

## Chapter 4

### Summary and Recommendations

Phase I archaeological literature review was completed by professional archaeologist Lauren W. Ritterbush with the assistance of anthropology student Victoria Rau between December 2008 and March 2009. This involved careful review and summary of documents describing previous archaeological investigations and collection of basic locational and descriptive information about known sites in the project area. Ninety-eight previously recorded sites were identified in the Manhattan Urban Area.

Phase II survey was conducted to assess the condition of as many of the previously recorded sites as possible and to identify previously unreported sites in selected areas surrounding Manhattan. General condition assessment of 70 previously recorded sites was accomplished through review of reports of prior archaeological investigations, often followed by confirmation through windshield survey, and through pedestrian survey. We concluded after careful documentary analysis that three sites (14RY1604, 14RY1605, 14RY1606) were incorrectly recorded without any clear documentary or physical evidence. Previous investigations of 16 sites determined that they were ineligible for the NRHP. At least 12 of these have been destroyed. Another 24 also had been destroyed prior to 2009. These include Euroamerican sites impacted by construction of the K-18/K-177 interchange in Central Manhattan, 14RY304 along K-177, Bluemont mound (14RY32), Fairman Lake ossuary (14RY642), the Griffing site (14RY21), and six others along Wildcat Creek. Three significant sites have been heavily impacted (and potentially destroyed), including the Blue Earth village (14PO24), the Macy site (14RY38), and 14RY10. One mound associated with 14RY36 appears to have been destroyed, while the other remains relatively intact (or reconstructed). The Goodnow House (14RY378) previously had been added to the NRHP and is protected as a State Historic Site. Stillman Cemetery (14RY7166) had been excavated, analyzed, and the remains reburied at a new location.

Our search for previously unrecorded sites was initiated with formal field survey in April 2009 and continued through much of June 2009. Crews of one to six individuals under the direction of the senior Principal Investigator and author walked over 436 acres of land within seven of the study tracts (Upper Wildcat Creek, Miller Ranch-Stagg Hill, Blue River, Western Divide, Natalie's Creek, Lower Wildcat Creek, Phiel Creek). Various factors were considered in the selection of parcels of land for survey. Primary among these was advice from the City's Community Development staff regarding areas holding high potential for future development. Other factors were the location of previously recorded sites (to assess their condition), landowner permission, ground cover, field conditions, topographic setting, and available time.

During our field survey we visited 33 of the previously recorded sites. This revealed that 12 had been destroyed, allowing no further study (as noted above). Five had been very

heavily impacted. 14RY409 and 14RY416 are prehistoric sites that appear to have only very small portions possibly intact, although test excavations are necessary to make that final determination. The same applies to historic sites 14RY441 and 14RY445. Although the Brous site (14PO25) appears to have been destroyed by recent commercial development, buried deposits may remain around or under existing constructions. The other revisited sites also show clear signs of impact by cultivation, construction, or “excavation” (pothunting). However, 11 of these deserve further study and five “mounds” protection and preservation.

Twenty-two newly discovered sites were recorded during Phase II. We collected basic locational information for each. Surface manifestations, including artifacts and artificial features (e.g., stone cairns, fences or walls; depressions), were noted. Artifacts were occasionally collected from prehistoric sites for long-term curation. These included samples of tools or tool fragments, especially if diagnostic of temporal or cultural affiliation, from selected sites. All visible artifacts (primarily flaking debris) were collected from 14RY665 because erosion threatened to remove them from their observed context. The single artifact collected from 14RY661 (a chipped stone ax) has been returned to the landowner at their request. Otherwise, collected artifacts are curated by the KSU Archeology Lab at the request of the City of Manhattan. Updated or new (original) site forms were completed for each of the sites revisited or discovered during field survey and filed with the KHS Archeological Inventory. We were unable to revisit 28 of the previously recorded sites.

## Site Affiliations and Site Types

Both historic and prehistoric archaeological sites have been recorded in the Manhattan Urban Area. These include 28 **historic** sites (Table 4.1). The majority date from the mid-nineteenth to the mid-twentieth century and is associated with Euroamerican society. One is a Native American village (14PO24) with associated burial ground used by the Kansa Indians between about 1794 and 1825. Only one of the recorded historic sites, the Goodnow House (14RY378), includes complete intact standing structures. Most were visible as portions of constructed features (e.g., stone-lined well; stone fence; foundation) or as scatters of historic debris. Reporting historic sites as archaeological resources recognizes that evidence of past use and the people associated with them may exist beyond intact above-ground structures and written documents. Four sites identified during this project as artifact scatters included both historic and prehistoric remains indicating that they are multi-component sites or locations used during at least two different times in the past by different groups of people. As many as eight of the previously recorded historic sites had been researched as part of earlier projects. This resulted in information about their age and function (e.g., boarding house/hotel, restaurant, blacksmith shop, residence, and cemetery). Most of these were in Central Manhattan and were commercial or residential sites associated with the early history of Manhattan. One site north of Manhattan was a late nineteenth century cemetery that has been excavated, researched, and moved to a nearby location (Stillman cemetery [14RY7166] in the Meadowlark development). Nine historic sites recorded for the first time and at least four of the previously recorded historic sites likely were associated with farms. These include remains of rural domestic and agricultural structures (e.g., stone-lined wells, dugout, barn foundation), portions of stone fences, and scatters of debris in modern

fields. Our survey involved very limited historical research of these sites. Field documentation, artifact and feature analysis, study of a variety of written documents, and collection of oral histories are necessary to understand and evaluate them.

<b>Temporal or Cultural Affiliation</b>	<b>Non-burial Sites</b>	<b>Burial Sites</b>	<b>Lithic Collection Sites</b>
<b>Historic Native American</b>	1	(1)	
<b>Historic Euroamerican</b>	22	1	
<b>Historic Euroamerican and Unidentified Prehistoric</b>	4		
<b>Unidentified Prehistoric</b>	23		10
<b>Archaic</b>	3		
<b>Archaic and Woodland</b>	1		
<b>Archaic, Woodland, and CPt</b>	3		
<b>Ceramic (Woodland or CPt)</b>	2		
<b>Woodland</b>	6	17 (23 mounds)	
<b>Woodland and CPt</b>	8	1 (1 mound)	
<b>Central Plains tradition (CPt)</b>	11	1	
<b>Unknown</b>	5	1 (earthen ring mound)	

Table 4.1 Temporal or Cultural Affiliation of Known Archaeological Sites in the Manhattan Archaeological Survey Project Area

More than three-quarters of the sites in the project area reflect activities of native peoples prior to European contact. These potentially date between 14,000 and 200 years ago (see Brief Cultural Historical Background in Chapter 1). More specific age determinations are interpreted based on the presence of certain artifacts diagnostic of different time periods. (More specific dating techniques, such as radiocarbon dating, require other materials rarely uncovered during archaeological survey.) In many instances, very little information is available about the kinds of artifacts found at previously recorded sites, and few diagnostic artifacts were found during our field surveys. (Non-professional artifact collecting has been a hobby of many individuals in this region for more than 130 years. Artifact collectors tend to “high grade” or selectively collect diagnostic artifacts. Thus, many of the most information-rich artifacts have been removed or lost without proper documentation.) The most common artifact type observed at prehistoric sites is *debitage*. This consists of pieces (flakes) of stone removed in the process of making (flintknapping) chipped stone tools. Debitage is generally non-diagnostic because of the limited amount of variability in the flintknapping process and the debris it produces. As summarized in Table 4.1, more than one-quarter (33) of the recorded prehistoric sites cannot be attributed to a more specific period.

One general site type that is especially difficult to date is lithic (stone) collection or extraction sites. Ten of these have been recorded in the project area, although more exist in the chert-rich Flint Hills uplands. These are locations where quality chert (flint) was obtained for making cutting and scraping tools. In some regions, this stone must be quarried by digging into bedrock sources. Although this occurred in some areas of the Flint Hills (possibly at 14RY504), it was also possible to simply collect chert from bedrock exposures. These sites are typically marked by natural outcrops of quality chert and scattered pieces of debitage or stone flakes with distinctive attributes indicating human modification. The flakes commonly demonstrate traits associated with early stages of the flintknapping process. Cores or tested pieces of chert from which flakes have been removed are also found. Workshops where stone tools were formed (e.g., 14RY654) exhibit similar remains, but can also be away from the actual chert source. Finished chipped stone tools are rarely found at these sites since they were removed for use after they were made. The lack of diagnostic artifacts (as well as the lack of other datable materials), makes it difficult, if not impossible to determine when they were used. Good sources of quality materials probably were used by different groups of people at different times throughout much of prehistory. Region-wide analyses of these sites and their distribution have the potential for yielding valuable information about past technology, use of the Flint Hills, and interaction and exchange. These sites should be evaluated for their eligibility for the NRHP under the existing multiple property listing 'Aboriginal Lithic Sources Areas in Kansas' (Banks and Stein 2003).

Fifty-three prehistoric sites yielded clues that allow us to interpret possible temporal affiliations. These are summarized in Table 4.1 and below. These interpretations are based on limited information and, in most cases, few artifacts recovered from the surface. Sub-surface deposits not visible during survey may hold remains from earlier human activities.

No **Paleoindian** sites have been recorded formally in the project area. Because of the great antiquity of the Paleoindian period, debris left behind by ancient Native Americans has faced thousands of years of destructive forces and, if not destroyed, has often been eroded or buried in subsurface deposits. Paleoindian finds are not common in Kansas, however, they are known in Riley County and the surrounding area.

The earliest reported evidence of human activities in the project area is associated with the **Archaic** period. Artifacts that are believed to be diagnostic of this period have been collected from seven sites in the project area (Table 4.1). Four (14RY406, 14RY423, 14RY424, 14RY600) have already been destroyed or are heavily impacted. We found one diagnostic Archaic artifact at each of the newly recorded Allen (14RY661) and Peterson (14RY657) sites. A Woodland artifact was also found along the edge of the Peterson site indicating multiple periods of use. 14RY402 is rumored to hold evidence of Archaic and later activities as well. Additional sites may be revealed through additional Phase II survey, although it is not unusual for remains of this age to be buried, making them less visible during pedestrian survey. Geomorphic studies may assist in the identification of deposits of Archaic age. Until others are identified, 14RY402, the Allen and Peterson sites hold the greatest potential for providing new information about Archaic activities in this region. They are especially significant because so little is known about this period. Phase II survey

of 14RY402, a site we were unable to visit during 2009, is necessary to assess its present condition. Phase III testing is strongly recommended for the Allen and Peterson sites, as well as 14RY402. If cultural deposits remain intact at these sites (each has been cultivated), they may yield new information about human use of the Manhattan area during the Archaic period. The Peterson site and 14RY402 may also provide data for interpreting later periods.

The most frequently identified prehistoric remains in the area date to the Ceramic periods, or more specifically the Woodland and Late Prehistoric periods (Table 4.1). Those dating to the latter represent the Central Plains tradition (CPT). These sites date between 2,000-1,000 and 1,000-600 years ago, respectively. Given their relatively young age, Woodland and CPT materials are often visible on the surface, especially in plowed fields. Both CPT and non-mound Woodland sites have been identified in valley settings. Few **Woodland** sites in this region have been studied, yet the Spring Branch or Macy site (14RY38), which was excavated in part prior to construction of the new K-18/K-177 bridge, provides evidence that valleys were used repeatedly as camp and special-use sites. This, as well as the Brous site (14PO25), demonstrates that Woodland deposits may be near the surface, as well as deeply buried. Both have been dramatically impacted, if not completely destroyed by developments within the past 15 years. It is impossible to know the boundaries of these subsurface cultural remains based on surface survey. Future construction activities near these sites should be monitored for additional buried deposits. Professional study of these and other Woodland sites is greatly needed in order to shed light on an important period of cultural development in this region.

Although many Woodland sites have been identified on the surface and in some buried deposits in the Blue, Kansas, and Wildcat valleys, special use Woodland-era sites are also common in the neighboring uplands. Noteworthy are the artificial “mounds” or rock cairns on bluff tops, commonly overlooking major stream valleys. As many as 19 bluff-top sites including remnants of these features have been recorded in the project area. Commonly they consist of a low stone cairn or mound, most often disturbed or dismantled resulting in a shallow central depression surrounded by displaced stones or earth. Many had one such feature, but some had two to four near one another on the same bluff. This results in a total of 25 recorded bluff-top “mounds” or cairns in the project area. These features have been known to Euroamerican residents of the Manhattan area since at least 1879. However, information about their exact location and contents is very limited. Reported finds from several in the project area and others in the broader region suggest they served as burial features. Although this cannot be confirmed through surface survey, we have classified each bluff-top site with a stone or circular earthen feature as a probable burial site. Charles E. Eyman (1966) studied the archaeological remains of a number of similar mounds in Geary and Clay Counties. He found that they were frequently built during the Woodland period and occasionally reused by later peoples (cf. Roper 2006b). Early non-professional excavations were undertaken of many, if not all of these features in the Manhattan area, but are very poorly documented. A few brief references to these excavations and associated discoveries indicate that at least some “mound” held human burials (often cremated remains) and Woodland-era artifacts. Given the similarities between the features Eyman studied and those around Manhattan, we have classified bluff-top “mounds” as Woodland burial features even if no information is available about their contents. A published description of items

reportedly recovered from Fremont Mound (14RY35) suggests both Woodland and Late Prehistoric use of this particular site. We have not classified a low bluff-top earthen ring and depression (14RY652) found during Phase II of the Manhattan Archaeological Survey as Woodland because its form varies from that of most other “mounds” in a similar setting. Well-documented professional excavation is needed to interpret the age and function of this feature. This and one other “mound” (14RY653) were discovered during our survey. We were also able to relocate five previously recorded mound sites. Our field visit confirmed the location of three sites (14RY31, 14RY34, 14RY35) and more accurately mapped two others (14RY43, 14RY45). Four additional sites (14RY30, 13RY32, 14RY39, 14RY44) had been thoroughly destroyed by modern and historic municipal and residential developments. We were not able to field check the location of eight other reported “mound” sites although know that previously studies had relocated one intact or rebuilt stone mound (14RY36) (Roper 1999) and failed to identify the remains of another (14RY42) (Thies 2007).

**Central Plains tradition (CPt)** sites dating to the period between about AD 1000-1400 are also present in the Manhattan area and known in some frequency (Table 4.1). They are commonly found in valley settings, often as scatters of lithic and ceramic artifacts in plowed fields. Modern cultivation facilitates ground visibility, but it also damages archaeological sites by mixing subsurface and surface deposits and destroying archaeological artifacts, features, and their original context and associations. As a result, CPt and earlier Woodland materials are mixed at a number of sites. Mixing of deposits and destruction of features through agricultural and other practices not only hinders the interpretation of the age of particular remains, but also of the function of the site. The presence of daub, a poorly-fired mixture of clay and organic debris, is believed to indicate the presence of a prehistoric lodge. Daub was used as plaster in the construction of CPt houses. In a few instances, small pieces of this material are preserved at sites in the Manhattan area suggesting that these were habitation or living sites associated with a relatively permanent shelter. The association of daub with CPt houses has been repeatedly confirmed through the excavation of sites in north-central Kansas, including several significant sites in Manhattan. These include 14RY10, 14RY21 (Griffing), and 14RY401 (Lonergan), where excavations uncovered lodge floors associated with CPt artifacts. Although these sites have provided important information about the CPt, much remains to be learned, especially since more sophisticated archaeological data recovery and analytical techniques have developed since these were excavated. Modern methods and approaches promise to aid in the interpretation of behavior associated with lodges, as well outside activities, such as gardening.

CPt lodge sites are rarely associated with human remains. Other studies suggest that communal burial grounds (ossuaries) were used to dispose of the dead (Roper 2006b). The Fairman Lake site (14RY642) has been tentatively identified as a CPt burial ground. Unfortunately, it was completely destroyed in the 1930s. Newspaper accounts of bone and other materials uncovered during the construction of this private reservoir clearly indicate that there was a prehistoric burial ground near the intersection of an intermittent drainage and Wildcat Creek valley (O’Brien 2004:147). The brief descriptions of artifacts do not make clear whether this was a Woodland or CPt burial site. CPt seems more plausible given its location in the valley rather than on a bluff. (In fact, a probable Woodland burial mound [14RY44] was located on the bluff immediately east of Fairman Lake.) Given the prevalence

of both Woodland and CPt sites in the Manhattan area, more burial sites should be expected. These may occur as bluff-top interments, valley bottom cemeteries, and possibly as occasional burials associated with camp sites or farmsteads. As noted elsewhere, unmarked burial sites, such as Woodland burial “mounds” and CPt ossuaries, as well as individual interments, are protected in Kansas under the Unmarked Burial Sites Preservation Act.

Oneota and Protohistoric sites have not been recorded in the project area. **Late Prehistoric Oneota** materials have been documented in Pottawatomie County at and near the spillway of Tuttle Creek Dam. These remains hint that other Oneota materials may be present in the Manhattan area. If so, they would be valuable for shedding light on the activities of these migrants and their potential impact on native peoples already established in this region (Ritterbush and Logan 2000; Ritterbush 2002, 2006).

The **Protohistoric** period is even more poorly understood. There is tenuous evidence of protohistoric activity in the project area at 14RY422. Several potsherds found in the upper portion of this site are unlike others in the region. It appears that they were associated with a stratum above CPt materials suggesting a younger age (Roper, personal communication, March 2009). The identification of these sherds and associated materials require further study; unfortunately, this site has been completely destroyed. This loss emphasizes the need for continued archaeological survey and excavation, careful analysis by regional experts, and preservation of significant archaeological remains and the information they hold.

## **Recommendations**

The Manhattan Archaeological Survey has produced an inventory of known archaeological sites in the Manhattan Urban Area. Many of these had been previously recorded, but with very limited information and at a time before extensive commercial and residential development of the area. Field survey of selected parcels of land has not only added to the inventory of known sites, but also provided additional information about new and previously recorded sites. We use this information to make recommendations regarding archaeological resources in the Manhattan area. Recommendations are made for individual sites, as well as for the Manhattan Urban Area and tracts within it.

## **Individual Sites**

Chapter 3 presents specific information about the location and form of identified archaeological sites in the project area. Each description ends with a discussion of the present condition if known and recommendations for further investigation or treatment. A general summary of these recommendations is presented here and in Appendix A. More specific information about these recommendations can be obtained from the individual site descriptions in Chapter 3.

No further archaeological fieldwork is recommended for 44 or 37% of the recorded sites in the Manhattan Urban Area (Table 4.2). As noted above, three previously recorded sites have insufficient evidence that they ever existed. Among the sites not demanding

additional archaeological study are 15 that were previously determined to be ineligible for the NRHP. Most of these have been destroyed, in addition to 23 other sites. One has been so heavily impacted by earthmoving activities and the dumping of sediments containing archaeological materials from another site, that no further investigations are recommended. Two sites are already protected. The Goodnow House (14RY378) is on the NRHP and is a State Historic Site owned by the KHS and managed by the Riley County Historical Museum. Historical and limited archaeological work has been conducted there. Protection of this site facilitates future research and preserves part of Manhattan’s Euroamerican heritage. A second historic site has gained a form of protection, although not in the same manner. This is the Stillman Cemetery (14RY7166). The actual site of this late nineteenth century cemetery has been destroyed. However, professional archaeologists carefully excavated the burials and associated features prior to the site’s destruction. These remains were analyzed before they were reburied at a nearby location (Pye 2007). This resulted in respectful treatment of the dead, as well as new knowledge about this largely undocumented site and the people associated therewith without halting modern development.

<b>No Further Fieldwork Required</b>				
<b>Non-existent</b>	<b>Ineligible (and destroyed)</b>	<b>Destroyed</b>	<b>Heavily Impacted</b>	<b>Preserved</b>
3	15	23	1	2
(2.5%)	(12.5%)	(19.2%)	(0.8%)	(1.7%)

Table 4.2 Summary of Recorded Sites in the Manhattan Urban Area Not Requiring Further Archaeological Investigations (Percentages based on the total number of known sites [n=120].)

Additional archaeological, historical and related investigations are recommended for the remaining sites identified in the Manhattan Urban Area. In general, these can be summarized as Phase II archaeological survey, Phase III evaluation, historical research, archaeological monitoring, preservation, or some combinations of these. Table 4.3 sums up recommendations for the next stage of investigation.

<b>Recommendations for Further Investigations and Treatment of Sites</b>			
<b>Phase II Survey</b>	<b>Phase III Evaluation *</b>	<b>Historical Research</b>	<b>Preservation</b>
24	43	1	7
(20.0%)	(35.8%)	(0.8%)	(5.8%)

Table 4.3 Summary of Recommendations for at least Partially Intact Sites (Percentages based on the total number of known sites [n=120].) (\* Phase III evaluation may or may not involve test excavations depending on specific characteristics of the site.)

This classification is for summary purposes only. The specific kind(s) of investigation required at each site is dependant on individual and often unique factors. The tabulated recommendations reflect the next stage of investigation and do not necessarily eliminate the need for studies beyond those noted here. For example, Phase II survey may lead to a recommendation for Phase III evaluation involving archaeological test excavations and/or historic research. In other instances, Phase II survey may reveal that a site has already been destroyed requiring no further work.

One category of high-priority recommendation not included in Table 4.3 is archaeological monitoring. This involves consultation with an archaeologist prior to and their presence during future earth-moving activities in order to identify potential cultural remains (often buried) at or around the location of known sites. We recommend monitoring, often in combination with survey and testing, for six known sites. The first of these is Brous (14PO25). This site was first identified in the late 19<sup>th</sup> century in a railroad cut (Brower 1898:61). Since that time, artifacts have also been found on the surface of a cultivated field near the original exposure. Unfortunately, this area has been reshaped and developed in recent years as part of Heritage Square South with consequent destruction of that part of the site known from surface finds. The extent of buried deposits was never documented. They may stretch beyond the areas already deeply modified around or within Heritage Square South and along the railroad tracks. Lands adjacent to this development and the nearby railroad easement (both sides) still may hold buried cultural deposits and should be carefully monitored.

The Brous site was potentially significant given its association with buried remains representative of Woodland-era activities. Its deposits may have been similar to those exposed during excavations of Macy or Spring Branch (14RY38). This site was determined eligible for the NRHP. Phase III and IV excavations were conducted in the Area of Potential Impact associated with construction of a new K-18/K-177 bridge (Banks et al. 2001; Benison et al. 2000; Hawley 1992, 1993; Hawley and Benison 1994). As in the case of Brous, much of the Macy site is believe to have been destroyed. However, the cultural horizons identified in the impact zone were buried and may extend beyond the area destroyed by construction. Phase III excavations are recommended north of the highway right-of-way in order to identify the horizontal boundaries of the buried deposits. If land-modifying activities are planned nearby, those areas of impact should be monitored carefully by a professional archaeologist.

The other major site area strongly recommended for monitoring, as well as Phase II survey and Phase III testing, is that including and surrounding the Blue Earth or Kansa village (14PO24). This a complicated site given that it originally consisted of a very large earthlodge village, a smaller habitation area, and burials adjacent to and separate from the major village. It is clear that much of this has already been destroyed. Despite various developments over the past 150 years, small areas may still retain archaeological remains, including human burials. The State's Unmarked Burial Sites Preservation Act requires that the latter be protected. Those portions of the site judged through careful study of historic maps and modern developments to have been minimally impacted are recommended for

Phase II survey and Phase III testing. In addition, we recommend archaeological monitoring of all land-altering activities throughout this general area. A local archaeologist(s) with detailed knowledge of the site and historic documents pertaining to it should be consulted during the planning and construction phases of future projects. Persons with such qualifications should be able to determine whether archaeological and geomorphic monitoring is necessary during construction. It should be noted that a detailed site-specific Phase I literature analysis of this site is warranted to provide solid base knowledge about site structure and modifications since its abandonment. This detailed information is necessary to guide future planning and archaeological investigations.

Monitoring also is recommended for three smaller sites. 14RY42 is recorded as a burial mound. No above-ground evidence of this was found during a previous compliance survey, although ground visibility was poor (Thies 2007). A local informant believes a mound may still be present. We were unable to search for this feature during Phase II of the Manhattan Archaeological Survey. The area in which it is reportedly located is hay land, limiting ground visibility. Because it also lies near planned residential and commercial development, we recommend that the area be monitored. 14RY633 is a very different site located along a bank of the Kansas River. The land adjacent to the river and the bank itself need to be surveyed. Visits to the river bank (possibly by boat) should be made at various times to monitor erosion and assess the condition of the site if still present. 14RY665 is also affected by erosion. The small ravine in which this site was identified should be visited at various times during the year to monitor continued erosion.

Phase II survey is recommended for 21 sites we were unable to revisit during the Manhattan Archaeological Survey (including 14PO24, 14RY42 and 14RY633 discussed in the previous two paragraphs), as well as three additional sites that we reconnoitered, but did not systematically survey (Table 4.4). For 14RY409, we recommend that a gated grassy area be surveyed using shovel testing after buried utility lines have been marked. Previous observations indicate that much of the site has already been heavily impacted. Shovel testing and detailed inspection of this remaining area are needed to assess its integrity. A somewhat similar situation exists for or around 14RY10. This site, which had been excavated in part during construction of Tuttle Creek Dam, may have been destroyed at that time. However, our review of available maps and documents suggests that the exact location of the site may be incorrectly recorded. Instead of lying within an area that has been totally altered through dam construction, it may be within a part of Tuttle Creek Park (federal property) that preserves at least some of the original landscape. Because artifacts have been observed in an adjacent portion of Phiel Creek, we recommend that property along this stream be surveyed. Another site whose location has been misreported is 14RY410. Although we walked the originally reported (and apparently accurate) location and found a couple artifacts, our survey was incomplete because ground visibility was near 0% (tall, dense alfalfa). More intensive survey is required at a time of better visibility. Another nearby location was incorrectly designated 14RY410. This area also must be resurveyed (and probably recorded under another site number). Given that ground cover makes pedestrian survey difficult in the fields containing these sites and that artifacts are known to exist at them, we also recommend Phase III testing of both areas identified as 14RY410.

Site Requiring Phase II Survey		
Site Number	Phase II Survey	Phase II Testing
<b>14PO24</b>	X	<b>X</b>
14RY10	X	
14RY37	X	
14RY40	X	
14RY41	X	
14RY42	X	
14RY84	X	
14RY86	X	
14RY305	X	
14RY306	X	
14RY307	X	X
14RY402	X	X
14RY409	X (shovel testing)	
<b>14RY410</b>	X	<b>X</b>
14RY418	X	
14RY425	X	X
14RY427	X	
<b>14RY431</b>	X	<b>X</b>
14RY432	X	X
14RY633	X	
14RY1601	X	
14RY1602	X	
14RY1608	X	X
14RY1609	X	

Table 4.4 Sites Recommended for Phase II Survey Alone or in Combination with Phase III Testing (Bold indicates priority recommendation for testing.)

Each site recommended for Phase II survey may also require Phase III testing. Phase III investigations are designed to assess or evaluate the eligibility of sites for the National Register of Historic Places. This phase commonly involves archaeological testing or the excavation of small-scale excavations and analysis of the recovered remains and their context. Generally, recommendations for Phase III evaluation are made upon completion of Phase II survey. However, we believe based on our review of previous site records that it is appropriate to combine Phase II and Phase III investigations for eight sites that we were unable to systematically survey in 2009 (Table 4.4).

In addition to the above, Phase III evaluation is recommended as the next stage of investigations for 43 known sites. Test excavations are a necessary part of Phase III evaluation of 21 of these because they have the potential for buried deposits (Table 4.5).

<u>Artifact Scatters Requiring Phase III Test Excavations</u>	
<u>Priority 1</u>	<u>Priority 2</u>
<b>14RY403</b>	14RY408
<b>14RY201</b>	14RY416
<b>14RY657</b>	14RY648
<b>14RY661</b>	14RY665
<b>14RY429</b>	14RY666
<b>14RY430</b>	14RY428
<b>14RY400</b>	14RY449
<b>14RY404</b>	14RY646
<b>14RY405</b>	14RY441
<b>14RY652</b>	14RY445
	14RY7164

Table 4.5 Prioritized List of Sites Recommended for Phase III Testing.

Table 4.5 lists those previously surveyed sites that have been recommended for Phase III test excavations and evaluation. These are in addition to those recommended for both Phase II survey and Phase III testing in Table 4.4. Those highlighted with **bold** in both tables are assigned highest priority based largely on archaeological potential. (Priority listing should increase if development plans are imminent for the areas in which any of these sites are located.) **14PO24** is the Kansa or Blue Earth village and has been discussed above. Reasons for prioritizing the others are highlighted below.

- **14RY403** – Previous site records and the present condition of this site suggest that it may have never been plowed. This is extremely rare in the archaeologically rich Wildcat Creek valley and may suggest that the site has experienced few disturbances. Investigation of this site should occur during the winter or early spring (or after a burn) as it is presently covered with dense vegetation.
- **14RY201, 14RY657, 14RY410** – These are large multicomponent sites in Wildcat Creek valley that have yielded abundant surface remains.
- **14RY410, 14RY431** - Daub was reportedly found at 14RY410, as well as 14RY431. This suggests that features associated with a possible CPt lodge may be present.
- **14RY661, 14RY429, 14RY430** – 14RY661 was identified along an eroding slope of a cultivated field and yielded a chipped stone ax of probable Archaic age. It is prioritized because of its potential for buried Archaic deposits and because it is endangered by further erosion. Nearby sites 14RY429 and 14RY430 are also endangered by erosion and may hold similar deposits.

- **14RY400, 14RY404, 14RY406** – These sites have been impacted by cultivation and construction of a modern golf course. Nonetheless, previous limited testing at two of the sites and reports from the golf course developer confirm that subsurface features exist (or once existed) at one or more of these sites. They are prioritized because of the potential for additional subsurface deposits and because the landowner and golf course developer appear willing to assist in identifying the history of modifications to the area including these sites. Remote sensing (near-surface geophysical techniques such as magnetometry, resistivity/conductivity, and ground-penetrating radar) should precede excavation in order to assist in the identification of areas holding the greatest potential for subsurface features. (Remote sensing will increase the cost of testing these sites, but given the other modifications to these sites, it is deemed essential to their evaluation.)
- **14RY652** – This is an unusual site consisting of a shallow depression and earthen ring. It is located near the center of a bluff top in a location similar to that associated with Woodland burial sites. Small-scale test excavations are recommended to determine its age and function. Because it may be associated with human remains or funerary objects, it may be necessary to obtain permission from the Unmarked Burial Sites Preservation Board to conduct these excavations.

Phase III evaluation does not always require test excavations. Sites with low potential for buried depositions (e.g., sites situated on bedrock surfaces) must be evaluated using other forms of data collection and analysis. These may include detailed survey and documentation of artifacts and features exposed on the surface, specialized analyses of remains (e.g., lithic analysis, architectural analysis), and/or historical research. Review of existing data must be considered when designing Phase III evaluation of individual sites. Appropriate flexibility must be allowed in the planning and completion of Phase III assessments.

Test excavations will not be possible at lithic collection or workshop sites on bedrock sources. The evaluation of these sites depends on collection of surface observations (e.g., detailed mapping) and analysis of the remains, their position relative to one another, as well as the broader setting of the site within the landscape. Table 4.6 lists lithic scatters located on upland bedrock surfaces that require non-traditional (non-excavation) means of evaluation. Most of these sites appear to be lithic collection stations or quarries (possibly 14RY504). They should be evaluated in light of the ‘Aboriginal Lithic Source Areas in Kansas’ multiple properties nomination for the NRHP (Banks and Stein 2003). 14RY654 is more likely a lithic workshop, rather than collection station since it does not appear to be located atop a bedrock source of quality chert. The evaluation of **14RY656** is considered high priority because of its size and location within the heart of on-going residential development. 14RY31 appears to be both a lithic collection station and the site of Woodland burial mounds. The lithic collection component of the site should be included in evaluation of similar sites in the area. The burial mounds deserve protection as discussed below.

<u>Upland Lithic Sites Requiring Evaluation</u>		
<b>Site Number</b>	<b>Additional Survey Required</b>	<b>Phase III Evaluation</b>
<b>14RY656</b>	<b>X</b>	<b>X</b>
14RY31		X
14RY504	X	X
14RY1552	X	X
14RY1554	X	X
14RY1556	X	X
14RY1557	X	X
14RY1558	X	X
14RY1559	X	X
14RY1560	X	X
14RY654	X	X

Table 4.6 Upland Lithic Scatters Recommended for Phase III Evaluation

Phase III evaluation of Euroamerican sites may involve test excavations, especially when the site consists of a scatter of historic debris (included in Table 4.5 above). The historic sites listed in Table 4.7 include above-ground or surface structural remains.

<u>Historic Sites with Structural Remains</u>	
<b>14RY667</b>	<b>Schurle farmstead</b>
14RY663	Hulse farmstead
14RY664	(stone-lined well)
<b>14RY647</b>	Higinbotham-Marlatt <b>stone fence</b>
<b>14RY651</b>	Schultz-Russell <b>stone fence</b> East
14RY650	Schultz-Russell <b>stone fence</b> South
14RY655	<b>(stone fence or wall)</b>
14RY662	<b>(stone fence or wall)</b>
<b>14RY660</b>	<b>Stagg Hill</b> circular berm
14RY659	<b>Stagg Hill</b> raised pathway
14RY658	<b>Stagg Hill</b> check dam

Table 4.7 Historic Euroamerican Sites with Structural Remains Requiring Field Documentation, Historical Research, and Evaluation

Before determining whether test excavations are necessary, detailed historical research must be completed and surface features fully documented (mapping, architectural drawings, photo documentation). These sites should be analyzed by a team of researchers including an historian well versed in the analysis of the many different kinds of written documents

available for rural Kansas, architectural historians experienced with documenting constructed features (not necessarily complete structures) (e.g., building foundations, fences, wells), and an historical archaeologist. Their initial research may provide sufficient information to evaluate the condition, context, and significance of these sites. In some instance, they may recommend test excavations by an historical archaeologist familiar with these kinds of features in order to complete evaluation for eligibility for the NRHP.

It is difficult to prioritize the evaluation of these historic sites given what little we know about the history of these sites at this time and their present situation relative to modern developments. The Schurle farm (14RY667) along Natalie’s Creek might be given high priority because elderly members of the Schurle family may still be alive and hold information about this site, which appears to have been continuously occupied for at least 100 years. The nearby Hulse farmstead (14RY663) may be at least as old, but abandoned much earlier. The same may be true for the unnamed stone-lined well at 14RY664. The latter two sites may provide significant information about some of the earliest settlers west of Manhattan. The five stone fences or walls are important reminders of the agricultural landscape surrounding Manhattan. Today, two (14RY647, 14RY651) are directly adjacent to on-going residential construction; thus, face the immediate threat of destruction. These should be incorporated into a wider study of stone fences in the Manhattan area since other remnants no doubt remain within the project area. These could then be evaluated for a multiple properties nomination to the NRHP. Education about and preservation of these structures should be pursued in the immediate future, before they are lost to development. The Stagg Hill features are fairly young, thus, may not be considered a priority. However, residential construction is proceeding rapidly adjacent to 14RY660 and the other two sites.

Phase III investigations are generally necessary to evaluate the significance of an archaeological site prior to making long-term recommendations for preservation and protection. Until Phase III assessments can be completed, each site should be tentatively considered worthy of preservation until their significance can be evaluated. We recommend long-term preservation and protection of seven sites that have not been formally evaluated and that have in most cases already been adversely impacted (Table 4.8). These are probable burial sites (bluff-top “mounds” or cairns) where vestiges of an original feature remain.

<u>Partially Intact Prehistoric Burial Features</u>	
14RY31	1 excavated & 1 unexcavated (?) stone mound & associated lithic collection station
14RY34	1 excavated stone mound
14RY35	1 excavated stone mound (Fremont Point)
14RY36	1 of 2 excavated stone mounds remains
14RY43	1 excavated stone mound
14RY45	1 intact (?) cairn
14RY653	1 excavated stone mound

Table 4.8 Probable Prehistoric Burial Mounds or Cairns Recommended for Preservation

As discussed elsewhere, these features were built of stone and/or earth for interment of one or more individuals, most likely during the Woodland period, with possible reuse in later times. Most have been disturbed by early non-professional “excavation”. Human remains and associated funerary objects were removed and the original feature often dismantled. Despite these disturbances, we argue that those still partially intact deserve long-term protection and preservation for several reasons. First, as burial sites they may hold sacred value to certain individuals and groups. This is recognized by Kansas’ Unmarked Burial Sites Preservation Act, which prohibits disturbance of such sites. Second, although many of these features were “excavated” and human and cultural remains removed, we do not know the extent of the early “excavations” and whether human remains and associated funerary objects are still present. These deserve protection out of respect for the dead and for future research. Third, these features are among the very few remains still extant (albeit often in an altered form) that represent prehistoric (Woodland) burial practices. Thus, they are significant as examples of what were once important features of the cultural landscape and past cultural practices. Fourth, the early “excavation” of these features, although not conducted by professional archaeologists, forms part of the history of archaeology in this region (O’Brien 2008). Finally, we have limited archaeological data from these kinds of sites. Through their preservation (especially if still partially or wholly intact), the potential for future study to gain additional insight into past human societies is guaranteed. In order to carry out this preservation, **landowners must be notified and educated about the legalities of the Unmarked Burial Sites Preservation Act.**

### **Project Area Recommendations**

In addition to further investigations and treatment of individual sites, we recommend broader studies for the Manhattan Urban Area and specific study tracts. First, we encourage **continued archaeological survey** of largely undisturbed areas that have not already been inspected by professional archaeologists. (Records and maps illustrating most of the areas professionally surveyed are maintained by the office of the State Archaeologist at the Kansas Historical Society.) Previously surveyed areas may occasionally require resurvey, especially if they are in situations with high archaeological potential. These include stream terraces and bedrock outcrops of chert-bearing limestones, especially exposures of the Wreford Limestone and Florence limestone member. Various factors, such as tillage, ground cover, moisture, lighting, and burial of cultural materials, are constantly changing and affect the visibility of cultural materials. It is possible to inspect a field or site very closely at one time with negative results and at another time find abundant cultural remains. Five settings with good archaeological potential are the valleys of Wildcat Creek, Natalie’s Creek, and Phiel Creek; Wreford limestone exposures south of Wildcat Creek, and Prospect (KS) Hill. Areas in Wildcat Creek and Natalie’s Creek valleys that were not available in spring 2009 due to ground cover or landowner permission should be inspected when visibility is suitable and access can be gained. Previously surveyed areas along Natalie’s Creek where we found isolated artifacts are also recommended for resurvey as these may be clues to more extensive archaeological remains not visible during our inspection of that area.

Another recommendation noted earlier is to initiate **geomorphic study of stream valleys** within the Manhattan Urban Area. At the very least this should include the valleys of the Kansas River from Ogden to about Zeandale, the Blue River below Tuttle Creek Dam, and Wildcat Creek from Keats to its mouth. Tributary streams including Natalie's Creek, Phiel Creek, Elbo Creek, and Spring Branch should also be included. These investigations require geomorphic fieldwork and analysis of deposits in each valley. In some instances, these could be combined with Phase III testing at specific sites. Existing geomorphic studies within and adjacent to the project area (e.g., Fort Riley Military Reservation) provide useful information for designing a comprehensive geomorphic study designed to inform archaeological and planning decisions and interpretations (e.g., Dort 2009; Johnson and Logan 1990; Mandel 2009; Sorenson et al. 1987; Zeidler 2001). As noted in various discussions within this report, geomorphic data and analyses are necessary for certain site evaluations, as well as to guide surveys in certain settings. As noted in the preliminary recommendations presented in the Phase I report (Ritterbush 2009), pedestrian survey in the Blue Township, Blue River Valley, Upper Wildcat Creek, Lower Wildcat Creek, Eureka Valley, Hunters Island, and parts of the Pillsbury tracts would benefit from geomorphic studies that identify the presence, approximate ages, and archaeological potential of surface and buried deposits.

**Geological mapping** of exposures of the Three Mile and Schroyer members of the Wreford Limestone and the Florence member of the Barneston Limestone would also facilitate survey and evaluation of archaeological sites in the project area. Exposures of sources of quality chert should be targeted for survey during periods of good ground visibility. They hold high potential for evidence of the collection of quality stone for cutting and scraping tools. This information is useful not only for locating prehistoric sites, but for understanding their broader context within the natural and cultural landscape.

The Manhattan area has an abundance of historic sites spanning the past 155 years. Previous **historical surveys** have focused on identifying and evaluating a number of them, especially those with standing structures and within the central core or city limits. Additional survey of historic resources is needed for areas outside this core and of sites without obvious standing structures. This is especially true on the edges of the present city limits and beyond where development is rapidly encroaching on the environment where farms, schools, former recreation areas, and trails or roads marked significant rural communities and transportation routes. Additional archaeological and historical surveys are needed to identify these remains. As we found during the Manhattan Archaeological Survey, landowners were especially helpful in guiding us to these often hidden features. As noted above, detailed field documentation of known and yet to be discovered sites must rely on the expertise of historical architects and archaeologists. Careful historical research of varied documents is necessary to understand these sites and the people associated with them. It is critically important to collect oral histories from former residents to document the names and dates of those who were associated with them and to learn about the social networks and general culture of the broadly defined communities that once existed beyond the official boundaries of the City of Manhattan.

One site type in the Manhattan Urban Area that holds regional and historical significance is traces of the **Fort Leavenworth-Fort Riley Military Road**. Various maps show the main and branch routes of this early trail in the latter part of the nineteenth century. Certain portions have been documented and marked through private efforts and involvement of the local chapter of the Daughters of the American Revolution. However, none of these remnants has been formally recorded or evaluated. We recommend that these be surveyed and documented as archaeological sites that can then be combined with historical information as part of a multiple properties NRHP nomination.

Finally, we recommend **monitoring** of demolition and construction projects (e.g., installation of utility lines) in already developed portions of Manhattan that hold historic significance or have potential for buried cultural deposits. Monitoring and associated research must be completed by a qualified archaeologist (or historian with appropriate background) knowledgeable about the region's history and archaeology. Subsurface remains, such as early privies and wells, potentially exist below later constructions or have been buried by natural (e.g., flood) or cultural (e.g., fill) deposits. These may provide information otherwise unavailable about the history of Manhattan. Developed areas along stream valleys (e.g., Little Kitten Creek, Wildcat Creek) also should be monitored for buried remains. The results of geomorphic study can be used to guide monitoring activities.

## **Preservation Measures**

Archaeological sites are finite and irreplaceable. They provide the **only** source of information about the thousands of years and many hundreds of generations of prehistoric people who lived and used the Manhattan area. Historic archaeological sites of the last 155 years also provide vital information about lifeways not fully documented in written records. Because of the many natural and cultural forces that have impacted them over the millennia, the number of intact archaeological sites is limited. The information available through the study of the relatively few that remain cannot be recreated once destroyed. Irreplaceable information is lost whenever an intact archaeological site is damaged or removed from the landscape.

Archaeological sites are fragile. This means that the information associated with them is easily damaged or destroyed. The artifacts within archaeological sites are easily broken and lost through decomposition. More importantly, however, is the fact that *information*, not just artifacts, is extracted from archaeological sites. Artifacts yield information about the past, but generally only when their association with other remains and the context in which they were deposited is known. Thus, the study of individual artifacts outside their context is of very limited value. Detailed contextual information about constructed features (e.g., hearths, post holes, pits), ecological data from surrounding sediments and organic remains (e.g., seeds, pollen, phytoliths, animal bones, shells), associations among these, and other specific data sets must be carefully analyzed in order to develop credible interpretations about the lifeways of past inhabitants of the Manhattan area. This is only possible if deposits associated with sites have not been disturbed. Careful

professional documentation and study is necessary to extract information from the few sites or cultural deposits that remain intact.

The Manhattan Archaeological Survey took the first step toward recognition of potentially valuable archaeological remains in the Manhattan Urban Area. Through literature review and field survey, we have identified the location of numerous sites, including those that have already been destroyed. The project was not designed to identify every set of evidence of past human use of the project area as that is a massive task and one that can never be fully realized for a variety of reasons. Importantly, prehistoric and historic cultural remains may be buried beyond the range of discovery through pedestrian survey. This possibility should be considered whenever future developments are planned. If cultural remains are encountered at a later date, they should be left undisturbed and in place until a professional archaeologist can inspect them and their context. (Professional archaeologists can be contacted at the Kansas Historical Society or at the Department of Sociology, Anthropology, and Social Work at Kansas State University.)

Once identified, archaeological and historic sites must be evaluated for condition and significance. Commonly, evaluations are made following criteria established for the National Register of Historic Places. The NRHP recognizes “districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield, information important in prehistory or history” (<http://www.nationalregisterofhistoricplaces.com/faq.html>)

The “integrity” of an archaeological site must be evaluated by a qualified professional archaeologist, preferably one familiar with similar sites in the central Plains. It is not unusual to find sites that have artifacts, but no **intact** deposits. Many natural and cultural processes, including erosion, extensive decomposition, plowing, and undocumented artifact collecting, have modified them since they were initially formed. As a result, many surface archaeological sites have insufficient integrity to yield new information about the past. This determination, however, must be made through professional Phase III evaluation. Phase III evaluation considers the significance of a site according to the above criteria. Prehistoric sites are commonly evaluated in terms of criterion D. Because there are no written records to inform us about prehistoric human lifeways, archaeological sites are the only sources of information available for understanding those cultures. Criterion A may also apply to intact prehistoric sites in certain instances, although the identification of specific prehistoric events is possible in only broad terms. Any of the above criteria may be applied to historic sites, depending on the individual situation. Funding for Phase III evaluation and NRHP

nomination research may come from a variety of sources. One is Historic Preservation Fund grants from the National Park Service that are administered by the Kansas Historical Society.

Archaeological sites (prehistoric and historic) fitting any of the above criteria deserve preservation and protection. Various tools can be used to facilitate this. The first is actual nomination to the NRHP or the Register of Historic Kansas Places. Listing a property on either registry recognizes the historical significance of an approved archaeological (or other kind of) site. This status does not guarantee preservation or protection, but identifies the site as worthy of such treatment.

Preservation of most archaeological sites requires prevention of damage from a variety of forces depending on the site type and its situation. Examples might include erosion control measures along a stream bank, cessation or prevention of cultivation of a surface or near-surface site, or prevention of tree growth. Sites with standing structures may require building maintenance or rehabilitation. One way to facilitate preservation of many archaeological sites is to incorporate them into protected and maintained green spaces. Lands with archaeological sites may be set aside as undeveloped parks or conservation lands. Easements are also useful means of protecting archaeological sites on private land. An easement is a legal agreement that allows private ownership, but stipulates that future owners must maintain the preservation measures established for that property. Financial incentives are commonly associated with easements. Various sources of information are available including the following: <http://www.nps.gov/history/HPS/tps/tax/easement.htm>

One program that offers financial incentives for conservation easements on agricultural lands with archaeological or historical resources is the Farm and Ranch Lands Protection Program (FRPP). This program is part of the federal Farm Bill associated with the Food, Energy, and Conservation Act of 2008. It provides the mechanism and funds for conservation easements on lands that include prime soils and significant archaeological or historic resources. To qualify, a resource must be listed on the State or National Register or be formally determined by the State Historic Preservation Office to be NRHP eligible. This program is managed by the Natural Resources Conservation Service (NRCS) of the U.S. Department of Agriculture. Further information can be obtained online (e.g., <http://www.nrcs.usda.gov/programs/farmland/2008/index.html>) and from local NRCS offices (<http://www.ks.nrcs.usda.gov/>).

Another valuable conservation program that applies to the western portion of the Manhattan Urban Area is the Army Compatible Use Buffer Program (ACUB). This Department of Defense project provides funds to purchase easements on lands surrounding Fort Riley in order to prevent future developments that would be incompatible with military activities on the installation. Although not designed specifically to protect archaeological or historic resources, ACUB easements are well suited for this. For more information visit: <http://aec.army.mil/usaec/acub/index.html>.

Various organizations work with landowners to establish conservation easements through these and other mechanisms. In this region, these include the Kansas Land Trust, Ranchland Trust of Kansas, and the Nature Conservancy. The efforts of the Kansas Land

Trust (KLT) (<http://www.klt.org>) are targeted towards helping private landowners specifically in the northern Flint Hills establish conservation easements through the FRPP and ACUB and other possible sources of funding or tax incentives. The Ranchland Trust (<http://www.ranchlandtrustofkansas.org>) is also active in northern Kansas with a greater emphasis on working ranches, especially in the nearby Smoky Hills. Landowners interested in learning more about conservation easements and tax incentives should contact these organizations.

Tax credits are another incentive for preserving archaeological and historic sites. Various kinds of tax credits may be possible depending on the specific situation. Best known are those that apply towards the rehabilitation and protection of historic structures. These do not commonly apply towards more traditional archaeological sites without standing structures. Measures taken to preserve an archaeological site (e.g., erosion control) may qualify for tax credits. Information may be obtained through the Internal Revenue Service or the Kansas Department of Revenue. A tax professional must be consulted prior to considering any preservation measures. Tax deductions are also possible for charitable contributions of lands associated with recognized archaeological sites. The Archaeological Conservancy, a national non-profit organization, protects significant archaeological resources through acquisition, preservation, and research (following the model established by the Nature Conservancy). Further information about this organization is available online at <http://www.americanarchaeology.com/aaabout.html>.

A specific kind of archaeological site that demands more than voluntary protection is unmarked burial sites. The Kansas Unmarked Burial Sites Preservation Act (UBS) prohibits disturbance of an unmarked burial or the possession of human skeletal remains or goods from an unmarked burial. It also prohibits display, sale, trade, give-away, or destruction of such remains. The UBS established the State's Registry of Unmarked Burial Sites; a permitting process for unusual circumstances requiring excavation, study, display or reinterment of human remains or funerary objects; the Unmarked Burial Sites Preservation Board for administration and enforcement of this Act, and violation penalties (<http://www.kshs.org/resource/ubsstatute.pdf>). Because sites affected by this Act are by definition 'unmarked', their location is typically not well known. The Manhattan Archaeological Survey has identified a number of probable unmarked burial sites in the Manhattan Urban Area. Most of these are prehistoric burial features recognized by their location on prominent bluff tops and by stone or earthen "mounds" or cairns. As discussed here and in Chapter 3, these sites deserve protection as potentially sacred sites recognized under UBS. Those described herein are on private or state (KSU) property. The owners of property that include these sites must be notified of their presence, informed about UBS, and their responsibility to protect them.

Although the Manhattan Archaeological Survey did not focus on municipal lands, the City of Manhattan and county governments must be educated about the potential for archaeological and historic sites on their properties. They are encouraged to inventory these resources through professional Phase I and Phase II archaeological survey. The Kansas Antiquities Act (KAA) prohibits unauthorized destruction of evidence of historic or prehistoric human activity on county and city properties. It requires that artifacts or other

physical remains of past human activity be reported to the State Archaeologist (KHS) or secretary of the Kansas Antiquities Commission, which administers and enforces the KAA (<http://www.kshs.org/resource/antiqlaw.htm>).

Cultural resources, including archaeological and historic sites, connect people of today with those of the past and the lands they've shared. Understanding these connections is possible only through the identification, preservation, study, and interpretation of these resources. Professional archaeological investigations are in the public interest and must be encouraged and supported. Likewise the public must be engaged in meaningful ways. Local governments play an important role in civic engagement by linking archaeologists and the public through a variety of mechanisms including through the planning process for municipal and private developments, assisting in the administration and funding of continued archaeological investigations and preservation, inventorying resources on municipal lands, and encouraging and facilitating heritage education.

## References Cited

- Adams, Franklin G. and William J. Griffing  
1880 Examination of Mounds in the Blue Valley. Indian History Collection 1818-1951, State Archives and Library, Kansas Historical Society, Topeka.
- Altizer, Valerie, Joe Harl, Janet Kneller, and Meredith McLaughlin  
2005 *Phase II Archaeological and Architectural Survey for the Proposed Expansion of the Manhattan Regional Airport (HNTB Job #37889-PL-001)*. Report prepared by the Archaeological Research Center of St. Louis, MO for HNTB Corporation and the Federal Aviation Administration.
- Anonymous  
1881 The Kansas Indians. *Transactions of the Kansas State Historical Society* 1&2:280-301.
- 1883 Antiquities donated. *Third Biennial Report, Kansas State Historical Society*, Topeka.
- no date Griffing Collection at the Kansas Historical Society.  
[http://www.griffingweb.com/griffing\\_collection\\_at\\_kshs.htm](http://www.griffingweb.com/griffing_collection_at_kshs.htm)
- Banks, William E. and C. Martin Stein  
2003 Aboriginal Lithic Source Areas in Kansas. National Register of Historic Places Multiple Property Documentation Form.  
[http://www.kshs.org/resource/national\\_register/MPS/Aboriginal\\_Lithic\\_Source\\_Area\\_Kansas\\_mps.pdf](http://www.kshs.org/resource/national_register/MPS/Aboriginal_Lithic_Source_Area_Kansas_mps.pdf)
- Banks, William E., Rolfe D. Mandel, Donna C. Roper, and Christopher J. Benison  
2001 The Macy Site (14RY38): A Multicomponent Early Ceramic Occupation in Northeastern Kansas. *Plains Anthropologist* 46(175):21-37.
- Bauer, Anne  
2006 *K-18 Corridor Study, KDOT Project 18-81 KS-0410-01, Ogden to Manhattan, Riley County*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.
- Benison, Christopher J., William E. Banks, and Rolfe D. Mandel  
2000 *Phase IV Archeological Investigations at 14RY38: A Multicomponent Early Ceramic Period Campsite near Manhattan, Kansas*. Contract Archeology Publication Number 22, Archeology Office, Kansas State Historical Society, Topeka.
- Bird, M. E.  
1881 *Historical Plat Book of Riley County*. Chicago.

Blasing, Robert

1986 *Archeological Survey of the Upper Deep Creek Drainage, Kansas*. Report prepared by Wichita State University for the Historic Preservation Department, Kansas Historical Society, Topeka.

Brower, Jacob V.

1898 *Quivera*. Memoirs of Explorations in the Basin of the Mississippi, Volume I. H. L. Collins, St. Paul.

1899 *Harahey*. Memoirs of Explorations in the Basin of the Mississippi, Volume II. H. L. Collins, St. Paul.

Brown, Marie E.

1982 *Cultural Behavior as Reflected in the Vertebrate Faunal Assemblages of Three Smoky Hill Sites*. Unpublished Master's thesis, Department of Anthropology, University of Kansas, Lawrence.

Clarion Associates

2003 *Manhattan Urban Area Comprehensive Plan*. Report on file with Planning Division, Community Development, City of Manhattan, KS.

Cumming, Robert B.

1958 *Archaeological Investigations at the Tuttle Creek Dam, Kansas*. River Basin Survey Paper, No. 10. Bureau of American Ethnology, Bulletin 169. Washington.

Dort, Wakefield, Jr.

1976 *Channel Migration Investigation, Historic Channel Change Maps, Kansas River Tributaries Bank Stabilization Component, Kansas and Osage Rivers, Kansas Study*. Report prepared by the Department of Geology, The University of Kansas, Lawrence, for the Kansas City District, U.S. Army Corps of Engineers, Kansas City.

2009 *Historical Channel Changes of the Kansas River and its Major Tributaries*. American Geographical Society, Special Publication Number 42.

Epperson, Jennifer, William Banks, and Martin Stein

2004 Kansas SHPO's Guide to Archeological Survey, Assessment, and Reports. Guidelines prepared by the State Historic Preservation Office of the Kansas Historical Society, Topeka. [http://www.kshs.org/resource/SHPO%27S\\_Guide.pdf](http://www.kshs.org/resource/SHPO%27S_Guide.pdf)

Esry, Les

1985 The Blue Earth Kansa Village East of Manhattan. *Journal of the Kansas Anthropological Association* 6(3):46-53.

Eyman, Charles E.

1966 *The Schultz Focus: A Plains Middle Woodland Burial Complex in Eastern Kansas*. Unpublished Master's thesis, Department of Archaeology, University of Alberta, Calgary.

Failyer, G. H.

1881 Traces of the Aborigines in Riley County. *Transactions of the Kansas Academy of Science (1872-1880)* 7:129-132.

Feagins, Jim D.

2004 *An Historic Kansa Indian Burial Location at the Blue Earth Village, 14PO24, Pottawatomie County, Kansas--(UBS 1991-65)*. Report on file with the Cultural Resources Division, Kansas Historical Society, Topeka.

Griffing, William J.

No date Wm. J. Griffings Memoranda of Mounds Examined by Him. Indian History Collection 1818-1951, State Archives and Library, Kansas Historical Society, Topeka.

1888 Archaeological Chart of Manhattan and Vicinity. Indian History Collection 1818-1951, State Archives and Library, Kansas Historical Society, Topeka.

1904 Committee on Explorations. *Transactions of the Kansas State Historical Society, 1903-1904*, pp. 133-135.

Hall, Scott M., Christopher L. Beemer and Kelly Hockersmith

2005 *Kansas Phase III Archeological Evaluation of the Proposed Ramp Expansion at the Manhattan Regional Airport, Manhattan, Kansas*. Report prepared by the Directorate of Environment and Safety, Conservation Division, Fort Riley, Kansas.

Hawley, Marlin F.

1992 *Phase III Investigations at 14RY38 near Manhattan*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

1993 *Further Investigations at 14RY38, the Spring Branch Village or Macy Site, near Manhattan, Kansas*. Draft report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

Hawley, Marlin F. and Chris Benison

1994 *Archeological Treatment Plan for Site 14RY38: A Stratified Early Ceramic Period Site in the Kansas River Basin, Manhattan, Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

Hill, Mike

1968 Site forms on file with the Kansas State University Archaeology Lab, Manhattan.

Iroquois Research Institute

1977 *Cultural Resources Studies: Tuttle Creek Lake and Marysville Flood Study Area, big Blue River, Kansas*. Report prepared by Iroquois Research Institute, Virginia, for the U.S. Army Corps of Engineers, Kansas City District, Kansas City, MO.

James, Edwin

1823 *Account of an Expedition from Pittsburgh to the Rocky Mountains, Performed in the Years 1819, 1820*. Longman, Hurst, Rees, Orme, and Brown, London.

Jantz, Donald R., Rodney F. Harner, T. Rowland, and Donald A. Gier

1975 *Soil Survey of Riley County and Part of Geary County, Kansas*. U.S. Department of Agriculture, Soil Conservation Service in cooperation with Kansas Agricultural Experiment Station.

Jewett, John M.

1941 *The Geology of Riley and Geary Counties, Kansas*. Kansas Geological Survey Bulletin 39. <http://www.kgs.ku.edu/General/Geology/Riley/index.html>

Johnson, Alfred E.

1973 Archaeological Investigations at the Budenbender Site, Tuttle Creek Reservoir, North Central Kansas, 1957. *Plains Anthropologist* 18(62) Pts.1-2:271-299.

Johnson, Alfred E., Charles August Johnson II, Brad Logan, Nancy O'Malley, and Robert J. Ziegler

1980 *Prehistoric Cultural Resources of Tuttle Creek Late, Kansas*. Reported prepared by the Museum of Anthropology, University of Kansas, for the U.S. Department of Interior, Heritage Conservation and Recreation Service, Interagency Archeological Services, Denver, CO.

Johnson, William C. and Brad Logan

1990 Geoarchaeology of the Kansas River Basin, Central Great Plains. In *Archaeological Geology of North America*, ed. by N. P. Lasca and J. Donahue, pp. 267-299. Centennial Special vol. 4, U.S. Geological Survey.

Kelley, Jane H.

1966 *Archaeological Investigations in the Tuttle Creek Reservoir Area*. Manuscript on file at the Midwest Archeological Center, National Park Service, Lincoln.

Kelly, Mark W.

2003 *Cultural Resource Investigations: Phase II Cultural Resource Survey, Proposed Indian Creek Land Company, LLC, PD002 Wildcat Tower Site, Riley County, Kansas*. Report prepared by K&K Environmental LLC, Leavenworth, KS for

Selective Site Consultants, Inc, Overland Park, KS, on behalf of Indian Creek Land Company, LLC/Prime Development Company, Mission, KS.

King, Marsha K.

2001 Historical Archeology Projects Recently Conducted by the Kansas State Historical Society. *Current Archaeology in Kansas* 2:24-28.

King, Marsha K., William E. Banks, Anne M. Bauer, C. Tod Bevitt, and Christopher M. Schoen

2004 *Results of Phase III Historical and Archeological Investigations of Six Historic Sites (14RY380, 14RY381, 14RY382, 14RY383, 14RY384, and 14RY365) in Manhattan, Riley County, Kansas.* Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

Latham, Mark A. and Rolfe D. Mandel

2002 *Phase II Cultural Resources and Geomorphological Investigations for Home Depot Proposed Facility in Riley County, Kansas.* Report prepared by Burns & McDonnell Engineering Company, Kansas City, Missouri.

Le Bailly, Matthieu, Marcelo LC Goncalves, Christine Lefevre, Donna C. Roper, Jeremy W. Pye, Adauto Araujo, and Francoise Bouchet

2006 Parasitism in Kansas in the 1800s: A Glimpse to the Past through the Analysis of Grave Sediments from Meadowlark Cemetery. *Mem Inst Oswaldo Cruz* 101 (Suppl II):53-56.

Lee, Thomas R.

1991 *Rock Island Westward.* T. Lee Publications, Clay Center, KS.

Lees, William B.

1986 *Results of a Cultural Resources Survey in the Wildcat Creek and Kansas River Valleys of Riley County, Kansas (Secondary Road Project 81 C-2499-01).* Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

Logan, Brad

2006a *Phase II Cultural Resources Survey of the Heritage Square North Development Area Pottawatomie County, Kansas.* Report prepared by the Department of Sociology, Anthropology, and Social Work, Kansas State University, Manhattan for BG Consultants, Manhattan.

2006b *Phase III Cultural Resources Evaluation of the Heritage Square North Development Area Pottawatomie County, Kansas.* Report prepared by the Department of Sociology, Anthropology, and Social Work, Kansas State University, Manhattan for BG Consultants, Manhattan.

Logan, Brad and Lauren W. Ritterbush:

- 1994 Late Prehistoric Cultural Dynamics in the Lower Kansas River Basin. *Central Plains Archaeology* 4(1):1-25.

Mandel, Rolfe D.

- 2006 Late Quaternary and Modern Environments in Kansas. In *Kansas Archaeology*, edited by Robert J. Hoard and William E. Banks, pp. 10-27. University Press of Kansas, Lawrence.

- 2009 Geomorphological Investigation. In *Phase II Archaeological Survey for the Sewer Improvement Project, Blue Township, Pottawatomie County, Kansas*, by Donna C. Roper, pp. 40-51. Reported prepared for Pottawatomie County Department of Public Works, Westmoreland, KS.

Marshall, James O.

- 2006 The Kansa. In *Kansas Archaeology*, edited by Robert J. Hoard and William E. Banks, pp. 219-232. University Press of Kansas, Lawrence.

Miller, Patricia and Larry J. Schmits

- 1982 *An Intensive Cultural Resources Survey at Tuttle Creek Lake, Pottawatomie and Riley Counties, Kansas*. Report prepared by Soil Systems, Inc., Overland Park, KS, for the U.S. Army Corps of Engineers, Kansas City District, Kansas City, MO.

Nasatir, Abraham P. (editor)

- 2002 *Before Lewis and Clark: Documents Illustrating the History of the Missouri, 1785-1804*. University of Oklahoma Press, Norman.

O'Brien, Patricia J.

- 1972 The Don Wells Site (14RY404), A Hopewellian Site Near Manhattan, Kansas and Its Implications. *Kansas Anthropological Association Newsletter* 17(5):1-11.

- 1977/1978 Original site forms on file with the Kansas State University Archaeology Lab, Manhattan.

- 1984 *Archaeology in Kansas*. Public Education Series No. 9, Museum of Natural History, University of Kansas, Lawrence.

- 2004 Fossil Finds and Archeological Sites Reported in Manhattan's Newspapers. *The Kansas Anthropologist* 25:145-147.

- 2008 K.S.A.C. Scientific Club and the Mound Builders. Unpublished manuscript provided by the author.

In press *Digging K-State*. Manuscript in possession of the author.

- O'Brien, Patricia J., Pamela Hixon, Beryl Miller, Don Rowlison, Paul Tribble, David Vitt and J. Pat Young.  
 1973 A Most Preliminary Report on the Coffey Site, 14PO1: A Plains Archaic Site in Pottawatomie County. *Kansas Anthropological Association Newsletter* 18(5)
- O'Brien, Patricia J., Ronald Brubaker, Cliff Conrad, Daniel Gillaspay, Joseph Ireton, Timothy Marshall, Jeffery Mitchell, James Schaeffer, Gina Soli, and Kirk Willard  
 1993 "Free Speech, Free Men, and Free Schools": The Archaeology of Isaac T. Goodnow's Barn. Manuscript on file with the Kansas State University Archaeology Lab, Manhattan.
- Ogle, George A. and Company  
 1909 *Standard Atlas of Riley County, Kansas*. George A. Ogle and Company.
- O'Neill, Patrick L.  
 1985 Original site forms on file with the Kansas State University Archaeology Lab, Manhattan.
- Powers, Ramon  
 1990 Letter from the State Historic Preservation Officer to Mr. Robert Deatruck, Division Administrator, Federal Highway Administration regarding the determination of eligibility to the National Register of Historic Places of the house at 322 South Second Street, Manhattan, KS. October 15, 1990. (Cited in King et al. 2004)
- Pye, Jeremy  
 2006 Cedar Creek Cemetery (aka Meadowlark Cemetery): The Search. Paper presented at the 28<sup>th</sup> Annual Flint Hills Archaeological Conference, Wichita, KS.  
 2007 *A Look through the Viewing Glass: Social Status and Grave Analysis in a 19th Century Kansas Cemetery*. Unpublished Master's thesis, Department of Anthropology, University of Arkansas, Fayetteville.
- Pye, Jeremy W., Holly C. Smith, and Donna C. Roper  
 2004 Excavations at the Meadowlark Cemetery, Manhattan. *Current Archaeology in Kansas* 5:77-92.
- Pye, Jeremy W., Donna C. Roper, and Holly C. Smith  
 2007 "With No Stillman among Them": Reburial of the Stillman Family Cemetery, Manhattan, Kansas. *Current Archaeology in Kansas* 7:20-34.
- Reed, Marianne  
 1981 *Analysis of Pottery from the Holidome Site, 14RY442*. Unpublished manuscript (student paper) on file with the Kansas State University Archaeology Lab, Manhattan.

Ritterbush, Lauren W.

2002 Drawn by the Bison: Late Prehistoric Native Migration into the Central Plains. *Great Plains Quarterly* 22(4):259-270.

2006 Late Prehistoric Oneota in the Central Plains. In *Kansas Archaeology*, edited by Robert J. Hoard and William E. Banks, pp. 151-164. The University Press of Kansas, Lawrence.

2009 Manhattan Archaeological Survey, Phase I. Report prepared by the Department of Sociology, Anthropology, and Social Work, Kansas State University, Manhattan, for the Community Development division of the City of Manhattan, Kansas.

Ritterbush, Lauren W. and Brad Logan

1991 *The Schultz Archaeological Project, Phase I: A Survey of Selected Prehistoric Sites in North-Central Kansas*. University of Kansas, Museum of Anthropology, Project Report Series, No. 73.

2000 Late Prehistoric Oneota Population Movement into the Central Plains. *Plains Anthropologist* 45:257-272.

Roper, Donna C.

1995 *An Archaeological Survey of the Proposed Green Valley Business Park Property, Pottawatomie County, Kansas*. Report prepared for Pottawatomie County Economic Development Corporation, Wamego, KS.

1996 *An Archeological Survey of a Proposed Addition to Redbud Estates Manhattan, Riley County, Kansas*. Report prepared for the Riley County Planning and Zoning Commission, Manhattan, KS.

1999 *An Archaeological Survey for a Communications Tower Construction Project, with an Assessment of the Potential Impact to 14RY36, Riley County, Kansas*. Report prepared for DPRA Incorporated, Manhattan, KS.

2003 *Phase II Archaeological Survey for an Air-Controlled Storage Project Manhattan, Riley County, Kansas*. Report prepared for American Air-Controlled Storage Company.

2005 Letter report prepared for William E. Banks, State Historic Preservation Office, Kansas State Historical Society, Topeka, regarding stabilization plan for Wildcat Creek adjacent to American Air-Controlled Storage, Manhattan, February 16.

2006a The Central Plains Tradition. In *Kansas Archaeology*, edited by Robert J. Hoard and William E. Banks, pp. 105-132. The University Press of Kansas, Lawrence.

2006b *The Whiteford Site, or Indian Burial Pit: A Smoky Hill Phase Cemetery in Saline County*. Anthropological Series Number 18, Kansas State Historical Society, Topeka.

2009 *Phase II Archaeological Survey for the Sewer Improvement Project, Blue Township, Pottawatomie County, Kansas*. Reported prepared for Pottawatomie County Department of Public Works, Westmoreland, KS.

Ruhnke, Steve R.

1980 *Projectile Point Analysis for the "Holidome Site" (14RY442)*. Unpublished manuscript (student paper) on file with the Kansas State University Archaeology Lab, Manhattan.

Savage, J.

1879 Mound Builders at Manhattan. (Originally published in the *Lawrence Journal*.) *The Junction City Tribune* (December 11) 7(19):3.

Schmits, Larry J.

1976 *The Coffey Site: Environment and Cultural Adaptation at a Prairie Plains Archaic Site*. Report prepared for the Interagency Archeological Services, Department of Interior, National Park Service, Denver.

1978 The Coffey Site: Environmental and Cultural Adaptation at a Prairie Plains Border Archaic Site. *Midcontinental Journal of Archaeology* 3(1):69-185.

1980 Holocene Fluvial History and Depositional Environments at the Coffey Site. In *Archaic Prehistory on the Prairie Plains Border*, edited by Alfred E. Johnson. University of Kansas Publications in Anthropology 12.

1981 *Archaeological and Geological Investigations at the Coffey Site, Tuttle Creek Lake, Kansas*. Report prepared for the Interagency Archeological Services, Department of Interior, National Park Service, Denver.

1987 The Diskau Site: A Paleoindian Occupation in Northeast Kansas. *Current Research in the Pleistocene* 4:69-70.

Schmits, Larry J., Rolfe D. Mandel, Joyce McKay, and John G. Hedden

1987 *Archaeological and Historical Investigations at Tuttle Creek Lake, Eastern Kansas*. Report prepared by Environmental Systems Analysis, Shawnee Mission, KS, for the U.S. Army Corps of Engineers, Kansas City District, Kansas City, MO.

Schoen, Christopher M.

1991 *Phase III Test Excavations at 14RY365: A Historic Domestic Site at 322 South Second, Manhattan, Kansas*. Archeology Office, KSHS, Topeka. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

1994 *Phase II Survey of a Proposed Borrow Area for Project 18-81 K-3346-03, in Southwest Pottawatomie County, Kansas*. Report prepared by the Archeology

Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

Schoewe, Walter H.

1949 The Geography of Kansas: Part II Physical Geography. *Transactions of the Kansas Academy of Science* 52(3):261-333.

1951 The Geography of Kansas: Part III Hydrogeography. *Transactions of the Kansas Academy of Science* 54(3):263-329.

Schultz, Floyd and Albert C. Spaulding

1948 A Hopewellian Burial Site in the Lower Republican Valley, Kansas. *American Antiquity* 13(4): 306-313.

Smith, B. D., and Archer, Allen W.

1995 *Geologic map, Riley County: Kansas Geological Survey, Map M-36*. Kansas Geological Survey, University of Kansas, Lawrence. Interactive electronic form available at <http://www.kgs.ku.edu/General/Geology/County/rs/riley.html>

Solecki, Ralph S.

1953 *Appraisal of the Archaeological and Paleontological Resources of the Tuttle Creek Reservoir, Marshall, Pottawatomie and Riley Counties, Kansas*. Report prepared by the Smithsonian Institution, River Basin Surveys, Lincoln.

Sorenson, Curtis J., Kenneth H. Sallee, and Rolfe D. Mandel

1987 Holocene and Pleistocene Soils and Geomorphic Surfaces of the Kansas River Valley. In *Quaternary Environments of Kansas*, edited by William C. Johnson, pp. 93-102. Kansas Geological Survey Guidebook Series 5. Lawrence, KS.

Streeter, Floyd Benjamin

1975 *The Kaw: The Heart of a Nation*. Arno Press, New York.

Thies, Randall M.

1981 *The Manhattan Big Blue Bridge: Results of an Archeological Survey of Highway Project 24-75-K-0671-01, F-BRF-078-5(40), Pottawatomie County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

1994a *Phase II Investigation of DSR #KS-A3-RL-005: Archeological Survey of an SCS Undertaking in Riley County*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the USDA Soil Conservation Service.

1994b *New West Lane K-177 from I-70 to Manhattan: Archeological Survey of KDOT Project, K-3245, Riley County*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

- 1995 *Waste Areas #1 and #2: Archeological Survey of KDOT Project K-3245, Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.
- 1996 *Artifacts in the "Mosier Pit" Borrow Area: Archeological Survey of KDOT Project K-4438 Borrow Area #1, Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.
- 1997 *Notes on Locational Aspects of 14RY410 and 14RY1608*. Report on file with the Cultural Resources Division, Kansas Historical Society, Topeka.
- 2006 *Archeological Survey of CFBA#1, KDOT Project U-1900-01, Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.
- 2007 *Archeological Survey of KDOT Project KA-0410-01, Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.
- Unrau, William E.  
 1971 *The Kansa Indians: A History of the Wind People, 1673-1873*. University Press of Oklahoma, Norman.
- Wedel, Waldo R.  
 1946 The Kansa Indians. *Transactions of the Kansas Academy of Science* 49(1):1-35.
- 1959 *An Introduction to Kansas Archaeology*. Bureau of American Ethnology Bulletin 174, Smithsonian Institution, Washington, D.C.
- Weygandt, Cletus J.  
 n.d. Original field notebooks curated by the Kansas State University Archaeology Lab, Manhattan.
- Weston, Timothy  
 1995 *Phase II Survey of Project 81 TE-0036-01, A Pedestrian/ Bicycle Path in Manhattan, Riley County*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.
- 1998 *Archeological Survey of a Bridge Crossing over Phiel Creek along U.S. Highway 24 North of Manhattan in Eastern Riley County, Kansas, Project Number 24-81 K-5647-01*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

White, Sheryll

1990 *An Interpretive History of 322 South Second, Manhattan, Kansas*. Report prepared by W2 History/Research Associates, Wichita, for the Kansas Historical Society, Topeka, and the Kansas Department of Transportation, Topeka.

White, Sheryll and Terry Ward

1990 *K-18 Impact Study Report*. Report prepared by W2 History/Research Associates, Wichita, for the Kansas Historical Society, Topeka, and the Kansas Department of Transportation, Topeka.

Williams, Barry G.

1987 *Results of Cultural Resource Testing of Sites 14RY426, 14RY424 and 14RY374 in the Wildcat Creek and Kansas River Valleys of Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

1989a *Archeological Survey of CFBA 81 U-1122-01 in Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

1989b *Archeological Survey of Two Contractor Furnished Borrow Areas in Riley County, Kansas*. Report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka.

1990 *Phase II Field Survey of K-18/K-177 Bridge Replacement Impact Area*. Letter report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka, August 7.

Witty, Thomas A.

1977 *Phase II Survey for Project No. 81-7-7022(7), Tuttle Creek State Park, Riley County*. Letter report prepared by the Archeology Department, Kansas State Historical Society, Topeka, for the Kansas Department of Transportation, Topeka, February 15.

1982 *The Slough Creek, Two Dog and William Young Sites, Council Grove Lake, Kansas*. Kansas State Historical Society, Anthropological Series, No. 10.

1991 *Progress Report, Phase II for Division of Water Resources Application Notice EC# 91244*. Report on file with the Kansas Historical Society, Topeka.

Zeidler, James A. (editor)

2001 *Dynamic Modeling of Landscape Evolution and Archaeological Site Distributions: A Three-Dimensional Approach*. SERDP Project CS-1130 Project completed by the Center for Environmental Management of Military Lands, Colorado State University, Fort Collins, Colorado, for the Fort Riley Military Reservation, Kansas.

Ziegler, Robert J.

1976 *A Cultural Resources Management Program for Tuttle Creek Lake for the Years 1978-1983*. Reported prepared by the Museum of Anthropology, University of Kansas, Lawrence, for the U.S. Army Corps of Engineers, Kansas City District, Kansas City, MO.



## Appendix A

### Manhattan Archaeological Survey

#### Site Summary

- A1 List of sites in the project area sorted by site number**
- A2 List of sites in the project area sorted by study tract**
- A3 List of sites in the project area sorted by recommendation**

#### KEY

**UBS # = Unmarked Burial Site number**

na not available (These sites have not yet been reviewed by the State Archaeologist.)

**HIST = Historic component**

H historic (Euroamerican) component present at site

(H) historic Native American component

H&P historic and prehistoric components present

**STATUS** relative to the Manhattan Archaeological Project

X previously recorded site was revisited as part of this project (Phase II)

(X) information about previously recorded sites and present condition were obtained primarily through literature search (Phase I)

- site not revisited during this project

new site recorded for the first time as part of this project (Phase II)