early developed an interpretation of Caddo adaptations to this specific environment.

The study of prehistoric and historic structures requires a holistic approach that includes the site context, site pattern, structure function, and physical characteristics. In a review of Native American architecture, Nabokov and Easton remarked,

> In our view, the term 'architecture' refers to more than just the design and decoration of buildings. It embraces what happens whenever human thought or action makes order and meaning of random space: naming places, designating sacred parts of 'wilderness,' clearing village areas and garden plots, claiming food-gathering areas, planning and constructing buildings, and arranging the spaces that surround and connect them. Finally, it includes often unseen social and religious meaning which are encoded into buildings and spatial domains (1989: 11).

The interpretation of space and the space which a structure occupies in cultural and physical senses requires a complete understanding of social and religious actions. Details of construction and destruction, orientation, situation on landscape, function, relation to other structures, material remains, materials-used, ritual significance and geographical and environmental location all contribute to the interpretation of prehistoric and historic architectural remains.

While some reports boast a robust set of architectural data for the Caddo archaeological region, the amount of information and detail related to individual buildings in many places is incomplete. Assumptions can be made concerning structure shape and position on the landscape, but the amount of data missing leaves a gap in the interpretation of such architecture. These bits of information lead to a general understanding of architectural variability; however, only few excavated structures have been uncovered and reported with the amount of detail as is available for those structures excavated at the Ferguson site.

Chapter Six: Caddo Mounds and Architecture

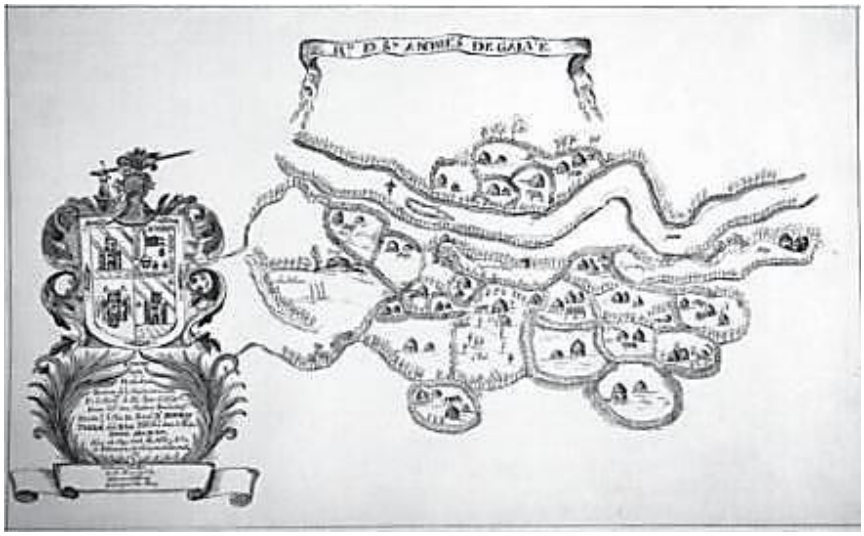

Figure 21: Facsimile of the Terán map, 1691. (From Perttula 2012: originally from J. P. Bryan Map Collection, CT0108, Center for American History at the University of Texas at Austin)

The function of specific buildings has been of interest for archaeologists in the Caddo region since the earliest excavations in the area (Harrington 1920; Moore 1909; 1912); however, the number of sites studied in this geographically and environmentally diverse region has made it difficult to identify structure function just based on shape, the manner of destruction (Trubitt 2009), entrance orientation (Perttula 2009) or artifact content alone (Early, ed. 2000). There are a variety of structures in the area already analyzed, but there is still so much to learn about regional

specifications for those buildings designated as domestic or as special-purpose. While ethnographic works from early contact in east Texas have been used to identify settlement patterns (Bolton 1987; Griffith 1977; Swanton 1942, 1952; Terán 1691), there is limited understanding of whether these models are appropriate for all regions within the Caddo archaeological area (Figure 21).

As Early points out "architectural styles themselves are not clear indicators of building function." She explains, "There are at least two different models of domestic dwellings in the ethnographic and ethnohistoric literature…" (1988: 161). This includes the circular thatch bee-hive shaped structures found among the historic east Texas Caddoan communities. The second style recognized were square and rectangular pitched roof dwellings among Caddoan refuges in Oklahoma (Early 1988; Swanton 1942). According to Early, "The definition of a domestic Caddoan Structure implies that it is a permanent dwelling, and current expectations are that at least part of a residential family group inhabited the building throughout the year" (Early ed. 2000 70-71). Typically domestic structures contain associated artifacts that identify it as a dwelling. This may include evidence of food storage and consumption; tool making, repair, and storage; and evidence of partitioning the building into different activity areas (Early ed. 2000: 70).

There is so limited information for domestic structures in Arkansas that identifying the key characteristics for even these structures is difficult (Early, ed. 2000). Situated in the Saline Bayou in the Ouachita River valley east of the Ferguson site, is the Hardman Site (Early ed. 1993). This site is located in the Middle Ouachita River region (Trubitt 2009). This site has evidence for at least five components dating from A.D. 1200 to A.D. 1700 contemporaneous with occupations at the Ferguson site (Early, ed. 1993; Trubitt 2009). This was a non-mound

Caddo settlement focused on salt making and trade. There were at least two circular structures here, which were atypical of Caddo dwellings. These characteristics include intact middens. There was also a high incidence of ephemeral postmolds in the area of the two structures which "suggest a high degree of continuity of domestic residence at this specific locale" (Early 1993: 42). The houses are about 6.5m in diameter with center postmolds about 25cm in diameter and 20cm deep, which would have served as temporary ladder poles (Early 1993: 42). There were no "special" buildings identified at this site, which was primarily a salt-making settlement rather than a civic-ceremonial center (Early, ed. 1993). The data available for sites containing domestic structures in Arkansas is extremely limited. Many sites that contain possible dwellings have only been partially excavated and little has been published concerning these projects.

In this section I describe various structures throughout the Caddo archaeological region that have been identified as special-use (Figure 22). Perttula (2014) outlines reasons these have been considered special rather than domestic: the location of the structures on platforms is considered to be sacred and special, the structures are evenly spaced upon platform mounds, they generally lacked hearths, they do not contain much cultural debris, and some have extended entranceways. However, these buildings are not all found in association with mounds (Early, ed. 2000; Lockhart 2010), they are not all the same shape (Perttula 1996, 2009, 2012; Trubitt 2009), and they are not all oriented in the same direction (Perttula 2009). The one characteristic that most of these structures have in common is in their destruction through a ritual burning and burying that has been most recently analyzed by Mary Beth Trubitt (2009). Additional indicators of building use, as outlined by Early, are "The location of a building within a settlement—on a mound, for instance—the treatment it receives when it is abandoned, and its contents…" (Early ed. 2000: 70).

In the Little Missouri River basin—the location of the Ferguson site—circular, oblong, square and rectangular buildings have been found on and under mounds (Early, ed. 2000; Harrington 1920; Schambach 1996; Weber 1973). There is still much to be explored through geophysical survey of intra-site patterns and off-mound structures (Lockhart 2010; McKinnon 2013). Just up river and north in the Ouachita Mountain region and Ouachita River valley rectangular and circular buildings were also built (Dellinger and Dickson 1939, 1940; Early, ed. 1988, 2000; Harrington 1920). In eastern Texas it seems that circular buildings were preferred (Perttula 1996, 2012). Because building shape varies by region, it cannot be the only determining factor for structure function. Most archaeologists have not provided a careful and thorough description of buildings that are excavated as a result of being just part of a larger site report (Early, ed. 2000).

Because these structures are often wooden, they are not always well-preserved. However, because of the ceremonial aspects of burning in the Caddo tradition (also observed in Mississippian architecture) many prehistoric remains are very well preserved in the archaeological record (Trubitt 2009). This is due to the kiln effect (Kay and Sabo, 2006; Schambach 1996). Structures, of varying uses or significance, would be set aflame, walls would be pushed in and this would form a kiln or oven that carbonized organic material (Hally, 1981). Carbonization halts decomposition of plant material. This carbonized material shows clearly in the stratigraphic record (Hally 1981). Typically burned timbers and daub are found among the remains of some Caddo structures in southwest Arkansas (Early, ed. 2000: 78). The process of burning and burying has been studied in depth by several archaeologists (Early 1982a, 1988; Early, ed. 2000; Hally 1981; Kay and Sabo 2006; Perttula 1996, 2009, 2012; Schambach 1996; Story et al 1990; Trubitt 2009). According to Schambach (1996: 41) the burning and burying was

often intentional and he interpreted this action as part of a cleansing ceremony where the pushing in of walls would "produce the great plume of smoke and steam that must have emanated from each burned and buried building for days…"

Tim Perttula (Perttula 2009: 27) points out that "the study of the architectural character of structures built by the late prehistoric and early historic Native American societies in the southeastern United States has been a particular archaeological focus in recent years." These studies focus on different culture groups in the southeast. The archaeological approaches to structural variability in the southeast have also differed. A few individuals who have done extensive work on identifying special-purpose buildings in the Caddo archaeological tradition, like the "A-6 house" at the Ferguson site, are Ann Early, Mary Beth Trubitt and Tim Perttula.

Ann Early studied the specific adaptations to the mountain and forest environments of the Ouachita Region to establish a better understanding of Caddo traditions specific to this region including details of environment, geography, and available resources (1982a, 1982b, 1984, 1988, 2000). Mary Beth Trubitt has collected information on structures that were buried and burned supposedly in ceremonial ways (2009). Tim Perttula has pioneered Caddo Archaeology specifically in eastern Texas (1994, 2009). His work studying extended entranceways is of particular interest to this research (2009); as well as, his wider research of Caddo architecture in this region. Archaeologists have also pointed to cosmological reasons for the design of special buildings in the Caddo communities (Kay and Sabo 2006; Perttula 2009). Because the A-6 structure is so well preserved, it can serve as a model for understanding Caddo architecture of this variety. However, the Caddo archaeological area is so large that the differences in architectural specifications may vary regionally.

Caddo Sites and Structures

Mark Harrington (1920) was one of the first to excavate some Caddo mound sites in Arkansas. The mounds were of varying sizes and construction. Some excavations were undertaken; however, mounds that had historic period cemeteries on them could not be explored. Harrington's descriptions are valuable because many sites have been altered or destroyed (Harrington 1920).

Figure 22: Caddo sites in the area

There are different kinds of mounds in the Caddo archaeological area. These mounds served varying purposes and their use often changed over time. The Caddo show de-emphasis on mound building as early as A.D. 1400 in the Later Caddo periods (Trubitt 2009). Elite status individuals would be buried in conically shaped mounds called "burial mounds." Platform mounds are those that are made of one or more sub-structural mounds. Sub-structural mounds are those that are formed when structures are destroyed and buried. These then are flattened or modified to become platforms for later structures (Brown et al. 1978; Perttula 1996; Schultz 2010; Story 1990; Vogel et al 2005).

One mound found at Battle Farm was approximately 24.38m long by 13.71m in width and oriented north to south. On top of this platform were two small mounds at each end (Harrington 1920: 19). Another site containing five mounds was designated the Flowers Mound Group (Harrington 1920: 21-33). The smallest of these (Mound 4) was a circular mound measuring 22.86m in diameter (Harrington 1920: 32). The largest mound (Mound 1) measured 42m by 32m at its base. Atop this larger mound was a summit plateau measuring 13.26m by 15.9m (Harrington 1920: 21-23). On this mound, Harrington observed a wattle and daub walled grass thatched "Town House" or "Chief's House" measuring 5.5m by 5.8m (Table 4). Evidence of a hard-baked clay floor suggests it was prepared. The building had an extended entranceway which was clear in the postmold pattern. There were few remains found on the structures floor. The building was burned and soil buried the superstructure (Harrington 1920: 291-297).

Site	**Shape**	**Burned**	**Mound association**	**Artifacts**	**Orientation**	**Extended Entrance**
Mineral Springs Bohannon 1973 Harrington 1920	Rectangular 5mx5.8m Rectangular 3.66x6.09m	Yes	Yes-on Northwest of conical mound		Southeast	Yes 3.8m
Ozan Harrington 1920	Rectangular	Yes	Yes			No
Flowers Md. Group Harrington 1920	Rectangular 5.5x5.8m	Yes	Yes	Yes-few		Yes

Table 4: Characteristics of Structures at the Mineral Springs, Ozan, and Flowers Mound Group sites

Mineral Springs, originally studied by Harrington, was re-visited in 1962 in a project led by the National Park Service. The site is located in Howard County, Arkansas. Since Harrington's first observations (1920), the site had been impacted by looting and land-leveling. There were eleven mounds found of varying shapes. The largest mounds, Mound 4 and Mound

11, were circular and both 22.9m in diameter. Mound 6 was rectangular measuring 27.4m by 20.7m and had a summit platform of 15.24m by 11.58m. Mound 9 was also rectangular and measured 25.6m and 16.46m. A structure found on Mound 9 measured 3.66m by 6.09m. Mound 10 was rectangular and measured 15.24m by 18.28m. Mound 8 measured 52.73m by 25.90m. Atop this mound on the west end was a conical mound 12.19m in diameter (Harrington 1920).

Mound 8 was the focus of Bohannon's 1962 excavation, though it was very limited. It was the least destroyed and contained a building feature. The structure was northwest of the conical mound which was found at the southeastern end of the flattened summit of Mound 8 (Table 4). The structure measured 5m by 5.8m with the long axis extending north-northeast. The excavations revealed an entranceway that extended toward the southeast about 3.6m. The building was of wattle and daub construction and had a prepared clay floor. The structure was burnt and the walls pushed inward. There were few artifacts remaining on the floor indicating that it was cleared before destruction. Three radiocarbon dates taken from a charred timber from within the house dated this feature from A.D. 1275 to 1550, which makes it contemporaneous with the Ferguson Caddo occupation (Bohannon 1973: 70).

Ann Early lead an excavation of a Caddo settlement in the Southern Ouachita Mountains of Arkansas designated as the Standridge site (3MN53) (1988) (Figure 23). This excavation began in 1975 and was one of the first complete excavations done in the Ouachita Mountains region; however, not all features were completely exposed. Prior to this time there was limited understanding of specific adaptations to this region. While Harrington's work focused on the area around the Little Missouri River and Southern Ouachita Mountain regions of southwest Arkansas this was is south of the Standridge site location.

The Ferguson site is about 65km southwest of Standridge in the Little Missouri River basin. While there are ethnohistoric records of Caddo culture and settlements (Swanton 1942, 1952; Terán 1691), most of these are from east Texas and the Great Bend region of the Red River (Schultz 2010). The Caddo peoples occupied a large and environmentally diverse geographic area (Early 1988). The ethnohistoric models are not necessarily appropriate matched for all residential settlement types throughout the Caddo area. Early's work at Standridge was meant to serve as a model for a settlement type within the Ouachita Mountain region.

Figure 23: Location of the Standridge (3MN53) and Winding Stair (3MN496) sites.

Five structures, one burial, and ten small features or disturbances were excavated at Standridge (Early 1988) (Table 5). Here is a summary of the five structures (Oldest to youngest: Feature 12, Feature 18, Feature 8, Feature 17, Feature 1). Feature 12 was a circular pre-mound structure. The floor was prepared by heat exposure on clay soil. This created a yellowish clay surface (Early 1988: 55). The floor was prepared before setting postmolds, which were put around the margins of the prepared floor. There was no visible break for an entrance; however a portion of the area was unexcavated (Early 1988: 56). Interior post molds suggest platforms or storage lofts and perhaps a partition. In the center of the structure was a large postmold that would have been used during construction (Early 1988: 56). Because there was no remaining superstructure, it is possible that the structure was removed before burial. Cultural debris lying on the floor included small artifacts, charcoal bits, and burned clay flecks. After destruction

Feature 12 was buried with a clay cap then leveled and used as a stage for Feature 17 and the later Feature 1 (Early 1988: 55-59).

At the same ground surface level and just west of Feature 12 was Feature 18. It was also a pre-mound structure that was capped and became the stage for Feature 8. Feature 18 was the first straight-walled feature at the site. The postmolds were in wall trenches. Each wall line had individual trenches where the postmolds were set and the corners of each trench did not appear to meet (Early 1988: 54). The floor had been prepared before use by cleaning before construction. Its orientation was east-southeast by west-southwest. While the exact dimensions are unknown the north to south side measured about 5m. The floor was clear with few charcoal flecks and superstructure was possibly removed before burial (Early 1988: 54-55).

Feature 8 was built upon the capped mound over Feature 18. Feature 8 was apparently rectangular with its long orientation east to west. The north to south length measured about 5m; however the east to west length is unknown. The location and direction of the entranceway, if present, is also undetermined. Cutting through Feature 8 was a circular grave pit (Feature 9). This structure was only partially excavated so there are still some undetermined structural specifications. The structure had a hard clay foundation which may have been prepared by burning. There was evidence that the floor had undergone some repairs marked by a layer of ash beneath the yellow baked floor, which lay over an early baked clay floor (Early 1988: 54) Architectural debris included fallen logs, masses of twigs, grass, and two small remnants of woven grass matting (Early 1988: 51-52). When excavated the burned superstructure was found within the postmold wall pattern. There was some lithic and ceramic debris recovered as well as a large sandstone cobble, which showed no traces of wear (Early 1988: 54). After Feature 8 was burned it was buried under a series of soil layers (Early 1988: 51-54).

Feature 17 was built on a flattened 30cm tall cap over Feature 12. Feature 17 was a rectangular structure measuring 6m by 5m. The long axis was oriented east-northeast by west-southwest. It had an extended entranceway that was oriented toward the southeast. The superstructure was poorly preserved; however there was evidence that the floor was cleared and the building burned before burial. This structure contained a central hearth which was indicated by a burned area in the center of the floor (Early 1988: 50-51).

Feature 1 was situated 10 to 20cm above Feature 17. This was the youngest feature excavated at Standridge. The entranceways of the two buildings lined up exactly extending 2m to the southeast. The prepared floor was composed of fired clay. In the center of the structure, like within Feature 17, was a hearth. The hearth was identified by a burned clay ring, which measured about 75cm in the interior and 95cm around the exterior. This rectangular structure measured 4m by 6.5m and the long orientation was east-northeast to west-southwest. The superstructure overlaid the floor and evidence indicated purposeful burning before burial. Among the remains of the superstructure were twigs and grass which may have been more readily available in the area than cane. There was larger rubble including fallen logs. There was no debris that could be identified as portions of the roof; though patches of grass may have come from the roof or wall covering (Early 1988: 49). Little remains beside architectural remains were found on the house floor. There was evidence of cleaning the floor before destruction; however a rim sherd from a Woodward Plain jar, a cluster of cobbles west of the hearth, a charred corncob fragment, an intrusive cluster of pottery vessels (Feature 4), and a small clay-tempered pipe were all found among the fill and debris on the house floor. The foundation of this structure was built up along the walls and the floor sloped downward toward the center. After the structure was burned it was capped with a layer of gray clay (Early 1988: 47-50). The Standridge site

structures share many characteristics with those found at the Ferguson site located south of the Ouachita Mountain region.

Site	Shape	Burned	Mound association	Orientation	Extended Entrance
Standridge Early	Circular	? cleared	Pre-mound		Maybe?
1988	Rectangular 5mx?	? cleared	Pre-mound	East-southeast by west-southwest	No
					Unknown
	Rectangular 5mx?	Yes, cleared	Yes	Southeast?	Yes 2m
	Rectangular 6x5m	Yes, cleared	Yes	Southeast	Yes 2m
	Rectangular 4x6.5m	Yes, cleared	Yes	Southeast	
Winding Stair Early, ed. 2000	Rectangular 6.2x4.5m	Yes cleared	Small mound	Southwest?	Area unexcavated

Table 5: Characteristics of structures from the Standridge and Winding Stair sites

The Winding Stair project in the Ouachita National Forest focused on several multi-component sites including a structure presumed to be Caddo (Early, ed. 2000: 69-92). The site is located at the confluence of the Little Missouri River and Blaylock Creek (Figure 23). A shovel test uncovered burned daub and charcoal from a structure. Because this possible structure was just off the road and accessible to forest visitors, a full excavation was undertaken. The structure was not found in association with any mounds and was in a relatively flat location. This location suggested that it was a domestic structure (Early, ed. 2000: 70). Timbers analyzed from the buildings superstructure dated to approximately A.D. 1470. So the building would have been constructed after this time. Because there was little evidence of remodeling or rotting the structure was probably used for under 20 years. The destruction of the building would have been around A.D. 1500 (Early, ed. 2000: 82).

The Winding Stair structure was rectangular and measured approximately 6.2m by 4.5m (Table 5). The gaps between the postmolds were evenly spaced—about 55cm apart; however, a slightly larger gap on the southwest wall may have been the location of an entrance. The area on the exterior of the southwest wall was not excavated so no extended entranceway, if present, was uncovered (Early, ed. 2000: 78). The ground surface where the Winding Stair structure stood was cleared before construction began. There was a line of postmolds in the interior of the southeast wall that may have been support for a platform (Early, ed. 2000). The posts that were recovered were prepared by tapering the ends. The remains of vertical posts suggest these posts were 2m in height. Once they were inserted into the postmold they would have stood about 1.5m high (Early, ed. 2000: 79-80). Additional thinner vertical posts stood between the gaps of the large posts and acted as extra support for the structure. Reed mats covered the exterior of the wattle framework (Early, ed. 2000: 80). The pattern for this wall matting was the same for mats found affixed to the exterior of the A-3, A-6, and A-7 houses at the Ferguson site.

There were also two postmolds in the center of the structure on either side of the hearth. The timbers themselves were removed before destruction, but would have been support for the roof. There were six timbers found amongst the daub mass. These were determined to be part of the roof superstructure (Early, ed. 2000: 80).

As mentioned, there was a hearth or fireplace in the center of the building that was flat on the ground instead of in a basin or within a prepared clay ring like those found at the Standridge site in Feature 1 (Early ed. 2000: 79-82). The floor of the structure was relatively clean and had few artifacts on it. These artifacts included a large vessel fragment that came from the floor in the northwest corner of the structure, a few potsherds and arrowpoints, two stone slabs, and larger unmodified stone slab south of the hearth area (Early ed. 2000: 82-82). There were also

clusters of small plant debris including charred cobs, nuts, and cane. The floor of the Winding Stair structure was probably cleaned before the building was destroyed. After it was burned, the structure was buried with "local soil that contained older cultural material" (Early, ed. 2000: 78). Initially it was presumed that the structure was domestic because of its location; however, Early suggests the lack of artifacts on the floor and the ritual manner in which it was burned and buried, identify it as being a special-use building. The function of the building cannot be definitely determined; however, the lack of human bones or other artifacts associated with mortuary houses seem to show that it was not itself a mortuary building (Early, ed. 2000: 126-130). This structure, though not found in association with a mound, has been determined as special-purpose.

Site	Form	Size	Burned?	Entrance?	Mound?	Dating
Middle Ouachita River region						
Dillard (3CL25), below upper stage (Scholtz 1965)	Circular	8.5m	Yes		Yes	Middle Caddo
Caddo Valley (3CL593), F-12 (Reynolds 2007)	Rectangular	5.5x6.5m	Yes	Extended	Yes	Middle Caddo
Caddo Valley (3CL593), F-9 (Reynolds 2007)	Circular	6.75m	Yes	None	Yes	Middle-Late Caddo
Denham (3HS15), Md. 1, stage 1 (Wood 1963)	Square/rectangular		Yes		Yes	Middle-Late Caddo
Denham (3HS15), Md. 1, stage 2 (Wood 1963)			Yes		Yes	Middle-Late Caddo
Denham (3HS15), Md. 1, stage 3 (Wood 1963)	Circular?	4-4.6.m	Yes		Yes	Middle-Late Caddo
Means (3HS3) (Schambach 1998)	Rectangular	7.3x8.8m	Yes	Gap	No?	Middle-Late Caddo
Hardman (3CL418), H1 and H2 (Early 1993)	Circular	6.5m	No	Extended?	No	Late Caddo
Little Missouri River region						
Ross Mounds (3CL401), Md. A (Early 1984)	Square	7m	No		Yes	Early-Middle Caddo
Hays (3CL6), 0 md str (Weber 1973)	Circular	8m	Yes		Yes	Early-Middle Caddo
Hays (3CL6), 1st md str (Weber 1973)	Circular	10.5m	Yes	Extended	Yes	Early-Middle Caddo
Hays (3CL6), H3B (Weber 1973)	Circular	10m	No		Yes	Early-Middle Caddo
Hays (3CL6), H3A/3A' (Weber 1973)	Circular	10m	Yes and cleared?		Yes	Early-Middle Caddo
Ouachita Mountains Region						
Powell (3LC9), Md. A, lower (Green 1986)	Circular	11.3-11.6m	Yes	Possible	Yes	Middle Caddo
Powell (3LC9), Md. A, upper (Scholtz 1986)	Irregular circular	6m			Yes	Middle Caddo
Caddo Indian Burial Ground (3MN386), post arc (Early and Trubitt 2003)	Circular	Est. 16m	No		No	Middle Caddo
Standridge (3MN53), F-12 (Early 1988)	Circular	8m	No	None	Yes	Middle Caddo
Standridge (3MN53), F-18 (Early 1988)	Square/rectangular	5x?m	No		Yes	Middle Caddo
Standridge (3MN53), F-8 (Early 1988)	Square/rectangular	5?m	Yes		Yes	Middle Caddo
Standridge (3MN53), F-17 (Early 1988)	Rectangular	5x6m	Yes	Extended	Yes	Middle Caddo
Standridge (3MN53), F-1 (Early 1988)	Rectangular	4x6.5m	Yes	Extended	Yes	Middle Caddo
Adair (3GA1), mound, multiple strs. (Dellinger and Dickinson 1939)	?		Yes		Yes	Middle-Late Caddo
Adair (3GA1), Plot III, Phase A (Dellinger and Dickinson 1939)	Rectangular	3.8x5.8m	Yes	Gap?	No	Middle-Late Caddo
Adair (3GA1), Plot III, Phase B (Dellinger and Dickinson 1939)	Circular	13.7m	No	Extended	No	Middle-Late Caddo
Adair (3GA1) Plot IV, Phase B (Dellinger and Dickinson 1939)	Circular	13.4m	No	None	No	Middle-Late Caddo
Winding Stair (3MN496) (Early 2000)	Rectangular	4.5x6.2m	Yes	Not seen	Yes?	Late Caddo

Table 6: "Some attributes of mound and nonmound structures" (originally from Trubitt 2009)

Trubitt describes salvage excavation at the Caddo Valley site (3CL59) in the middle Ouachita River drainage. This site was occupied during A.D. 1300 to 1400. There is an identified residential area at this site as well as a midden. There were three structures identified within the mound; however, one feature (F-1) was not well documented because a looter's pit cut through the top of this mound feature. The three buildings were in a sequence much like those in association with the black mound at the Ferguson site. The F-12 building was a rectangular structure with a prepared clay floor and central hearth measured 5.5m by 6.5m. This building had an extended entranceway at least 1.8m long that was oriented to the southeast. It was built over a sub-mound midden. F-12 was also burned and buried with a "clean" soil brought in to cover the burnt timbers. The clean soil fill was the floor for the F-9 structure which was overlying the F-12 feature. It was a circular building with 6.75m diameter. The F-9 was covered with a fill layer and the F-1 was built above this. The floor of the F-9 structure had domestic debris including sherds, animal bone and mussel shell, fire-cracked rock, and novaculite flakes as well as two large quartz crystals and a broken cobble with ochre that may have functioned as a pigment stone. The artifact content of F-9 suggested that it was a domestic structure, while the relatively clean floor of the F-12 feature (exceptions: intact red-slipped grog tempered plain bowl and two Haley pipes) indicates that it was a special-use structure (Trubitt 2009; Reynolds 2007).

In Trubitt's article on burning and burying buildings she describes structures found at sites in Arkansas that were burned and buried in a ritual fashion (2009). She focuses her study on structure shape, burning at termination and covering with soils. While burning is not unique to special use buildings, Trubitt observes that the covering of the structure with "clean" soils indicates a ritual burning and burial (2009) (Table 6). Trubitt discusses sites and structures in the Middle Ouachita River region, the Little Missouri River Region, and the Ouachita Mountain

Region of Arkansas. Site in the Middle Ouachita River region with burned and buried structures include the Caddo Valley Site, Dillard Site (3CL23), the Denham site (3HS15) and the Means site (3HS3) (Trubitt 2009)(Table 6). In the Little Missouri River Region where the Ferguson site is located, Trubitt also reviewed burned and buried structures from the Ross Mounds (3CL401) and the Hays site (3CL6)(Table 6). Trubitt also reviewed structures found within the Ouachita Mountain region. These include sites already discussed like the Standridge site (3MN53) and the Winding Stair site (3MN496) (2009; Early 1988; Early, ed. 2000). Other sites in the Ouachita Mountain region are the Powell site (3CL9), the Caddo Indian Burial site (3MN386), and the Adair site (3GA1) (Early and Trubitt 2003; Dellinger and Dickinson 1939; Green 1986; Scholtz 1966; Trubitt 2009) (Table 6).

The Oak Hill Village site (41RK214) is a large Caddo site in east Texas containing at least 43 rectangular and circular structures (Perttula 1994) (Table 7). The four rectangular structures are concentrated in the northern section of the site (Perttula 1994). 32 circular structures identified which had no indication of extended entranceways. These measured 5.35m to 11m in diameter. Artifacts recovered from within the structures as well as their location in association with granaries and midden pits indicated that they were domestic in function (Perttula 1994: 73-77).

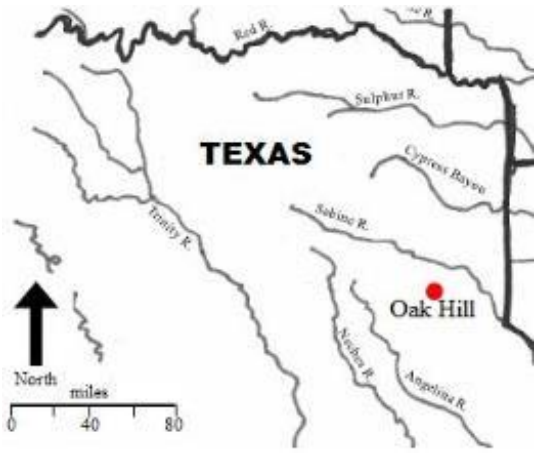

Figure 24: Location of Oak Hill Village (41RK14)

Two Oak Hill Village circular structures were unique. These were found at a higher elevation and set apart from the other structures on the site. The structural characteristics differed from the other buildings. Both structures had clear evidence for extended entranceways at 3-4m

in length. While structure shape was previously used to determine the function of a building as either a dwelling or special-use, shape alone does not determine function. The special-use buildings identified by Perttula at this site were circular and found on earthen platform mounds. Others have identified special-purpose structures that are square or rectangular. In the Great Bend region of the Red River Perttula has observed that circular special-use buildings are more common (Perttula 1994: 77-78).

Site	Shape	Burned	Mound association	Orientation	Extended Entrance
Oak Hill Village Perttula 1994	Rectangular	No	No	North-South	Unknown
	Rectangular	No	No	North-South	Unknown
	Rectangular	No	No	North-South	Unknown
	Rectangular	No	No	Northeast-southeast	Unknown
	32 Circular Structures (5.35 to 11m)	No		Majority northeast or southeast	No
	Circular		Yes		Yes
	Circular		Yes		Yes

Table 7: Characteristics of Structures at the Oak Hill Village

The specifications for some specialized buildings and their treatment may have some connection to cosmological beliefs among the Caddo cultural area (Kay and Sabo 2006; Perttula 2009; Trubitt 2009). Perttula argues that the use of an extended entranceway in some specialized buildings may be a reflection of mortuary ritual beliefs and treatment of the dead. The use of extended entranceways observed by Perttula is a shared tradition among Caddo peoples. The use of an extended entranceway is not found in all buildings. This shared tradition may represent one kind of special purpose structure built by the Caddo people. These specialized buildings in the Caddo usually are found on or near mounds (Perttula 2009). Many are also abandoned by burning and burying (Trubitt 2009). There are regional differences in the orientation of these entries. These entranceways are typically oriented in association with sunrise, sunset, or seasonal

solstices (Perttula 2009). The northern examples are typically oriented to winter solstice sunrise, sunrise, and winter solstice sunset. In the Central Caddo area entries are oriented to the south, to sunrise, and the winter solstice sunrise and sunset. Finally, in the Southern Caddo area these are oriented to the summer solstice sunrise, or orientated to winter solstice sunset, winter solstice sunrise, and sunset (Perttula 2009: 36). Perttula concluded that:

1. The highest percentage of extended entranceway structures that are oriented either to the north or south (the south, primarily) occur in the central Caddo area
2. Special purpose buildings with an entranceway oriented to the sunrise are dominant in the northern Caddo area (especially those oriented to the winter solstice sunrise), but they are also well represented in both the central and southern Caddo areas
3. Those extended entranceway structures with an orientation toward the sunset are more prevalent in the southern Caddo area
4. Winter-oriented special purpose structures are most common in the northern and central areas, with summer-oriented special purpose structures more important in the southern Caddo area (Perttula 2009)

While these are the main observations; there are site-specific differences in orientation as well (Perttula 2009). The Hasinai Caddo of east Texas were not known to construct extended entranceway structures (Trubitt 2009); however there is one site with extended entranceway structures that sit east and west of a mound (Newell and Krieger 1949). Perttula shows that structures, especially those with extended entranceways, were "constructed with cosmological principles in mind" (Perttula 2009) Perttula relates the orientation of this category of specialized structures built among the Caddo with the Kay and Sabo's interpretation of the Hasinai ethnohistorical record. He explains that:

> …(1) the souls of the dead live in a house in the southwestern sky, (2) east is the direction of life, (3) the winds of death blow to the west, (4) death is associated with winter, and the winter solstice sunset, and (5) the "prominence of the western, or southwestern, sky is consistent with the direction souls' travel and also with the setting of the sun" (Perttula 2009).

While there is variability from site to site within the Caddo tradition, these principles do seem to be a guiding factor in the construction of extended entranceways of these structures.

Early Caddo archaeology mostly focused on mound sites. Mounds are very visible archaeological features in the Caddo area landscape. There are few examples of none-mound special-purpose buildings that have been excavated (Early, ed. 2000); however not enough to make a clear analysis of regional similarities in such structures. WPA projects at mound centers such as Hatchel, Davis, Adair, and Spiro included excavations of off-mound features and areas. Since these 1930s studies little excavation has been dedicated to plaza areas or those areas surrounding the mounds that may also contain structures or other archaeological features. This lack of information about non-mound structures and intra-site patterns only allows for a partial understanding of Caddo architecture. The Terán map of a village in the Red river regions has been used as a graphic example of the widespread farmstead community in east Texas (Figure 21); however, some question whether it is an appropriate representation of a Caddo settlement and whether it better reflects the point of view of the artist and those things that were of significance to him (Early 2014). This map has served as an ethnographic document of Caddo settlement at contact period (Early 1988; McKinnon 2010; Sabo 2012**).** While this schematic has been used as a basic understanding of settlement situations, the Caddo region is geographically and environmentally diverse. Recently, geophysical survey has allowed for analysis of intra-site settlements that was not possible in earlier Caddo archaeological projects (Creel et al 2005, 2008; Hammerstedt 2012; Hammerstedt et al 2010; Kvamme 2000; Lockhart 2010; Maki and Fields 2010; McKinnon 2008, 2010; Samuelsen 2009, 2010; Walker 2011; Walker and

Figure 25: Location of the Tom Jones Site 3HE40

McKinnon 2012; Walker and Perttula 2007, 2008; Walker and Schultz 2008).

The Tom Jones site (3HE40) was partially surveyed using geophysical survey with electrical resistance, electromagnetic conductivity, gradiometry, magnetic susceptibility, high accuracy survey and mapping, and data georeferencing (Lockhart 2010). The Tom Jones site is located in the Little Missouri River basin about 25km west of the Ferguson site and a day's walk from the Mineral Springs Site (Figure 25). While the site was previously recorded in 1973 by Frank Schambach, discoveries at the Tom Jones site using geophysical survey have aided in the interpretation of this civic-ceremonial center. The site dated to around A.D. 1400 (Lockhart 2010).

There is one large ceremonial or temple mound at the site and several smaller structural mounds. "Approximately 20m west of the large mound" (Lockhart 2010: 241) stood semi-subterranean rectangular structure. Most of the structures at this site were constructed at ground level. The rectangular structure had an extended entranceway which was oriented to the northeast toward the temple mound. Evidence shows that the structure was intentionally burned and capped. Before burning, posts might have been removed from the interior of the structure. The burning and burying of structures was intentional. Because these structures were burned before burying while still hot, the magnetic signatures of the superstructures were more enhanced.

Geophysical survey and archaeological excavations resulted in interpretations of the intra-site patterns at the Tom Jones site as much different from the widely dispersed community (Lockhart 2010: 246). A 100 by 20m gradiometry grid was surveyed immediately to the west of the temple mound. The results of the gradiometry survey at the Tom Jones site showed at least seven structures within 20m of the mound. The structures had extended entranceways that

pointed toward the large mound. The structures on the surrounding smaller mounds and those further away, in contrast, did not face the large temple mound (Lockhart 2010) (Table 8).

Site	Shape	Burned	Mound association	Artifacts	Orientation	Extended Entrance
Tom Jones Lockhart 2010	Rectangular	Yes?	semi-subterranean			Yes
	Circular	Yes?	Small mound	Un-excavated	NE (Md. A)	Yes
	Rectangular	Yes	Small mound		To Md. A	Yes
	Rectangular	Yes	Small mound		To Md. A	Yes
	Rectangular	Yes	Small mound		To Md. A	Yes
	Rectangular	Yes	Small mound		To Md. A	Yes
	Rectangular	Yes	Small mound		To Md. A	Yes
	Rectangular	Yes	Small mound		To Md. A	Yes
	Rectangular	Yes	Small mound			Yes

Table 8: Characteristics of Structures at the Tom Jones Site (3HE40)

The Clement Site of the Great Bend Region in southeastern Oklahoma is associated with the Central Caddo archaeological area (Figure 22). This site was also investigated using geophysical survey and archaeological excavations (Hammerstedt et al. 2010). There are two mounds at the site. Mound A measured about 2m tall and 30m in diameter. A structure was excavated about 1m deep in Mound A by George T. Wright, but structural details are not available (Hammerstedt et al. 2010: 279). There was a tomb in Mound A as well as some premound structures, but the shape, size and number of these was undetermined (Hammerstedt et al. 2010: 279-284). While little is known of the structures on the mound, there were two structures that were excavated northeast of Mound A. These structures (1 and 2) were overlapping. Structure 1 was square and measured 8m by 8m with an extended entranceway that was 2m long oriented to the southwest. Structure 2 was also square and measured 5.5m by 5.5 meters. The entranceway on Structure 2 was about 4.5 m and was oriented southwest (Hammerstedt et al. 2010: 279-284). This site was occupied periodically as early as A.D. 990 and occupations continued into a historic Choctaw period until about 1937.

Caddo structures are found in diverse settings and conditions. It is difficult to classify these structures because of the variability that exists over space and through time. These structures have been classified by destruction, orientation, material content, shape etc. There are only few archaeologists, whose focus is the Caddo area, who have provided adequate detail of structural characteristics to properly create the following classifications (Figure 26). The primary categories can further be broken down based on specifications previously observed in Caddo architecture. These complex set of characteristics make it difficult to establish criteria for identifying building function.

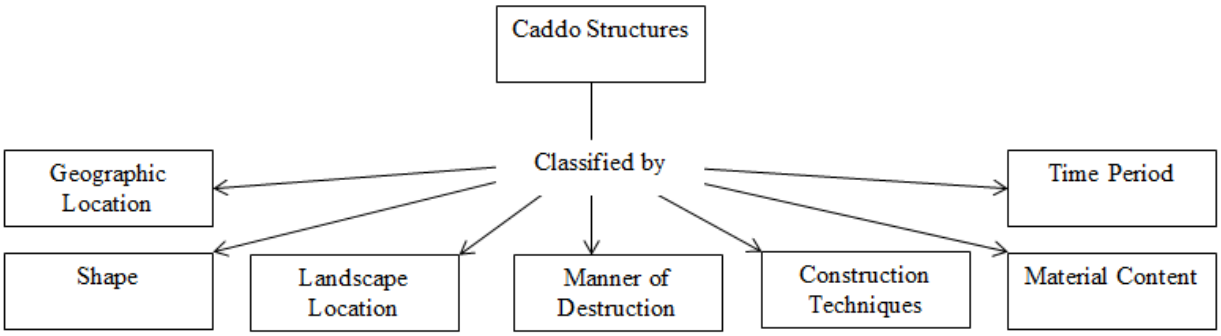

Figure 26: Primary Categories for Classifying Caddo Architecture

Chapter Seven: Discussion and Conclusion

There are multiple varieties of special purpose structures that do not all share identical characteristics. The "A-6 house" is a special purpose building because of a number of specifications identified through its excavation. This building was found buried in a large platform mound. The house has a hardened clay extended entrance ramp that was overlying the entrance-ramp of the underlying feature, the "A-7 house." The A-6 structure, however, has little evidence of a covered extended entranceway like those studied by Perttula (2009). The building was burned and buried methodically and the manner of destruction carbonized the organic material of the superstructure. Unlike many domestic dwellings excavated in the region, the A-6

structure had a seemingly clear floor with only one whole artifact associated with it, a Halley pipe. However, a clean floor is not definitively indicative of special-use. The pipe may represent a ceremonial object. Finally, the structure contained a central hearth which is common in other special-use buildings and observed in chief houses by early European explorers (Swanton 1942). Certain architectural and behavioral characteristics, specifically its elaborate destruction, set this building apart from others found on Mound A as well as throughout the Caddo region.

Archaeology in the Little Missouri River region, where Ferguson is located, is limited (Early 1984; Harrington 1920; Lockhart 2010; Weber 1973). The structural, functional, and behavioral characteristics of the A-6 structure can serve as a representation or model of special-purpose structures in the Little Missouri River basin and possibly in the greater Caddo area; however, some characteristics seem to be structure or site specific rather than regionally shared.

The destruction behavior observed in the "A-6 house" was unique. The structural remnants were well preserved in the archaeological record because of the burning and burying process. While burning and burying has been studied in depth in the Caddo region and culture (Trubitt 2009), the process of burying the walls of the A-6 structure was rare or not yet observed elsewhere. The walls were not just pushed in after burning, but they were pushed in a particular sequence. After each wall collapsed clean soil was laid over the burning timbers. Then the next wall was pushed in. This sequence observed was east wall, then south or north, then lastly the west wall. The order to this may have some significance related to cosmological beliefs much like the direction of extended entranceways observed in the Caddo region (Perttula 2009; Kay and Sabo 2006). The structure was absent of a roof suggesting that it was removed before burning and eventual burial; although, more analysis should be done to confirm that there once was a roof and it was, in fact, removed. The removal of the roof could slow the collapse of the

structure. Other structures that have been burned and buried contained evidence of daub and thatch that falls as the superstructure is engulfed in flames and deteriorating. The purposeful removal of the roof may indicate the need to prolong the process of destruction or ensure the order of the wall collapse.

The longest remaining wall posts came from the east wall measuring 2.58m. This remaining log was about 1m longer than the remaining posts from the other three walls. This may be attributed to the burning and falling process. The east wall was the first to collapse. It was the only wall that laid flat on the floor. The other walls were found at angles as they were pushed over the layers of soil. The post may have been broken or crushed in this process. The east wall was covered in clean soil at 1m deep. While the east wall was buried the other three walls would be burning quickly. It is likely that the sands intended to be used as fill was transported to the mound before the burning process began. Individuals might have moved the sand from the prepared piles atop the mound or ground surface to cover the collapsed walls. Schambach (1974) reported that no wall was "burned to a greater degree than any other wall," which means the process of burning and burying the walls would occurred very quickly. Schambach suggests that it is possible that the walls were burnt after they were pushed in. So, as Schambach (1974) describes the east wall was pushed then burned and covered and then the next wall was pushed in and burned and covered. Unlike the "A-7 house" remnants, no remaining logs stood within the post molds. In most burned and buried structures, it has been observed, that portions of the walls posts remain in post molds.

Maintaining a specific order of destruction could also lead to a burial sequence that preserved contrasting colors much like the platform mound at the Norman site. Possibly, as Vogel et al (2005) concluded, it was intended that the buried materials would never be

uncovered. The walls were meant to be forever buried maintaining this color sequence: dark or black burnt timbers, yellowish brown sands, timbers, sand etc.

The A-6 structure was the second of a sequence of burned and buried structures associated with the Black Mound of Mound A. The "A-7 house" preceded the A-6 and was also burned and buried. Unfortunately, there is limited data for the A-7 structure because it was one of the final features excavated during the Ferguson site salvage project. The A-7 structure was destroyed by forming a ring of sand around the walls. The building's roof seems to have been removed and then the walls were burned. After the walls were set aflame the timbers were covered further with sands and the superstructure smoldered. A layer of sand (Feature 321) then was used to fill the crater and set the platform for the "A-6 house." The layer of sand fill between the A-6 and A-7 is approximately 2m in height. The A-6 and A-7 structures share similar postmold patterns (the A-7 1m east of A-6), share the same entrance ramp location, with entrances oriented northeast (Figure 15 and Figure 18).

The A-6 structure had an entranceway that was marked by a clay ramp leading to the eastern wall. The entranceway would have faced to the northeast (Figure 19). There is little evidence suggesting that the entrance ramp for the A-6 structure was covered, but the postmold pattern and structural remnants of the A-7 structure shows evidence for preserved walls. Extended entranceways facing north and south are most common in the Central Caddo archaeological area (Perttula 2009), which includes the Ferguson site location; however, buildings oriented to the east (sunrise) are also well represented in the Central Caddo area as well (Perttula 2009).

After the destruction of the A-6 structure, a platform was built on top of the ruins to initiate the construction of the next structure (Feature 122). The posts for this structure were

placed within trenches. The southern wall trench aligns with the southern wall posts of the A-6 structure. Similar trenches were found in Feature 18, a structure at the Standridge site (Early 1988). A third structure (Feature 269) was constructed above Feature 122 after it burnt. Feature 269 had the same postmold pattern and dimensions as Feature 122; although, a pothole removed and damaged most of these buildings' remnants. The process of burning and burying structures repeatedly in the same place may have some ritual significance. Fire, itself, has been cited as a means for cleansing within the Caddo tradition (Sabo 2012; Schambach 1996).

Those sites that fall within the Central Caddo area that are related to the Ferguson site do not all share the same architectural details as the A-6 structure. This can be attributed to differing methods in excavation, data collection, and analysis. For instance, the structures at the Clement site in East Oklahoma were square, off-mound, and oriented to the southwest. These structures had covered extended entranceways unlike the A-6 structure remnants suggest (Hammerstedt et al 2010). A site much closer to the Ferguson site was the Tom Jones site. This is in the same geographical region and was occupied during the time of the Ferguson Caddo occupation (Lockhart 2010). Here the temple mound was not excavated; however, at least seven structures were identified using geophysical survey on the surrounding plaza area with extended entranceways oriented to the large mound. Because these structures were burned before burying while still hot, the magnetic signatures of the superstructures were more enhanced (Lockhart 2010). Lockhart identified one circular and eight rectangular burned and buried buildings however they were not all excavated so limited construction details are available.

The Mineral Springs site contains a structure that shared many architectural characteristics with the A-6 house. This structure was built on top of a platform mound. It was rectangular measuring 5m by 5.8m. The extended entrance was oriented to the southeast and

measured about 3.8m in length. This structure was reported as being burned and buried. Before destruction the house floor was cleared leaving few associated artifacts. Estimated dates analyzed using timbers from within the structure date it to A.D. A.D. 1275 to 1550 (Bohannon 1973**).**

Wall matting found at the Winding Stair site shares the same woven pattern as the matting from the "A-6 house" (also found among the superstructures of the A-3 and A-7 structures). The matting was not the only similarity between structures at these two sites. The Winding Stair structure would have been occupied in the late 1400s to the early 1500s (Early ed. 2000). Wall posts from the structure were tapered at the ends before being placed in postmolds. This kind of preparation for wall posts may also have been present in the A-6 structure where postmolds narrowed near the bottom; however, no post bottoms were identified among the remnants of the A-6 structure. The floor was relatively clear of artifacts, which is common in other special-purpose buildings and similar to the A-6. The debris from the Winding Stair building indicated some evidence of a roof; though, center posts were removed before destruction. Also unlike the A-6 structure, the Winding Stair building was not found on or under a large platform mound (Early ed. 2000).

Structure shape has often been used as a way to determine distinctions in Caddo architecture. Circular and square/rectangular buildings were excavated at the Ferguson site. Another site that had multiple styles of structures was the Oak Hill Village. Here, Perttula identified the two large circular buildings as special-purpose because of their placement on the landscape and the manner of their destruction. On the other hand, rectangular structures at the Oak Hill Village were determined to be dwellings (Perttula 2007). The preference for circular

structures for certain functions and rectangular structures for other functions is most likely regionally-specific or site-specific.

Many early excavations and studies in the Caddo area focus on mound related structures. Often plaza areas are overlooked though evidence in ethnographic documents show use of off-mound areas (Moore 1909, 1912; Swanton 1942; Terán 1697). Geophysical survey completed in places like the Tom Jones site and at Battle Mound may open a door to a wider range of architectural variability among the Caddo (Lockhart 2010; McKinnon 2014). Though the Ferguson and Tom Jones sites are situated in the same geographic and environmental region, they show differing site patterns. The methods for excavating and data collection at these two sites varied attributing to differing observations. Architectural similarities within the buildings themselves suggest that the buildings found at the Tom Jones site are special-purpose; however, without complete excavations there is no way to determine the function of these structures and if they are in fact similar to the A-6 structure. Location on a large platform mound does not seem to be a requirement for all special buildings. There was a de-emphasis, in fact, on mound building among later Caddo peoples (Trubitt 2009). This can be seen at the Winding Stair site (Early ed. 2000).

Schambach's complete excavations of Mound A and other areas of the Ferguson site was an ideal situation for archaeological investigation. The structures were excavated completely and thorough notes were taken for each feature. Many drawings were done as well as pictures taken during the three year project. Unfortunately, the site data was not completely analyzed and much of the information was never published. By analyzing the data for the A-6 structure much can be learned about structure variability in the Caddo tradition. More analysis should be conducted to fully interpret the data. For instance, the behavior surrounding the removal of the roof before

burning the A-6 and A-7 structure remains a conundrum and should be further looked into. An analysis by a plant specialist would be a great addition to this work to determine the kinds of plants chosen in the building process. More C-14 samples from multiple plant materials among the buildings' remnants should be analyzed to confirm the approximate period of occupation and construction of Mound A and the entire Ferguson ceremonial center. Further, recreating the construction sequence for the entire Mound A would be an interesting and helpful analysis for understanding the formation of large platform mounds.

Though there are similarities among a number of sites and structures found within the Caddo archaeological area, the characteristics for buildings for special use do not follow a single model. Many of the sites and structures referenced here only contain bits of architectural information due to limitation in excavations, site destruction etc. Archaeology in the Caddo area requires digging carefully and completely, fully analyzing data, and publishing results to widen the sample depth for architectural variability. Mound A at Ferguson was fully excavated leading to detailed notes on its features and construction. The A-6 structure was one of the most complete buildings excavated fully in the Caddo area. The building, itself, has unique characteristics not shared or recovered thus far in other excavations such as the burial of each wall after collapse or the absence of a roof among structural remnants. Because of its completeness, the A-6 structure can serve as a good representation or example of certain structural, functional, and behavioral characteristics for buildings specifically within the Little Missouri River basin and possibly the greater Caddo archaeological area of the Trans-Mississippi South.

Through the study of data from the Ferguson site excavations, I discussed details of construction and destruction of the A-6 structure and the behaviors surrounding this process. A

literature review of Caddo area archaeology led to a better understanding of cultural patterns of special-purpose buildings; however, this discussion can be greatly improved with the addition of more data for the region. While some similarities were identified among structures in the same geographical and environmental region as the Ferguson site, the process for data collection and excavation differed for many of these sites and few comparisons could be made. Finally, through a discussion of approaches to southeastern architecture, I offered a holistic and thorough approach to the interpretation of Caddo archaeology.

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Original Feature Names	Structure Names
Feature 22-23	A-1 House
Feature 6-8	A-2 House
Feature 31	A-3 House
Feature 49	A-4 House
Feature 118?	A-5 House?
Feature 120-265	A-6 House
Feature 339	A-7 House

Table 9: 3HE63, Mound A, Original feature names and new feature names. After a collection of features was recognized as a structure, they were given "house" names.

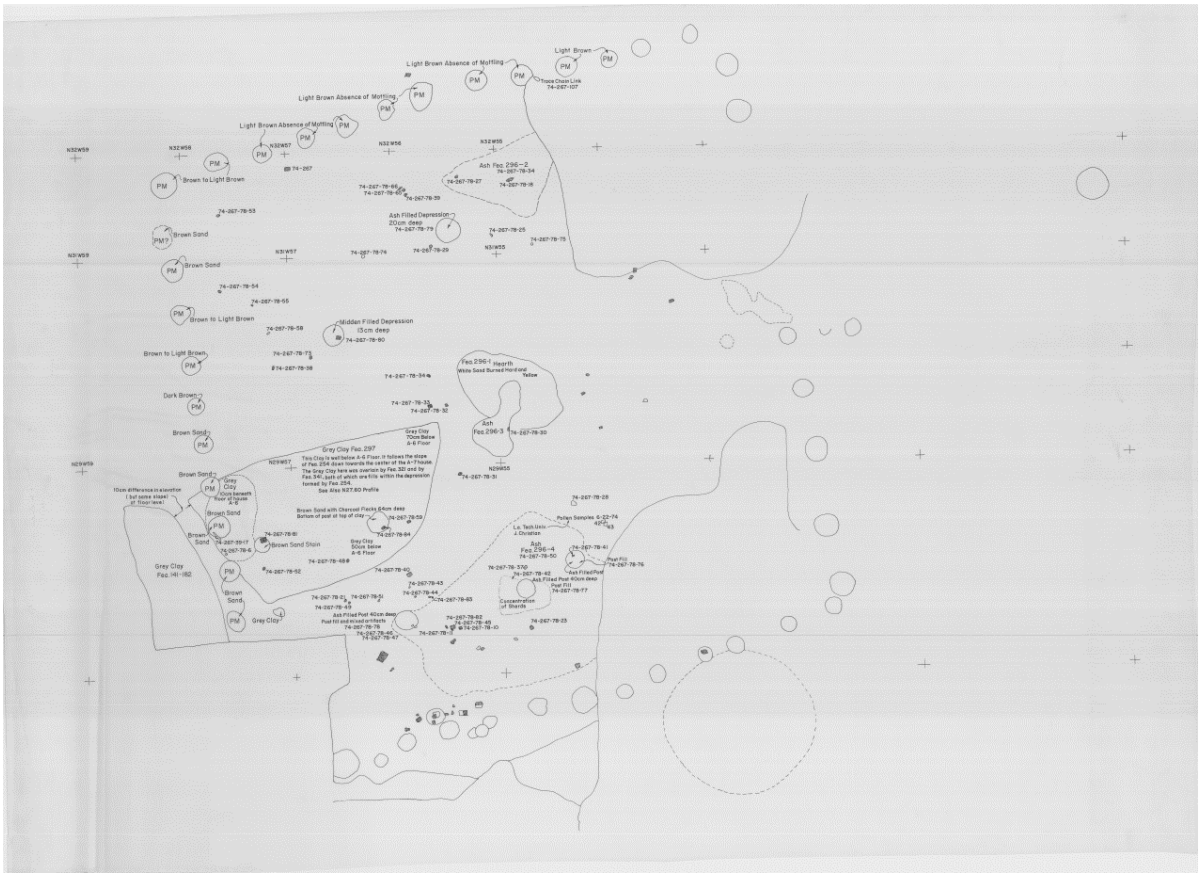

Figure 27: 3HE63, Md. A, A-6 House, Plan of A-6 Floor Fea. 296. R. Taylor and D. Kelley, unfinished artist rendering

Figure 28: 3HE63, Mound A, A-7 House Fea 339, Floor Plan

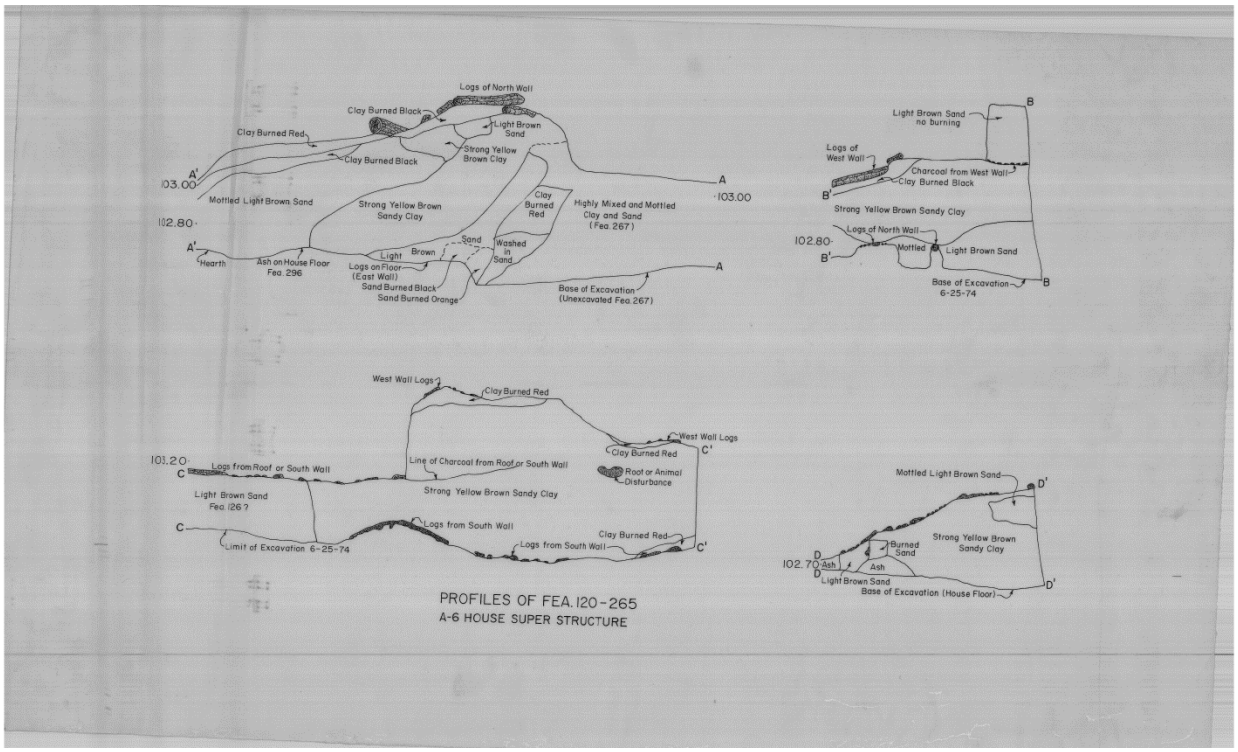

Figure 29: Profiles of Fea. 120-265, A-6 House Super Structure, D. Kelley and R. Taylor

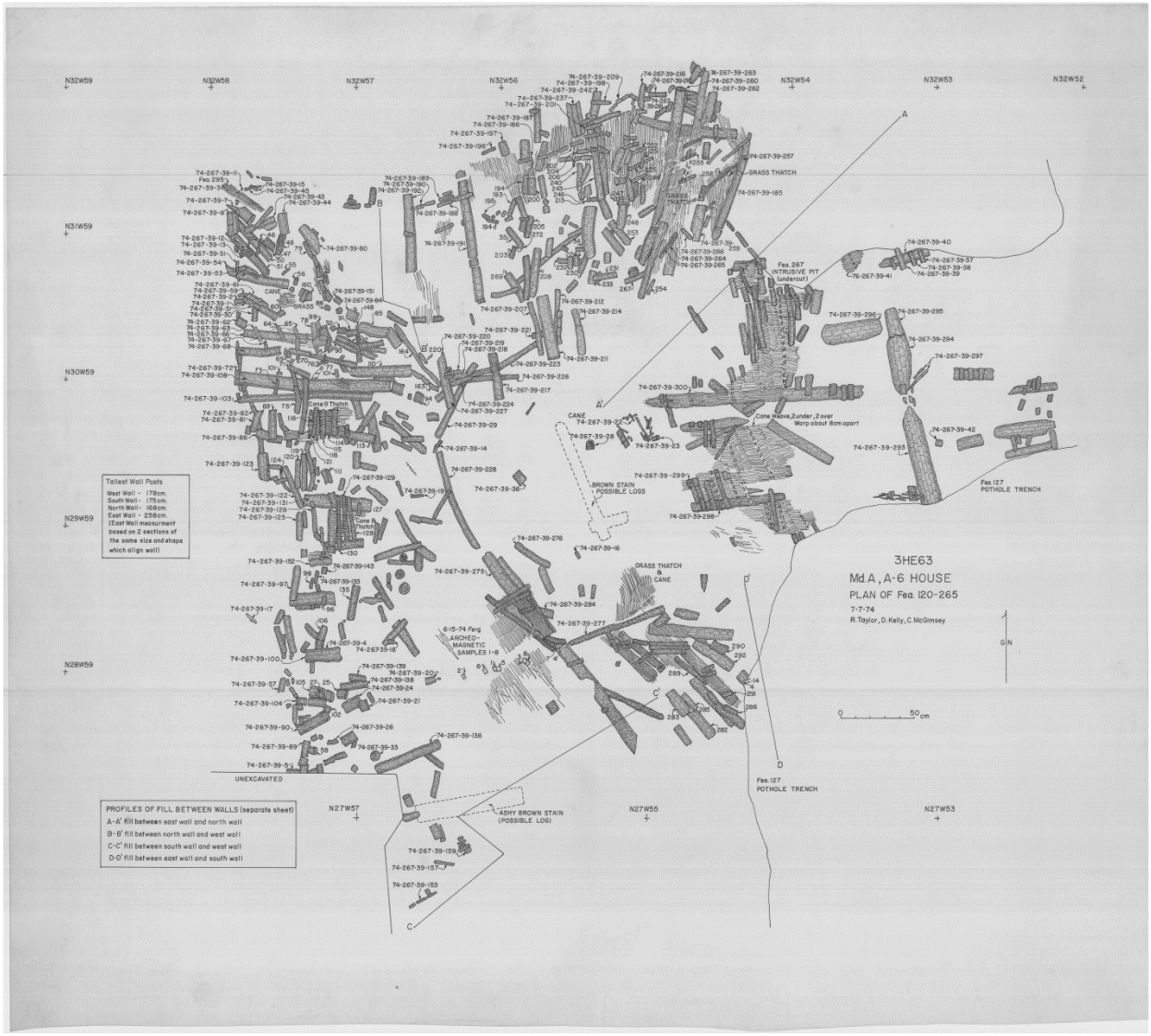

Figure 30: Md. A., "A-6 House:" Plan of Feature 120-265 by R. Taylor, D. Kelley, and C. McGimsey