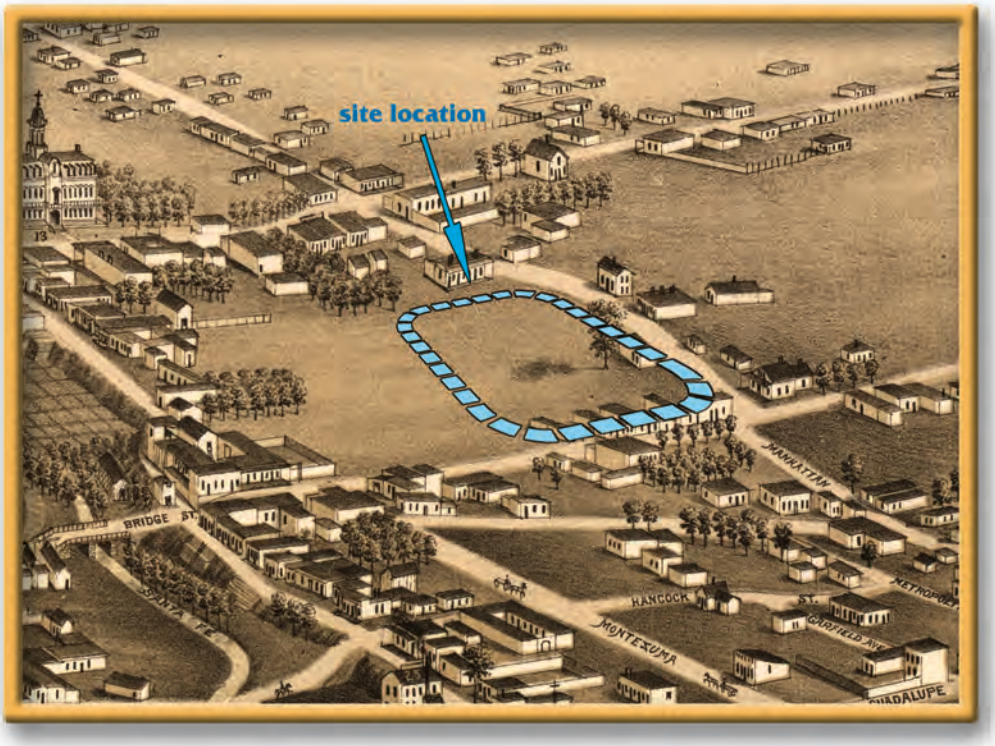
Archaeological Testing and Data Recovery Plan for the Capitol Parking Structure Project, Santa Fe, New Mexico

Matthew Barbour



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Matthew Barbour

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Principal Investigator

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SANTA FE 2008 NEW MEXICO

Administrative Summary

At the request of Mr. Robert Robie, Architectural Research Consultants, Inc., the Office of Archaeological Studies (OAS), Department of Cultural Affairs, performed archaeological testing for the planned Capitol Parking Structure project, west of the State Capitol in Santa Fe, New Mexico. This archaeological testing and report comply with provisions of Section 18-6-5 (NMSA 1978) of the Cultural Properties Act (4.10.15.3 and 4.10.16.13 NMAC-N, January 1, 2006). Fieldwork was conducted under General Permit NM-07-027-T, expiration date December 31, 2007, and guided by a testing plan approved by the New Mexico Historic Preservation Division (HPD).

The project area, in the Capitol Complex Historic District of Santa Fe, New Mexico, is state land under the control of the Property Control Division of the General Services Department. It is currently used as an asphalt-surfaced parking lot.

The purpose of this study was to determine if significant buried cultural deposits exist within the project area. Through mechanical excavation, subsurface features and strata were identified and documented according to their age, vertical and horizontal extent, condition, integrity, and potential to yield data on prehispanic and historical occupations by Native American, Hispanic, and multiethnic populations of the Territorial and Statehood periods.

Archaeological testing by means of the mechanical excavation of 17 trenches exposed 11 site strata. Twenty-nine archaeological features, 91 artifacts, and 12 historic utilities were recorded. The features included 11 domestic refuse pits, 5 irrigation ditches, 4 postholes, 3 construction-debris pits, 3 self-contained vault privies, 2 pits of unknown function, and 1 interred cow. These archaeological manifestations have been recorded as LA 158037.

The majority of features, utilities, and cultural strata represent cycles of demolition and use associated with a late nineteenth- and early twentieth-century residential neighborhood. Archival research supports these findings. Historic maps dating from 1885 on show residential structures on the landscape. The foundations of these structures were not found, and it appears likely, as indicated by Strata 3, 8 and 10, that a rapid mechanical leveling of the project area occurred in the mid to late twentieth century and that most of the construction refuse was hauled off and deposited elsewhere.

Before the project area was used as a residential neighborhood, the location was used for agriculture during the Spanish Colonial, Mexican, and early Territorial periods (ca. 1700-1880). This assertion is backed by findings in Stratum 4, which appears to represent a plow zone, and five irrigation ditches.

The OAS believes that Features 1, 4, 9, 11, and 23 may be less than 50 years old or do not have sufficient integrity or informational potential to warrant further investigation. The remaining 24 features, however, do have integrity and the potential to yield additional information important to the history of Santa Fe during the late Territorial and early Statehood periods. Because these features are older than 50 years and may yield information important to understanding past agricultural and land-use practices and early urbanization of the Capitol District neighborhood, we believe that LA 158037 is eligible for nomination to the *National Register of Historic Places* and the *State Register of Cultural Properties* under Criterion D of 36 CFR Part 60.4 and in conformance with 4.10.15.16 NMAC.

Currently, the landowner intends to construct a parking structure covering three-quarters of the southern half of the testing project area. Under the current design plans for the proposed Capitol Parking Structure, avoidance of all significant archaeological resources does not appear to be a realistic option. Therefore, the OAS is submitting a data recovery plan with this report to the HPD and the Cultural Properties Review Committee for their review. A courtesy review copy will also be submitted to the City of Santa Fe Archaeological Review Committee. The data recovery plan complies with provisions of Section 18-6-5 (NMSA 1978) of the Cultural Properties Act (4.10.16.13 NMAC-N, January 1, 2006) and provides a research design and methodology for excavation and documentation of 21 features and deposits and analysis of arti-

facts, features, deposits, and contexts found during test excavation or may be found as the scope of the field investigation is expanded. Fieldwork on the proposed data recovery phase of work is anticipated to begin in March of 2008.

MNM Project No. 41.859 (Capitol Parking Structure Testing).
NMCRIS Activity No. 108267.

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Introduction

At the request of Mr. Robert Robie, Architectural Research Consultants, Inc., the Office of Archaeological Studies (OAS), Department of Cultural Affairs, performed archaeological testing for the planned Capitol Parking Structure project, west of the State Capitol building in Santa Fe, New Mexico. This archaeological testing was conducted under General Permit NM-07-027-T, expiration date December 31, 2007, under a testing plan approved by the New Mexico Historic Preservation Division (HPD).

The project area is within unplatted lands of the Santa Fe Grant, Santa Fe County, NMPM; UTM Zone 13, [redacted] NAD 1927, USGS 7.5′ Santa Fe quadrangle map (photo revised 1993). It is bounded by Galisteo Street, South Capitol Street, Don Gaspar Avenue, and Manhattan Avenue in the South Capitol area of Santa Fe, New Mexico (Figs. 1 and 2). The project area, state land under the control of the Property Control Division of the General Services Department, is currently used as an asphalt-covered surface parking lot (Fig. 3).

The purpose of this initial study was to identify buried cultural deposits and recover information about their age, vertical and horizontal extent, condition, integrity, and potential to yield data on prehispanic and historical occupations by Native American, Hispanic, and multiethnic populations of the Territorial and Statehood periods.

The archaeological investigation was conducted from November 19 to November 26, 2007. Stephen Post was the principal investigator, assisted by OAS archaeologists Matthew Barbour, Gavin Bird, Isaiah Coan, Rick Montoya, Virginia Prihoda, and Mary Weahkee. The field phase took about 21 worker-days.

Before the fieldwork, the New Mexico Cultural Resources Information System, the *National Register of Historic Places*, and the *State Register of Cultural Properties* were consulted. No site had been recorded in the project area prior to excavations. However, the project area falls within the Santa Fe Historic District (File No. 1973-07-23), known as the State Capitol Complex, where Territorial and later state government was housed.

The archaeological testing and report comply with the provisions of Section 18-6-5 (NMSA 1978) of the Cultural Properties Act (4.10.15.3 and 4.10.16.13 NMAC-N, January 1, 2006).

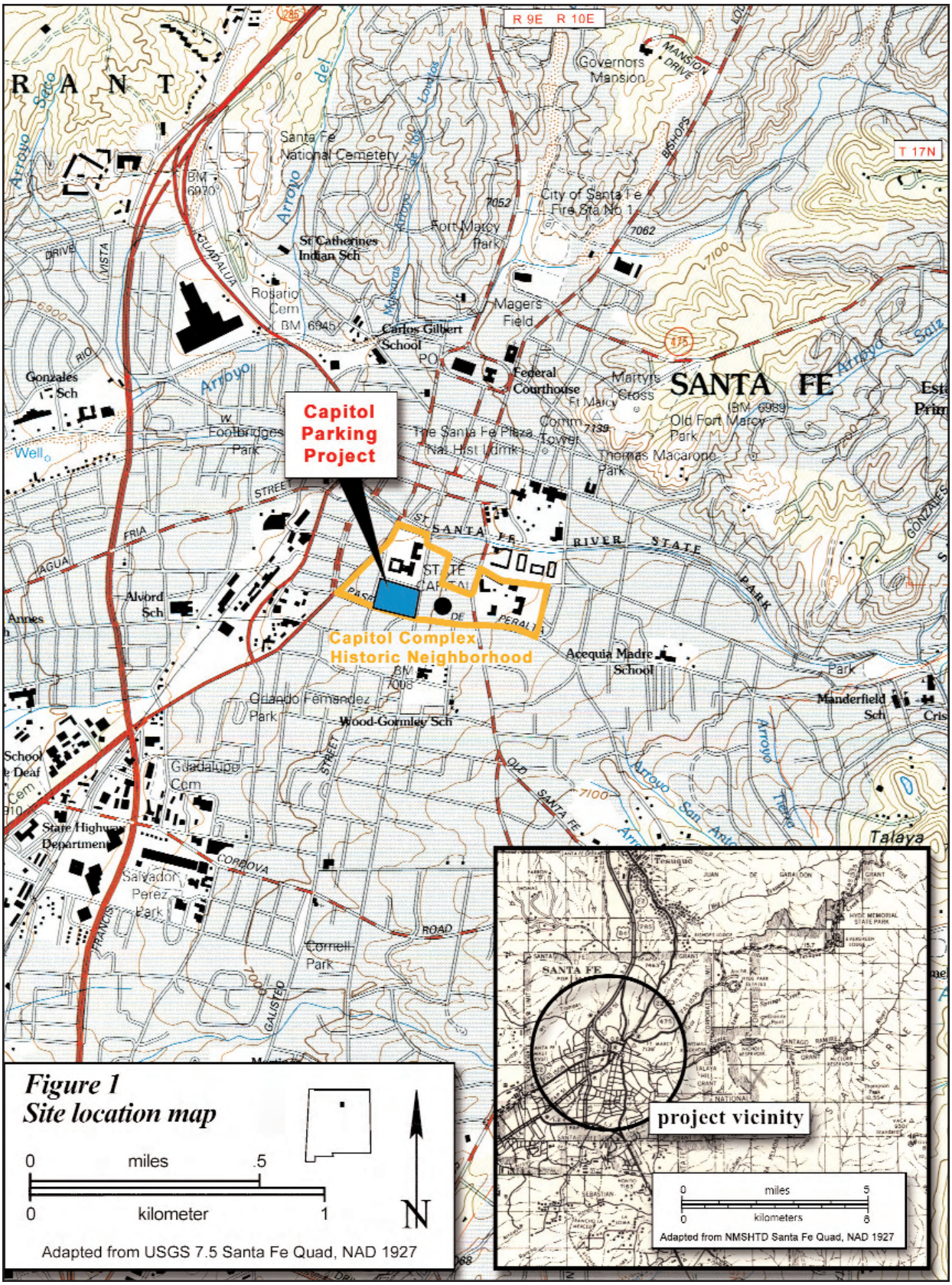
Capitol Parking Project
Capitol Complex Historic Neighborhood
R 9E R 10E
T 17N
Governors Mansion
Santa Fe National Cemetery
St Catherines Indian Sch
Fort Marcy Park
City of Santa Fe Fire Sta No 1
Rosario Cem
Carlos Gilbert School
Magers Field
Federal Courthouse
Martyrs Cross
SANTA FE
Old Fort Marcy Park
Thomas Macarone Park
The Santa Fe Plaza Nat Hist Dmrk
Gonzales Sch
Eoolbridges Park
Alvord Sch
Acequia Madre School
Manderfield Sch
Orlando Fernandez Park
Wood-Gormley Sch
Guadalupe Cem
State Highway Department
Salvador Perez Park
Cornell Park
Talaya
project vicinity
Figure 1
Site location map
0 miles .5
0 kilometer 1
N
Adapted from USGS 7.5 Santa Fe Quad, NAD 1927
0 miles 5
0 kilometers 8
Adapted from NMSHTD Santa Fe Quad, NAD 1927

Figure 2. LA 158037 site map.

Figure 3. View of project area.

Environmental Setting

This environmental overview is adapted from the results of archaeological investigations at the First Judicial District Courthouse Complex (Hannaford 2007), one block northwest of the project area.

The project area is within a structural subdivision of the Southern Rocky Mountain physiographic zone (Folks 1975:110). The basin is bounded on the west by the Jemez Mountains and on the east by the Sangre de Cristo Mountains. The City of Santa Fe is on the dissected piedmont plain of the western flank of the Sangre de Cristo Mountains. The ancient alluvial fan upon which the city lies was deposited by the Santa Fe River, which passes 0.2 km north of the project area as it flows west to the Rio Grande. The project area is on the nearly level southern terrace of the Santa Fe River at an elevation of 6,975 ft (2,126 m). Soils are formed in reworked, mixed alluvial material of the Tertiary/ Quaternary-period Santa Fe formation (Folks 1975).

The project area is within the Santa Fe River inner valley or Airport physiographic surface (Spiegel and Baldwin 1963:56). The major soil association of the project area is Bluewing gravelly sandy loam (Folks 1975:15-16). This soil occurs on 0- to 5-percent slopes and may co-occur with Pojoaque and Fivemile soils. These well-drained soils formed in alluvium of mixed origin along terraces and floodplains. The gravelly sandy loam has rapid permeability with medium runoff and severe erosion hazard.

The biotic community falls within the Great Basin Conifer Woodland ecological zone (Brown 1982), but because the area is in an active urban setting, few native flora or fauna are found there. Prior to Spanish settlement this area supported a plant and animal community similar to the rabbitbrush community of the arroyo channels and terrace slopes described by Kelley (1980). Affected by run off, flooding, and erosion, arroyo channels and terraces tend to support the grasses, shrubs, and succulents that favor disturbed conditions. The arroyo channels or terraces also may have been historically dry-farmed, which would have created disturbed-soil zones when left uncultivated. Plant species of the rabbitbrush community include prickly pear, yucca, *Chenopodium* sp., *Amaranthus* sp., and Indian ricegrass.

The Santa Fe area has a semiarid climate. Most of the local precipitation occurs as intense summer thunderstorms that produce severe runoff and reduce usable moisture. The area generally receives between 229 to 254 mm of precipitation per year and a mean snowfall of 356 mm (Kelley 1980:112). The growing season ranges from 130 to 220 days and averages 170 days. The last spring frost usually occurs in the first week of May, and the first fall frost occurs around the middle of October. The mean yearly temperature is 10.5 degrees C.

Cultural Overview

Large nearby projects conducted by the OAS have helped to place the project area in regional cultural context (Hannaford 2007; Lentz 2005; Wenker 2005). This overview is an adaptation of Hannaford's (2007) overview as presented for the testing of the Santa Fe Judicial Complex. The prehistoric overview was further modified from work by Stephen C. Lentz (2005) at the Santa Fe Civic Center (LA 1051), five blocks north of the project area. The historic section is partially based on Chris Wenker et al. (2005), the testing of the Santa Fe Railyard, about three blocks to the west.

Prehistoric Period (9500 BC-AD 1540)

Paleoindian Period (9500-5500 BC)

The earliest known occupation of the American Southwest was by big-game hunters referred to collectively as Paleoindians (9500-5500 BC). Recorded Paleoindian sites are primarily in grassy basins or on plains around playa lakes and are identified by large diagnostic projectile points. Early Paleoindian groups characteristically hunted now-extinct mammoths, while later Paleoindians concentrated on *Bison antiquus* or *Bison occidentalis*. While the pursuit of the large mammals was a subsistence focus, general foraging must have been a critical aspect of the economy as well. Evidence of Paleoindian occupation is rare in the Santa Fe area and consists mainly of isolated projectile points that have been found in the Galisteo Basin to the south and on the Caja del Rio west of Santa Fe.

Archaic Period (5,500 BC-AD 600)

The term *Archaic* applies to the broad-spectrum foraging cultures that evolved out of the Paleoindian big-game hunting populations in North America (5500 BC-AD 200/400). Archaic populations in the Southwest reflect adaptations to local topography and food sources, and like their Paleoindian predecessors, are characterized by distinctive projectile point types, scrapers, knives, and grinding stones. Late in the Archaic adaptation, maize was added to the diet but seemingly with little initial disruption to the established subsistence strategy. In the northern Southwest the Archaic period is generally described in terms of two major material culture traditions: the Oshara tradition (Irwin-Williams 1973) and Cochise tradition (Sayles 1983). Santa Fe is surrounded by Archaic-period sites consisting mainly of flaked stone scatters of varying sizes and sometimes associated with charcoal stains and fire-cracked rock showing various degrees of occupation intensity, duration, and activity sets. No Archaic-period sites are found in the immediate vicinity of the project area. Post (1996) presents a comprehensive overview of Archaic-period settlement and subsistence trends in the Santa Fe area.

Developmental Period (AD 600-1200)

Sites from the Developmental period in the Northern Rio Grande are comparable to the late Basketmaker III and Pueblo periods of the Pecos Classification. Basketmaker III sites are rare and tend to be small, with a ceramic assemblage composed primarily of Lino Gray, San Marcial Black-on-white, and various plain brown and red slipped wares. The majority of the documented Early Developmental sites are in the Albuquerque and Santa Fe districts (Frisbie 1967; Reinhart 1967; Peckham 1984). The settlement of the Rio Grande drainage has typically been attributed to immigration from the southern areas (Bullard 1962; Jenkins and Schroeder 1974) or the Four Corners and San Juan areas (Judge 1991; Stuart and Gauthier 1981:49; Lekson and Cameron 1995:185).

Archaeological sites in the Santa Fe area with Late Developmental components include Pindi Pueblo (LA 1), along the Santa Fe River west of the project area. The Developmental-period component included a pithouse and a single jacal room. Kwahe'e Black-on-white pottery was recovered, and a tree ring date of 1218+ vv was recovered below the jacal structure (Stubbs and Stallings 1953:24 25; Robinson et al. 1972:38). Nearby is the Agua Fria Schoolhouse site (LA 2;

Lang and Scheick 1989). Closer to downtown, LA 608/LA 609 is a large pueblo under Fort Marcy (Acklen et al. 1994), and LA 618 is a pithouse site on the bluff overlooking the Santa Fe River on upper East Palace Avenue (Elliott 1988:17).

An example of a Late Developmental site near downtown Santa Fe is the KP Site (LA 46300). A single refuse filled burned structure was tested at this site on top of a ridge along the north side of the Santa Fe River near Fort Marcy (Wiseman 1989). Red Mesa Black-on-white, Kwahe'e Black-on-white, "Chaco II" (Red Mesa, Rio Grande variety?) Black-on-white, Escavada Black-on-white, Gallup Black-on-white, Chaco Black-on-white, Puerco Black on red, Cebolleta Black-on-white, Socorro Black-on-white, and Los Lunas Smudged pottery was recovered during testing. Obsidian predominated in the chipped stone assemblage, although local chert types, particularly red jasper, were also used. Eleven tree ring and two radiocarbon dates indicate that the structure was occupied in the mid to late AD 1000s, and the fill dated to the early AD 1100s. Dendrochronological cutting dates of AD 1116, 1117, and 1120 are associated with the Kwahe'e Black-on-white pottery. A wide variety of plant remains were recovered, including corn, squash, and beeweed. The fauna consisted of deer, antelope, and cottontail (Wiseman 1989:139).

Coalition Period (AD 1200-1325)

The Coalition period (AD 1200-1325) in the Northern Rio Grande is marked by a shift from the use of mineral pigment paint to organic paint on decorated pottery. There are substantial increases in the number and size of habitation sites along with expansion into previously unoccupied areas. Although above ground pueblos were built, pit-structure architecture was used through the early phases of this period. Rectangular kivas, which are incorporated into roomblocks, also coexisted with subterranean circular structures (Cordell 1979:44). Frisbie (1967) notes that settlement shifted away from less optimal upland settings and returned to permanent water and arable land adjacent to the major drainages.

During the Coalition period, the Chama, Gallina, Pajarito Plateau, Taos, and Galisteo Basin districts, which had been the focus of little Anasazi use prior to AD 1100-1200, were settled (Cordell 1979). In excess of 500 Santa Fe Black-on-white sites are listed for the Pajarito Plateau, although many of these sites are poorly documented (New Mexico Cultural Resource Information System, Archaeological Management Section, Historic Preservation Division). Among the representative sites of the Coalition period are LA 4632, LA 12700, and Otowi, or Potsuwii (LA 169).

Numerous Coalition-period sites have been recorded in and near downtown Santa Fe. In 1955 excavations were undertaken by Stubbs and Ellis (1955) at the site of the old San Miguel Church. Deposits dating to the fourteenth and seventeenth centuries were found. Excavations at LA 132712, at 125 Guadalupe Street (near Johnson Street), had a Coalition component. A refuse concentration, pits, and burials were excavated (Scheick 2003). A Coalition-phase pit structure and associated artifacts were found in the west courtyard of the Federal Courthouse (personal communication, Cherie Scheick, 2004). Other sites with Coalition- or Coalition/Classic-period materials include LA 114261 (Hannaford 1997), LA 930 (Peckham 1977; Post and Snow 1982), LA 120430 (Post et al. 1998), LA 125720 (Snow 1999), LA 126709 (Viklund 2001), and LA 111 (Snow and Kammer 1995).

Classic Period (AD 1325-1540)

The Classic period (AD 1325-1540) postdates the abandonment of the San Juan Basin by sedentary agriculturalists. It is characterized as a time when regional populations reached their maximum size and large communities with multiple plaza and roomblock complexes were established (Wendorf and Reed 1955:13). The beginning of the Classic period in the Northern Rio Grande coincides with the appearance of locally manufactured red slipped and glaze decorated ceramics in the vicinity of Santa Fe, Albuquerque, the Galisteo Basin, and the Salinas area after ca. AD 1315, and Biscuit wares in the Pajarito Plateau, Santa Fe, and Chama areas (Mera 1935; Warren 1979a, 1979b, 1979c). Near Santa Fe, the Galisteo Basin saw the construction of some of the Southwest's most spectacular ruins. Many of these large pueblos were tested by N. C. Nelson (1914, 1916) in the early part of the twentieth cen-

tury. The majority of these Classic-period sites were established in the early 1300s, and several were occupied into the historic time period. Arroyo Hondo (LA 12), an important site with Classic-period components, is just south of Santa Fe and appears to have ties to contemporaneous sites in the Santa Fe area (Schwartz 1971, 1972; Schwartz and Lang 1973).

Few sites of the Classic period have been found near the project area. The nearest one is LA 1051 (the Santa Fe Convention Center and City Hall area). Coalition- and Classic-period structural remains and abundant artifacts have consistently been encountered in this area (Mera 1934; Peckham 1977, Tigges 1990; Deyloff 1998). The site has been the center of major archaeological excavations by the OAS.

Historic Period (1540-present)

Spanish Contact and the Pueblo Revolt (1540-1680)

The first European contact with the Northern Rio Grande Valley occurred in the late winter or early spring of 1541, when a foraging party of Coronado's men set up camp near San Juan Pueblo (Hammond and Rey 1953:244, 259). Having heard of Coronado's earlier plundering farther south, these pueblos were hastily abandoned by their occupants. The Spaniards looted the deserted villages (Ortiz 1979:280; Winship 1896:476).

After the Spanish entradas of the mid and late sixteenth century, Native American groups underwent numerous changes in lifestyle, social organization, and religion. The introduction of new crops and livestock contributed to major changes in subsistence, as did mission programs, which taught new industries such as metal smithing and animal husbandry, meant to wean the Pueblo people away from traditional ways (Simmons 1979b:181). Incursions by Plains groups caused the abandonment of many pueblos and a contraction of the region occupied by the Pueblos (Chávez 1979; Schroeder 1979). A combination of new diseases to which the Pueblos had no natural defenses, intermarriage, conflict attendant with the Pueblo Revolt of 1680-1692, and the abandonment of traditional lifestyles contributed to a significant decrease in Pueblo populations over the next few centuries (Dozier 1970; Eggan 1979).

In 1591 San Juan Pueblo was visited by the Gaspar Castaño de Sosa expedition. Castaño de Sosa erected a cross, received obedience to the king of Spain, and appointed a governor, a mayor, and various other administrators (Lentz 1991:7).

With the goals of missionization, territorial expansion, and mineral wealth, the colonizing expedition of Don Juan de Oñate arrived at Oke Owinge (San Juan Pueblo) on July 11, 1598, and proclaimed it the capital of the province. During the winter of 1600-1601, the Spaniards moved across the river to a partially abandoned 400 room pueblo village, which they renamed San Gabriel de los Caballeros. The first Catholic mission church, called San Miguel, was built at the southern end of the village. Soon, New Mexico was divided into seven missionary districts. A Spanish alcalde (magistrate) was appointed for each pueblo, and all were under Oñate's leadership (Spicer 1962:156). In January 1599, in retaliation for the death of Juan de Zaldivar (one of Oñate's two nephews), 70 of Oñate's men attacked Acoma Pueblo. After a three day battle, the Spanish troops prevailed. In retribution, 500 Acoma prisoners over the age of 25 had one foot severed and were sentenced to 20 years of hard labor in the mines of Zacatecas.

The Spanish colony at San Gabriel did not survive the first decade of the seventeenth century. Oñate returned to Mexico in disgrace, and in 1610 the capital was moved from San Gabriel to the current site of Santa Fe by Oñate's successor, Don Pedro de Peralta (Ortiz 1979:281; Pearce 1965:146; Spicer 1962:157).

During the next twenty years, churches were built in all the pueblos. Native American secular and church officers were also established in each village. These included governors, alcaldes, and *fiscales* (tax collectors). During the 1620s the villages were peaceful, population grew, and conversions to the Catholic Church increased. By 1630, 50 Franciscan missionaries were working in 25 missions, and a school was operating in each (Spicer 1962:158).

In 1676 there began a series of events that ultimately led to the Pueblo Revolt of 1680. Forty seven Pueblo religious leaders were jailed and flogged in Santa Fe for their adherence to traditional Pueblo beliefs. Among them was the San

Juan moiety chief, Popé, under whose leadership the Pueblo Revolt was subsequently planned and carried out (Spicer 1962:162-163). Twenty one of the Franciscan friars in the territory were killed, along with 400 Spaniards. Santa Fe was besieged by an alliance of Pueblo forces, and on August 21, 1680, Governor Otermín was forced to surrender and evacuate the city (Hackett and Shelby 1942:11, 56-57; Lentz 2004). A similar insurrection successfully ousted the Spaniards from the isthmus of Tehuantepec, Mexico, that year.

The Pueblos held firm to their independence for 12 years. During the winter of 1681-1682, an attempted reconquest by Governor Otermín was turned back. Otermín managed to sack and burn most of the pueblos south of Cochiti before returning to Mexico. Taking advantage of inter Pueblo factionalism, the definitive reconquest was initiated in 1692 by Don Diego de Vargas (Dozier 1970:61; Simmons 1979b:186).

Reconquest and Spanish Colonial Period (1692-1821)

Under Hapsburg (until 1700) and Bourbon (1700-1821) rulers, Spain was changed from a world empire to a second-tier political and economic power as its European landholdings dissolved, its New World riches were spent, and the social hold of its missionization effort was diminished (Kamen 2003). At the height of its empire early in the eighteenth century, Spain had economic ties covering three-quarters of the known world. The empire was based on economic superiority gained through alliances with the rich bankers and royalty of the Italian city states, the Flemish, and sea power Portugal. New Spain and New Mexico were affected by imperial trends as the structure of the government, the focus of the economy, and pressures on the imperial borderlands changed. New Mexico and Santa Fe were on the frontier of the Spanish Empire and at the end of the Camino Real, the main communication and transport route for public, governmental, and ecclesiastic institutions and individuals. Pressured for most of a century by French and English advances into the North American interior until 1789, Santa Fe soon felt the social and economic pressures brought on by the growing pains of the United States and its rapid institution of manifest destiny. These pressures were exerting tremendous influence on New Mexico as Mexico gained its independence from Spain in 1821.

Government and military. During the eighteenth century and into the early nineteenth century, Santa Fe functioned as the provincial capital of Nuevo Mexico in New Spain. The greater territory and military were administered by the governor and his appointed officials (Jenkins and Schroeder 1974; Kessell 1979; Weber 1992). After 1735 the governor ruled under the Audencia of Mexico and the Viceroy of New Spain (Westphall 1983:16-17). Locally, Santa Fe was governed by an *alcalde mayor* and *cabildo*, or town council (Hordes 1990; Snow 1990; Twitchell 1925). The alcalde and cabildo were responsible for carrying out daily operation of the local government, fulfilling the legal requirements of land petitions as assigned by the governor, and the collection of taxes and tithes for the church. These individuals, who were citizens and soldiers, controlled the social and economic well-being and development of the community and surrounding area (Bustamante 1989; Westphall 1983). After 1722 the alcalde mayor in Santa Fe appointed two *juezes repartidores*, one for each side of the river, to inspect farmlands and acequias and allot water based on need (Baxter 1997:19). Beginning in 1776 and continuing into the 1800s, the presidio system was revamped along with the military importance of Santa Fe and New Mexico. Until the late 1780s, the Santa Fe presidio and the improved and expanded presidio system provided protection against continuing Indian raiding of Spanish and Pueblo villages. With a major decrease in the raiding following Governor Juan Bautista de Anza's treaty with the Comanches, the military served as a buffer against French, English, and later American incursions from the north and east (Moorhead 1974; Simmons 1990; Weber 1992). During this time the Spanish governmental organization in Mexico changed three times, but New Mexico remained primarily under its governor, who also remained the military commanding officer.

Settlement and economy. Following Don Diego de Vargas's Reconquest (1692-1696), both pre-Pueblo Revolt and new settlers returned to Santa Fe and the Rio Grande Valley. They allegedly returned to a villa that had been partially destroyed after the escape of Governor Otermín and the surviving colonists, soldiers,

and missionaries. The fact that settlers temporarily moved into the Tano pueblo that occupied the former *casas reales* suggests that most of the residences were destroyed or rendered uninhabitable. Early priorities for the returning colonists and administration were rebuilding the casa reales and the acequia system, reallotting grants to former *encomenderos* and landholders or their surviving family members, and expanding on the pre-Revolt settlement (Kessell 1979; Simmons 1979a). With the termination of *encomienda*, settlers were expected to be more independent and self-sufficient and to properly compensate the Indians for their labor and goods (Westphall 1983:7). For defensive purposes, settlers were encouraged to settle lands near Santa Fe. However, the quality and quantity of suitable farmland, combined with the practice of living close to their fields, resulted in an elongated and dispersed settlement pattern along the Santa Fe River and adjacent to acequia-irrigated fields, as depicted in the Josef Urrutia map of 1766-1768 (Fig. 4; Simmons 1979a:105-106; Adams and Chávez 1956:40; Moorhead 1975:148-149).

Presumably, all families were eligible for the typical town lot, which in the seventeenth century was defined as "two lots for house and garden, two contiguous fields for vegetable gardens, two others for vineyards and olive groves, and in addition four *caballerías* of land; and for irrigation, the necessary water, if available, obligating the settlers to establish residence for ten consecutive years without absenting themselves" (Hammond and Rey 1953:1088). Land documents from the eighteenth century clearly show that house and garden lots were common and that they were bought and sold regularly once the ten-year residency requirement had been fulfilled (Tigges 1990). The extent to which vineyards and olive groves were actually introduced is unclear and has not been addressed archaeologically or well documented historically.

Obviously, arable land within the *villa* was scarce by the middle 1700s. Individual or family grants within the city league that included the full four caballerías of land or explicit access to the *ejido* (common land parcels) for livestock grazing were relatively few. Only twenty-four are shown on William White's undated *Sketch Map of Grants within the Santa Fe Grant*, reflecting land ownership in the early 1890s and coinciding with land claims filed with the Court of Private Land Claims (Westphall 1983:237). Based on William White's 1895 map, *Showing Owners of Land within the Santa Fe Grant Outside of City Limits*, the long-lot land subdivision pattern is clearly evident. These long lots were the basis of the small-scale agropastoral economic tradition that typified eighteenth- and early nineteenth-century land use within village or urban settings such as Santa Fe. The residences, which may be termed *ranchos* or *rancherías*, were much smaller than *haciendas* (Simmons 1979a; Payne 1999:100-109). They were sufficient for subsistence but did not lead to economic advantage or prosperity. Long lots allowed access into the ejido for other natural resources, such as wood, game, and construction stone (Wozniak 1987:23-25). Acequia irrigation that supported intensive wheat and corn cultivation was the backbone of successful settlement in New Mexico (Ackerly 1996; Baxter 1997; Snow 1988; Wozniak 1987).

Class and community. During the eighteenth-century, Santa Fe and New Mexico were inhabited by a diverse population. It was a socially stratified society with the governor, high-ranking officials, and officers of the presidio in the upper echelon. The middle class contained the farmers and artisans, who were slightly more prosperous than the common people and the soldiers of the presidio (Bustamante 1989:70). Other divisions within Hispano society reflected a diverse, mixed, and perhaps somewhat discriminatory and arbitrarily defined caste system (Brooks 2002; Bustamante 1989; Frank 2000). Economic-based social stratification was present, but the majority of the population were small landholders of Hispano, *mestizo*, *genízaro*, or *indio* castes. The Urrutia map (Fig. 4) shows the area south of the Santa Fe River and between San Miguel church and the Guadalupe Church area as the Barrio de Analco, in which the population was partly composed of Tlaxacalan Indians from Mexico. Men were soldiers, farmers, shepherds, and laborers, with a few skilled blacksmiths, educators, and medical professionals. During this time, churches and secular *cofradías* remained the main avenues by which social and economically defined groups would cooperate and act as a community (Frank 2000). Until the building of the Santuario de Guadalupe in the early 1800s, worship and service would have been connected

Figure 4. Detail of Urrutia's map, 1766.

with the *parroquia* or would have occurred at San Miguel chapel. With addition of the Santuario, the area assumed a more communal organization mediated through church membership and lay organizations (Sze and Spears 1988:37).

Mexican Period (1821-1846)

At the beginning of the nineteenth century, Spain's hold on Mexico and the northern territories had diminished significantly. Recognizing that the citizens of New Mexico could not partake in the normal political, economic, and social activities of the declining empire, Spain allowed New Mexico to operate in virtual independence, except for the most important activities (Lecompte 1989; Westphall 1983). The positive effect was that New Mexico could determine much of its social and economic future. The negative effect was that the economic problems, compounded by limited sources of money, limited access to durable goods, and slow responses to military and administrative issues, created a stagnant economic environment. In addition, pressure from the United States to open economic ties, applied through small-scale economic surveys, increased in frequency between 1803 and 1821.

With Mexico's independence from Spain in 1821, New Mexico became a frontier province and economic avenue to the commercial markets and production centers of the United States. Two major changes instituted by the new government had important consequences in northern New Mexico: the establishment of normal economic relations with the United States through overland trade on the Santa Fe Trail, and the abolition of the caste system, which meant that everyone was a Mexican citizen.

Government. The political structure of Santa Fe experienced only minor change with the switch to a Mexican administration (Lecompte 1989; Pratt and Snow 1988). The abolition of the caste system meant that any citizen had an equal opportunity to hold a public office. Governors were still appointed by Mexico, and the governor continued to be the military commander. He was also responsible for collecting tariffs and regulating the Santa Fe Trail commerce. The town council and alcalde still oversaw the town business. Santa Fe was divided into six parishes that formed the nucleus through which issues could be advanced to the council and discussed throughout the community.

Economy. In 1821, with Mexico's independence, the New Mexican frontier was opened to trade with the United States. The Santa Fe Trail, extending from Santa Fe, New Mexico, to Independence, Missouri, became a major trade route for European goods from the east (Jenkins and Schroeder 1974; Simmons 1989). England also opened formal trade relations with Mexico. Due to these improved trade relations, large volumes of Euroamerican manufactured goods were available and filtered north on the Camino Real. In the 1830s the dominant source of manufactured goods was the Santa Fe Trail, eclipsing the Camino Real in importance. Trade between the United States traders and Mexico did continue, with a special focus on the northern Mexican silver mining region (Scheick and Viklund 2003:14). Americans not only traded in New Mexico but also became involved in the illegal transfer and allotment of large illegal land grants from Mexican officials (Westphall 1983).

New Mexico still remained predominantly an agropastoral economy upon the opening of the Santa Fe Trail. Most villages and towns barely felt the effects of the increase in commercial and consumer opportunity, except that basic household and work items were more readily available. The opening of the Santa Fe Trail and the effect that it had on northern New Mexico's economy has been explored by many researchers (Lecompte 1989; Pratt and Snow 1988; Boyle 1997). While not widespread immediately, but with greater effect through time, the Santa Fe Trail trade provided access to durable and manufactured goods in quantities and at lower costs than had been available from Camino Real commerce. Seemingly basic household goods, such as window glass, dish ware, and hand tools were available to anyone who could afford to buy them or who could open a line of credit based on projected farm and ranch production. The beginnings of a more viable cash economy meant that wage labor added to the available options for supporting a family. It also meant that with cash available, land that could not sustain a family's needs could be sold.

Society in transition. Mexican independence from Spain resulted in limited changes to

the family- and church-based social structure of Santa Fe and New Mexico. The abolition of the caste system and the granting of equal citizenship to all Mexicans and New Mexicans potentially allowed for changes in the social status of local and provincial officeholders or officials, but there is not strong evidence for such changes in Santa Fe. General historical descriptions indicate that under Mexican rule, Santa Fe and New Mexico continued to have considerable autonomy resulting in strong organizations that governed secular aspects of religion and other aspects of Hispanic organization (Lecompte 1989:83; Abbink and Stein 1977:160; Frank 2000). Abolition of the caste system and full citizenship had little effect on Hispanic populations, but serious consequences for the Pueblo Indians, who had enjoyed special status relative to landholdings under Spanish rule. Their lands could now be sold and were subject to the vagaries of land transactions (Hall 1987).

Perhaps the strongest social consequence in Santa Fe resulted from the opening of the Santa Fe Trail. This event officially opened New Mexico to influences and settlement by populations from the United States and added a new layer of cultural diversity to the social setting, which would eventually shift the balance of the social and economic relations in Santa Fe and along the Rio Grande.

American Territorial Period (1846-1912)

New Mexico's Territorial-period quest for statehood was one of the longest endured by any state in the Union. Following the United States' acquisition of new southwestern and western territories, there was a disorderly and turbulent rush to own or control land and mineral and natural resources. The struggle for control created a political, economic, and social order that still affects how New Mexico functions as a state today. Two authoritative accounts of this period are Larson's (1968) *New Mexico's Quest for Statehood: 1846-1912* and Lamar's (1966) *The Far Southwest*. Much of the following summary is derived from those sources and a history of the Old Pecos Trail in Santa Fe authored by Maxwell and Post (1992).

Santa Fe Trail and prerailroad times (1846-1879). On July 30, 1846, rumors that the United States would invade Mexican territory became a reality as Kearny proclaimed his intention to occupy New Mexico. After possible secret negotiations with General Manuel Armijo, the Army of the West arrived in Santa Fe on August 18, and New Mexico was surrendered to the United States (Jenkins and Schroeder 1974:44). Between 1846 and the ratification of the Treaty of Guadalupe Hidalgo on March 10, 1848, the United States army continued to occupy New Mexico, and a civilian government was installed, including a governor (initially appointed by General Kearny) and a territorial assembly.

New Mexico changed politically when it was designated a territory of the United States under the Organic Act of 1851 (Lamar 1966:13). The act set up the territorial governorship, from which important appointments were made in the territorial administration. The territorial legislative assembly dealt with issues on a local level, while the territorial governor's job was to ensure that federal interests were served (Lamar 1966:14). The center of government remained in Santa Fe, as it had been during the Spanish and Mexican administrations.

Between 1848 and 1865, the economy continued to focus on Santa Fe Trail trade, with the inclusion of routes from Texas (Scurlock 1988:95-97). Santa Fe continued to be the economic and political center of the territory. In addition to the mercantile trade, the establishment of military forts such as Fort Union and Fort Stanton expanded the economic markets (Jenkins and Schroeder 1974:50; Scurlock 1988:76-88). Local economies continued to be agrarian and pastoral. The large ranches supplied cattle and wool to the eastern markets and, until the end of the Civil War, to Mexico. A full-scale cash and wage economy was not yet in place as New Mexico was still isolated from the rest of the United States by long distances and hostile Indian tribes (Abbink and Stein 1977:167; Fierman 1964:10).

Changes in the social structure were gradual before the Civil War. Early migration by Euroamerican and European entrepreneurs was slow because industries such as mining had only been established on a small scale. As the terminus of the Santa Fe Trail, Santa Fe attracted immigrant Jewish and German merchants, who brought eastern European business experience into the new territory. These merchants replaced

the early traders and established formal businesses (Jenkins and Schroeder 1974:63). Early merchants were not satisfied with dealing only in goods and participated in growing land speculation in Spanish and Mexican land grants.

Between 1865 and 1880, the trends that began with establishment of the territory were amplified. Before 1860 the United States' attention was focused on the sectional conflict and the resulting Civil War. New Mexico was a Union territory, and for a brief period in 1862 the Confederates occupied Santa Fe without a shot being fired from the cannons of Fort Marcy, which overlooked Santa Fe. However, when the Confederate contingent attempted to move north to the Colorado gold mines they were engaged, defeated, and exiled from the territory (Jenkins and Schroeder 1974:50-51).

With the end of the Civil War, attention was turned to the settlement of the new territories and their potential for economic opportunity. Military attention turned to pacification of the Native American tribes that roamed New Mexico outside the Rio Grande and its tributaries (Jenkins and Schroeder 1974:51-56). The new western territories were perceived as a place where lives ruined by the Civil War could be renewed. Eastern professionals with all kinds of expertise were encouraged by associates to come to New Mexico, where the political and economic field was wide open (Lamar 1966). Much of this migration centered on Santa Fe, which continued to be the economic and political center of the territory.

The newcomers joined forces with and embraced the *patrón* system, thereby gaining acceptance into the existing cultural setting. These alliances were referred to as "rings." The rings were informal organizations of lawyers, cattlemen, mining operators, landowners, merchants, and government officials (Larson 1968:137). Their common goal was to provide a favorable environment for achieving economic and political aims. The most well known was the Santa Fe Ring, which included territorial governors, land registrars, newspaper owners, lawyers, and elected and appointed officials. Important persons in New Mexico history belonged to the Santa Fe Ring, including Stephen Elkins (secretary of war and US senator), Thomas Catron (territorial delegate and US senator), L. Bradford Prince (US senator and territorial governor), Francisco Chávez (president of the Territorial Assembly), and M. W. Mills (territorial governor), to name a few (Larson 1968:142-144). The Santa Fe Ring crossed party lines and was extremely fluid in its membership; disloyalty resulted in ostracization and often in political or economic ruin. Opposition to the ring was suppressed by law and violence, as demonstrated by the Lincoln and Colfax County wars in the 1870s (Larson 1968:137-140).

The alliances between the new political and economic entrepreneurs and the old power structure came to dominate the territorial legislature, which through time passed an increasing number of laws benefiting the new structure to the detriment of the Spanish and Native American populations (TANM, Roll 102, Frames 78-95). The new westerners often had contacts in Washington through which they influenced territorial political appointments and disbursement of economic aid (Lamar 1966:169-170).

Perhaps the greatest lure in the New Mexico territory was land. Ownership of large tracts of land was intensely sought by Santa Fe Ring members, a pattern typified by Thomas Catron, who was one of largest landholders in the United States by 1883, only 16 years after arriving in the territory (Larson 1968:143). To land speculators, most of New Mexico was unsettled and unused. This was an illusion promoted by the frontier subsistence economy of low-density, land-extensive farming and ranching, which had prevailed before the Territorial period. Lack of transportation to markets, conflicts with Indians, and a general lack of funds had retarded New Mexico's cattle, lumber, and mining industries. Under the Spanish land grants, nonarable land was a community resource and was therefore not overexploited. It was the community land that land speculators obtained, to the detriment of New Mexico's rural economy and social structure (Van Ness 1987).

New Mexico's economy changed after the Civil War because of increases in the number of military forts and the growing Euroamerican-controlled mining and ranching industries. A mercantile system that had focused on Mexican and California trade now supplied the military and transported precious ores from the gold and silver mines of the Santa Rita and Ortiz moun-

tains to national markets. A marginal cash economy grew as the federal government spent money on military forts and the Indian campaigns. The Santa Fe, California, and Texas trails were the main routes for goods. The Chihuahua trade died after the Civil War (Jenkins and Schroeder 1974:61-62).

The early railroad era (1879-1912). Between 1879 and 1912 political power was concentrated in the Santa Fe Ring, which consisted of several Santa Fe politicians. The group controlled territorial and local political appointments through a system of patronage and effectively blocked legislation proposed by its opponents. In 1885 Edmund G. Ross was appointed territorial governor and was asked to end the political and economic control of the Santa Fe Ring, a task he was unable to complete.

National attention on New Mexico focused on the continued abuses of the land grant situation. Between 1870 and 1892 the Santa Fe Ring was able to manipulate land grant speculation to their advantage. Surveyors general were usually appointed with the blessing of the ring and were often involved in land deals with ring members (Westphall 1965). William Julian was appointed surveyor general and given the job of halting the land grant abuses, which he carried out in spectacular if overzealous fashion. His inclination was to deny all claims as fraudulent and recommended very few to Congress for confirmation. The grants within and on the periphery of Santa Fe were at both ends of the spectrum. Julian recommended the Sebastián de Vargas Grant, on the southeast boundary of Santa Fe, for confirmation, even though it lacked the proper documents (CPLC 1892-1904). On the other hand, the Salvador Gonzáles Grant, within the northeast corner of the Santa Fe Grant, became the focal point for a national lambasting by Julian of the abuses of the land grant situation. To the Santa Fe Ring, Julian was an obstructionist who used his position to advance personal vendettas (Bowden 1969).

At stake in the land grab were millions of acres that would leave private control and enter the public domain if they could not be confirmed as part of a land grant. Julian and Ross believed the public domain should be available to small landholders (Lamar 1966). The Santa Fe Ring supported large-scale ranching and mining interests. Because Santa Fe was the political and economic center of the territory, the land around it was valuable, and large tracts not legitimately included in the Spanish land grants were falsely claimed.

From 1880 to 1912, economic growth in the Santa Fe area began to lag as other areas of the state-Las Vegas, the Mesilla Valley, and Albuquerque-grew in importance. Much of the economic slowdown can be ascribed to the lack of a through railroad (Elliott 1988:40). Santa Fe was no longer an important economic center but became only a stop at the end of a spur on the Atchison, Topeka & Santa Fe Railway. Although it was also the terminus of the Denver and Rio Grande Railway, which had local and regional significance, that route had little national importance because it did not tie in directly to the east-west transportation corridor (Pratt and Snow 1988:419).

In a move to spur economic growth, a concerted effort was made to advertise Santa Fe and New Mexico as a tourist and health destination. Sanitariums sprang up all across New Mexico, even in remote locations such as Folsom, in the northeast corner of the state. The trip on the Denver and Rio Grande Railway was described as an excellent remedy for lung problems (Nims 1881; Williams 1986:129-131). New Mexico's unique cultural heritage was recognized as an important tourist draw. Preservation and revival of traditional examples of architecture and native crafts and ceremony were encouraged. Large-scale tourist corporations such as the Harvey Corporation invested heavily in Native American crafts. Tourism and economic development became a dichotomy of economic goals. The tourist industry emphasized the old and romantic, while the economic development interests portrayed New Mexico as booming and vital, embodying the modern values embraced by the eastern establishment (Wilson 1981:105-159).

As the seat of territorial government, Santa Fe maintained economic stability. The city acquired many federal and territorial expenditures and jobs. Attempts to move the capital to Albuquerque in the early 1880s were defeated, which proved critical to the long-term economic stability of Santa Fe (Lamar 1966). Another choice made by legislators interested in Santa Fe's eco-

nomic growth was to locate the penitentiary in Santa Fe. As a tradeoff, Albuquerque, Las Cruces, Las Vegas, and Socorro received colleges. The penitentiary was viewed as economically more valuable than schools.

Statehood to Modern Times (1912-Present)

New Mexico was delayed in its quest for statehood by eastern politicians who viewed the small population, the arid climate, and a Spanish-speaking majority as liabilities. Most New Mexicans favored statehood but had different conditions under which they would accept it. Some citizens feared statehood because of the potential for increased taxation, domination by one ethnic group over another, and the loss of federal jobs under a state-run system. These factors, combined with political factionalism in New Mexico, resulted in the struggle (Larson 1968:302-304).

On January 6, 1912, New Mexico was admitted into the Union as a state. After statehood the patterns that were established in the Territorial period continued. New Mexico experienced only slow population growth, with most settlement concentrated along the Rio Grande corridor and in the southeast around Roswell. More than half the state land had a population density of fewer than five people per square mile (Williams 1986:135), partly because of the large area that was part of the National Trust and could not be settled. The major industries continued to be mining, ranching, lumber, farming within the Pecos and Rio Grande irrigation districts, and tourism. These industries, except the irrigation projects, were well established before statehood and continue to be important today (Jenkins and Schroeder 1974:77).

In Santa Fe, the absence of a major spur into the national railroad lines proved to be a detriment to industrial growth. Instead, development in Santa Fe focused its state and federal administrative centers and the tourism and art trade (Pratt and Snow 1988; Wilson 1981). Today, Santa Fe is the centerpiece of a tourism industry that brings more than $1 billion into the state every year. Municipal ordinances and efforts of the art and anthropological community to preserve Santa Fe's cultural heritage in the 1920s and 1930s have made it a desirable location for second residences and professional people who supply services to the national markets. The lack of industry that had retarded Santa Fe's growth was turned into a positive situation. Without heavy industry and the accompanying population density that accompanies it, quality of life became a draw for people seeking to escape the increasingly crowded and polluted cities. As part of the quality of life and the uniqueness of Santa Fe, its multicultural heritage continues to be emphasized.

Archival Research

Archival research focused on three primary lines of inquiry: a search of the New Mexico Cultural Resources Information System (NMCRIS) database for archaeological patterns within the nearby vicinity of the project area, a survey of historic maps and photographic imagery to place the project area within historic context, and written historic documents to garner information about who occupied the project area, when it was occupied, and what sorts of activities were conducted on site.

New Mexico Cultural Resources Information System

Archival research was conducted in the NMCRIS database to identify sites within a 500 m radius of the project area. This search turned up 61 sites representing 93 temporal components (Table 1). No previously recorded sites or properties listed on the *National Register of Historic Places* or the *State Register of Cultural Properties* were identified within the project area.

The vast majority of the components (n = 66) are historic Hispanic and Euroamerican in origin, representing almost 400 years of European occupation of the area in and around Santa Fe. These Hispanic and Euroamerican components represent a mixture of residential and industrial/transportation settings. The residential settings date back as early as the founding of Santa Fe (the project area is slightly south of the Barrio de Analco Historic Neighborhood). One of the oldest residential areas in Santa Fe, the Barrio de Analco was settled by Tlaxcalan Indian servants who accompanied Spanish colonists from Mexico (Sze and Spears 1988:21). To the east, the Railroad Historic District was the transportation and industrial hub of the city from 1880 on. The railroad provided the incentive for large-scale settlement south of the Santa Fe River during the late nineteenth and early twentieth centuries. Lastly, the Capitol Complex Historic District encompasses the project area and its immediate environs. The district housed state government for the territory and the state of New Mexico since the 1880s and included residences for occupants of the city.

Some of the more noteworthy sites associated with the Hispanic and Euroamerican components in the general vicinity include LA 20195 (SR 516), the Second Ward School, west of Sandoval Street and northwest of the project area. This one-room historic stone schoolhouse was erected in 1886 and is recorded in the State Register of Historic Properties. The standing structure is currently unoccupied. Two archaeological sites immediately west of the project area, LA 113736 and LA 137737, exist under the current location of the Villagra Building. Excavations at these sites found at least eight features consisting of refuse-filled pits and a well attributed to the late nineteenth and early twentieth centuries. The OAS recently found similar materials dated to the early twentieth century at LA 156207, one block northwest of the project area.

The remaining cultural components are unknown (n = 9) and Pueblo (n = 18); the vast majority of Puebloan sites date between AD 1100 and 1600. These dates can be linked to a large-scale Pueblo, LA 1051, which dominated the downtown Santa Fe area during the Coalition and Classic periods (Lentz 2005).

Historic Maps and Photographs

Historic maps and photographs are a visual narrative of the project area beginning with its use for agricultural fields during the eighteenth and nineteenth centuries.. There are no seventeenth-century maps of Santa Fe; however, it seems likely that given its proximity to the Santa Fe River, the area was used as fields since the founding of Santa Fe. With the coming of the railroad in 1880, these fields transitioned into a more urban environment as a largely residential neighborhood developed.

Urrutia Map of Santa Fe (1766)

The Josef Urrutia map, drawn in 1766, shows the project area south of a string of buildings which formed the Barrio de Analco (Fig. 4).

Table 1. Sites in the vicinity of LA 158037

Component	Dates (AD)	Total
Pueblo		
Anasazi artifact scatter	1200-1600	2
Anasazi artifact scatter	1200-1325	1
Anasazi feature and artifact scatter	600-1400	1
Anasazi unknown	1100-1600	5
Anasazi unknown	1100-1300	2
Anasazi unknown	1-1600	2
Pueblo unknown	1539-1680	1
Pueblo unknown	1692-1821	3
Pueblo artifact acatter	1692-1821	1
Subtotal		18
Hispanic		
Hispanic ranching/agricultural	1692-1912	1
Hispanic ranching/agricultural	1846-1912	1
Hispanic ranching/agricultural	1821-1879	1
Hispanic ranching/agricultural	1610-1912	1
Hispanic single residence	1750-1856	1
Hispanic single residence	1880-1996	1
Hispanic residential complex/community	1605-1680	1
Hispanic residential complex/community	1605-1846	1
Hispanic residential complex/community	1714-1996	2
Hispanic residential complex/community	1821-1846	1
Hispanic residential complex/community	1853-1858	1
Hispanic residential complex/community	1780-1996	1
Hispanic artifact scatter	1600-1945	1
Hispanic artifact scatter	1720-1821	1
Hispanic artifact scatter	1600-1912	1
Hispanic artifact scatter	1767-1810	1
Hispanic artifact scatter	1700-1850	1
Hispanic artifact scatter	1700-1945	1
Hispanic artifact scatter	1600-1977	1
Hispanic simple feature	1605-2004	1
Hispanic simple feature	1610-1990	1
Hispanic simple feature	1870-1889	1
Hispanic simple feature	1740-1740	1
Hispanic features and artifact scatter	1835-1945	1
Hispanic unknown	1692-1821	3
Hispanic unknown	1846-1912	4
Hispanic unknown	1821-1846	1
Hispanic unknown	1945-1993	1
Hispanic unknown	1539-1993	1
Hispanic unknown	1539-1680	1
Subtotal		36

Table 1 (continued)

Component	Dates (AD)	Total
Anglo/Euroamerican		
Anglo/Euroamerican transportation/communication	1879-1955	1
Anglo/Euroamerican transportation/communication	1903-1955	2
Anglo/Euroamerican transportation/communication	1846-1900	1
Anglo/Euroamerican transportation/communication	1900-1930	1
Anglo/Euroamerican transportation/communication	1880-1955	1
Anglo/Euroamerican simple features	1912-1960	1
Anglo/Euroamerican simple features	1945-1960	1
Anglo/Euroamerican single residence	1856-1900	1
Anglo/Euroamerican single residence	1883-1912	1
Anglo/Euroamerican residential complex/community	1846-2000	3
Anglo/Euroamerican features and artifact scatter	1870-1945	1
Anglo/Euroamerican features and artifact scatter	1821-1912	1
Anglo/Euroamerican features and artifact scatter	1850-1930	1
Anglo/Euroamerican features and artifact scatter	1900-1971	1
Anglo/Euroamerican features and artifact scatter	1821-1859	1
Anglo/Euroamerican features and artifact scatter	1912-1990	1
Anglo/Euroamerican commercial	1881-1886	1
Anglo/Euroamerican industrial	1891-1960	1
Anglo/Euroamerican unknown	1846-1912	3
Anglo/Euroamerican unknown	1912-1945	3
Anglo/Euroamerican unknown	1945-1993	1
Anglo/Euroamerican artifact scatter	1700-1850	1
Anglo/Euroamerican millitary	1846-1851	1
Subtotal		30
Unknown		
Unknown features		6
Unknown simple feature	1900-1990	1
Unknown artifact scatter	900-1800	2
Subtotal		9
Total		93

Immediately to the north of the *acequia para regadio* (irrigation ditch) and east of the road to Galisteo, the project area appears to be open fields. No buildings show, and ownership of the fields is unclear.

Gilmer Map of Santa Fe (1846-1847)

The Gilmer map of 1846-1847 (Fig. 5) shows the city of Santa Fe as it appeared when brought under the jurisdiction of the US government. The project area appears unchanged from the early eighteenth-century representation. The area under investigation continues to be open fields. No buildings can be seen, and ownership of the fields is still unclear.

Stoner's Bird's-Eye View of Santa Fe (1882)

Stoner's illustration of Santa Fe is the first to show buildings residing within the project limits (Fig. 6). Five of the six buildings appear to be one story high, with one two-story building on the corner of Galisteo and West Manhattan. In 1882 the Capitol building was still not built. On the map, occupancy occurs only along Galisteo and West Manhattan streets.

Hartmann's Map of Santa Fe (1885-1886)

Hartmann's map adds to the narrative by providing a more accurate plan of the area, including details of property ownership (Fig. 7). Ten individual properties are shown. Many families owned more than one property, suggesting land may have been subdivided not long before the map was drawn. Some of the names are Alarid, Romero, García, and Delgado.

Sanborn Maps of 1886, 1890, 1898, 1913, 1921, 1930, and 1942

The Sanborn maps of the nineteenth century show the project area only in the periphery, cutting off the area south of the first two buildings owned by Esselbach and the Alarids. However, in 1913, the nexus of the maps shifts, and the area under investigation becomes documented in its entirety (Fig. 8). The narrative that develops on the 1913 (Fig. 8), 1921 (Fig. 9), 1930 (Fig. 10), and 1942 (Fig. 11) maps is one of gradually intensifying land use within a residential setting.

The street that borders the north end of the project area had several name changes: Garfield, then Chávez, and finally its current name, South Capitol Street. Major structures along Don Gaspar appear on the 1921 map, including the First Baptist Church.

Museum of New Mexico Photo Archives

Photographic evidence of the area before 1950 is limited. Figure 12 shows the original Capitol building, built in 1886. This building stood where the Bataan building currently stands, just north of the project area. The construction of the building likely stimulated growth in the area; however, historic maps show residential structures in the area prior to its construction. This first Capitol building burned to the ground in 1892 (Fig. 13). Museum of New Neg. No. 40671 (Fig. 14) shows the building as it was rebuilt in the 1930s. To the right, residential sprawl is visible. These residential structures represent the project area as it existed in the early twentieth century.

Lastly, Figure 15 illustrates the First Baptist Church as it appeared in 1949. Built in about 1921, the First Baptist Church served as a major landmark for the Capitol Complex Historic District throughout much of the early and mid-twentieth centuries.

Historic Documents

Several sources of historic documents were investigated to provide more detailed information about former landowners and residents, and when and what sorts of activities were conducted on site: *Hudspeth Santa Fe City Directories* (1929-1960), *Santa Fe Business Directories*, and direct and indirect deed books at the Santa Fe County Courthouse.

Hudspeth Santa Fe City Directories

Hudspeth Santa Fe City Directories from 1928 to 1960 provided details on who lived on the property and when (Table 2). The neighborhood was multiethnic (Anglo, Hispanic, and Native) and housed people from all socioeconomic backgrounds (lawyers, janitors, and soldiers in the US Army). Several family names are identical to

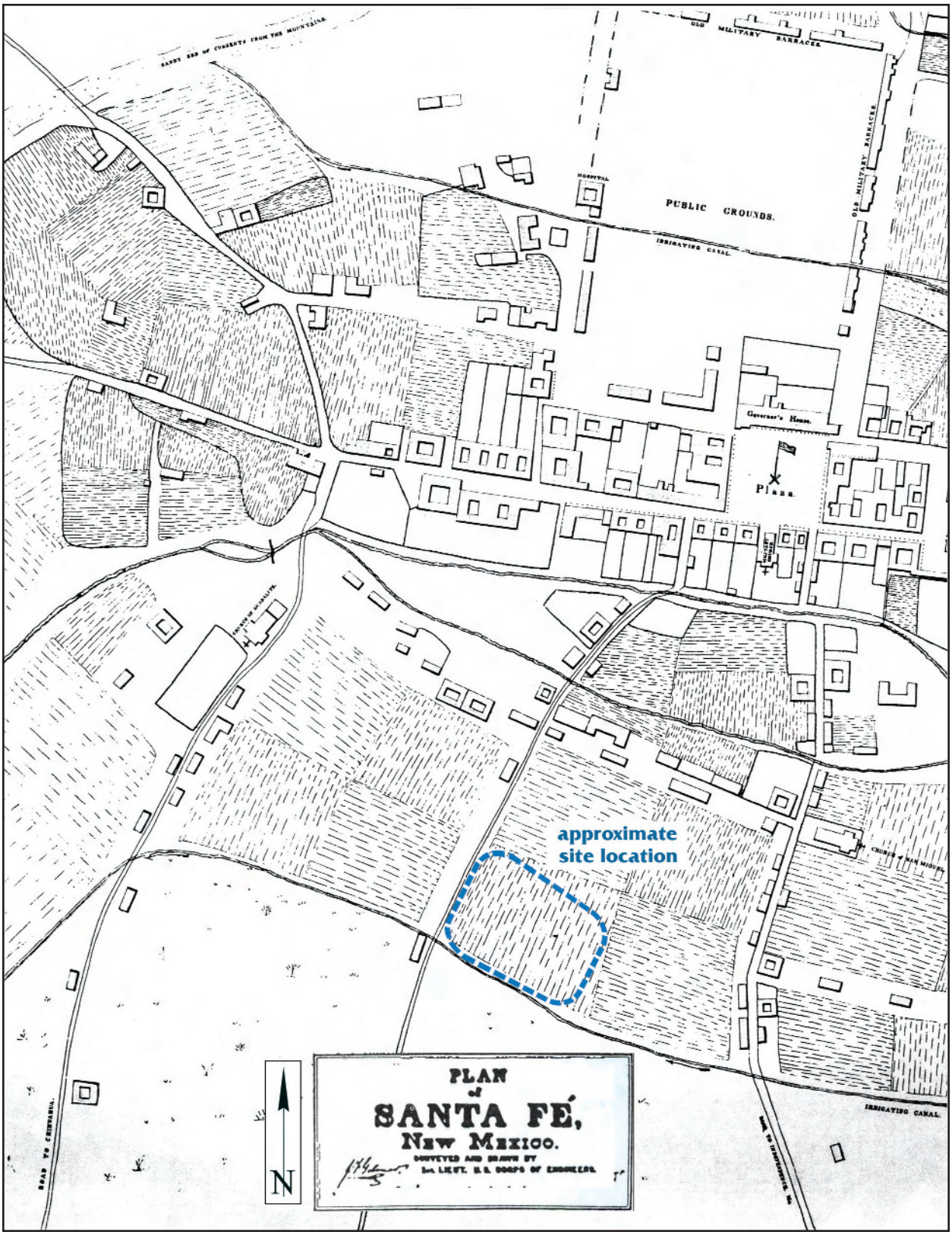

Figure 5. Detail of Gilmer's map, 1846-1847.

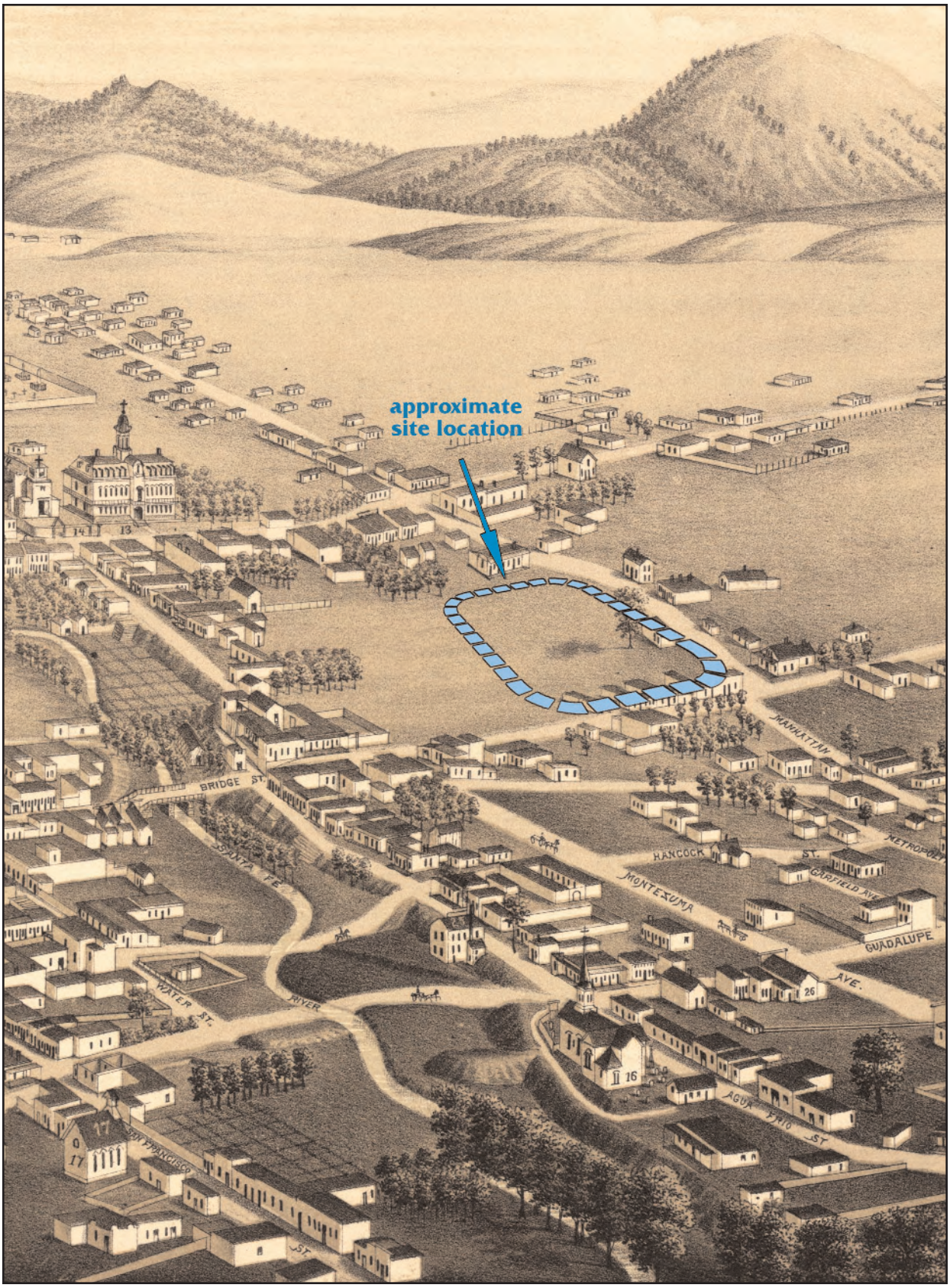

Figure 6. Stoner's bird's-eye view, 1882.

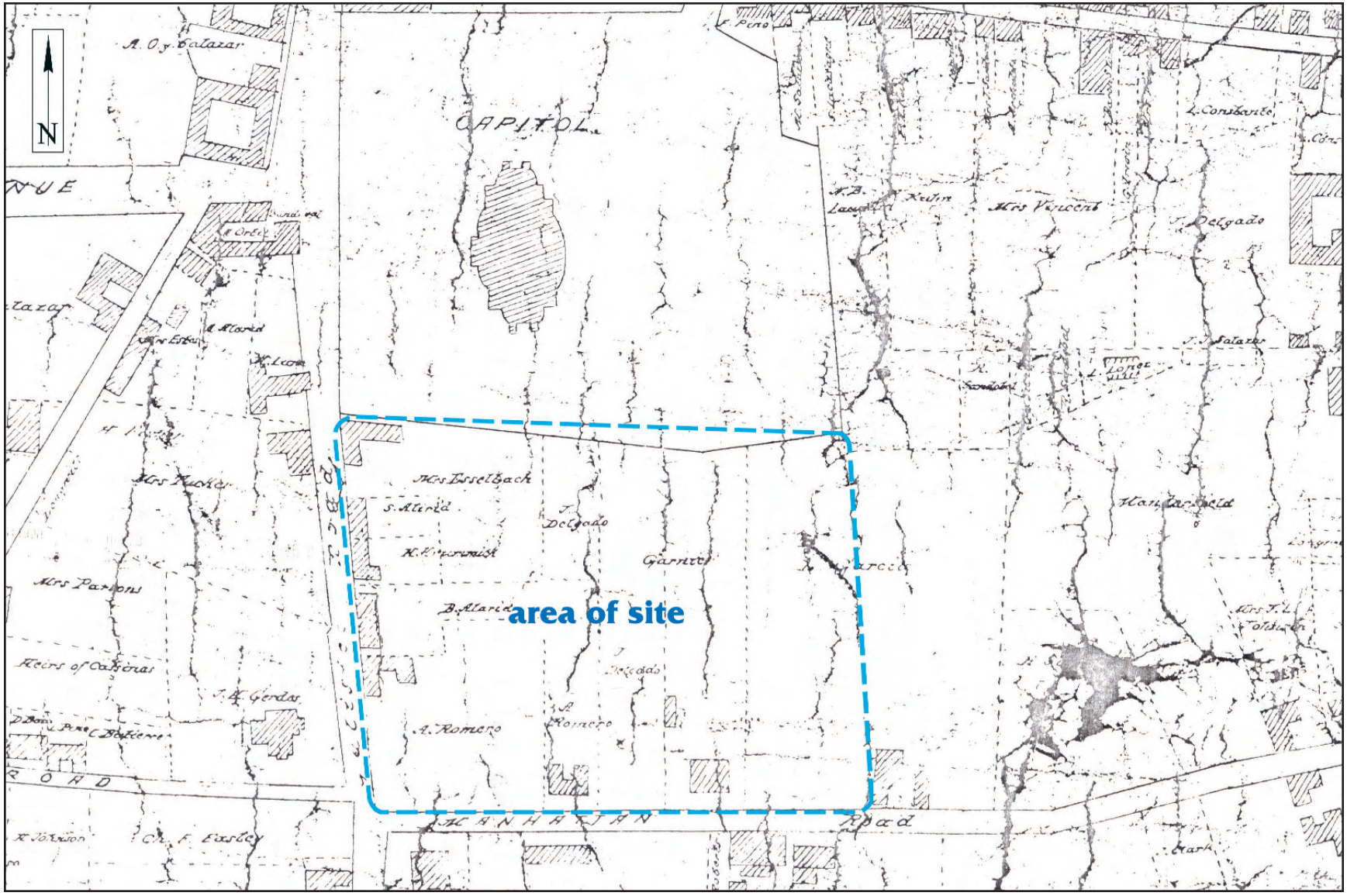

Figure 7. Detail of Hartmann's map, 1885-1886.

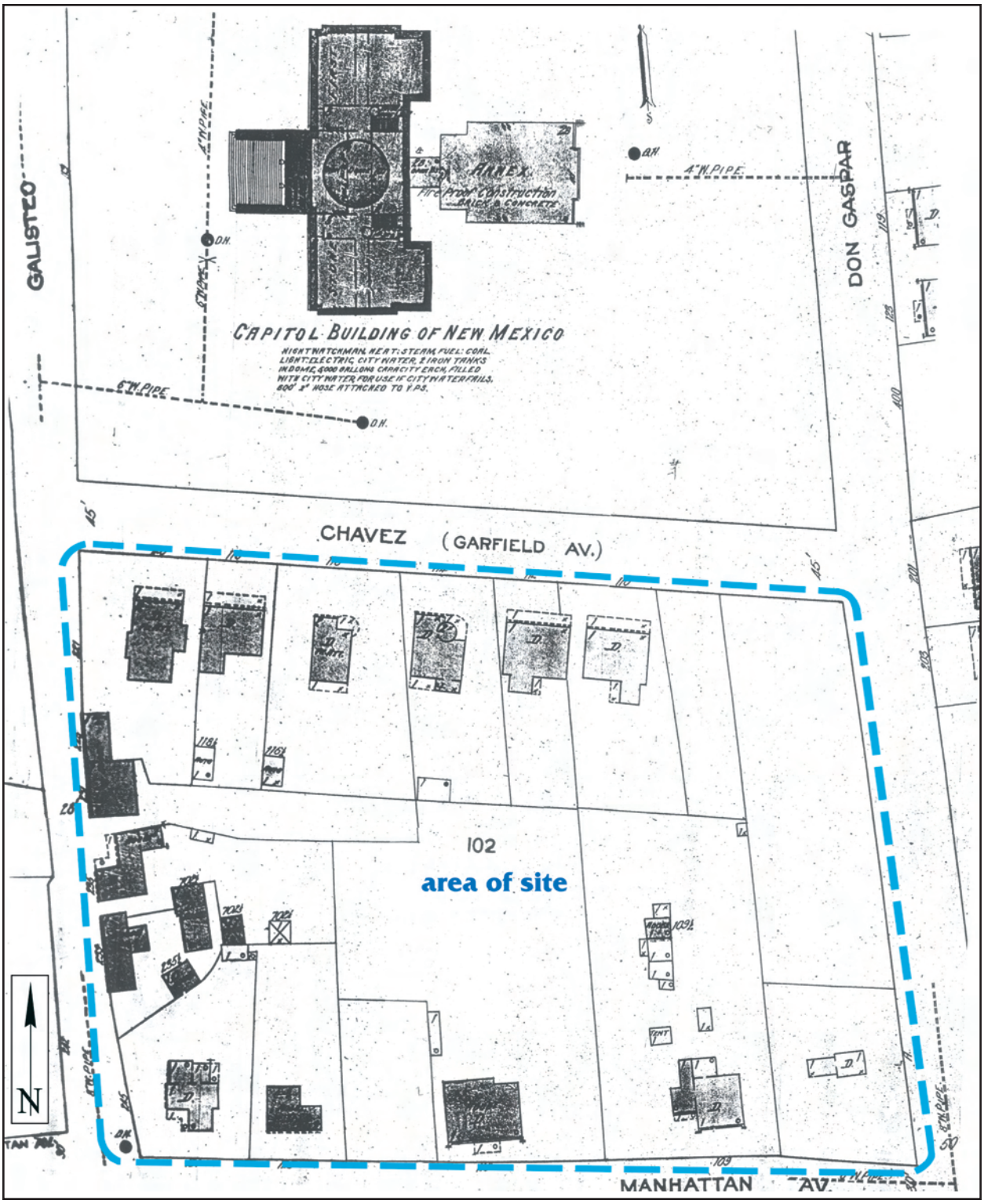

Figure 8. Detail of Sanborn map, 1913.

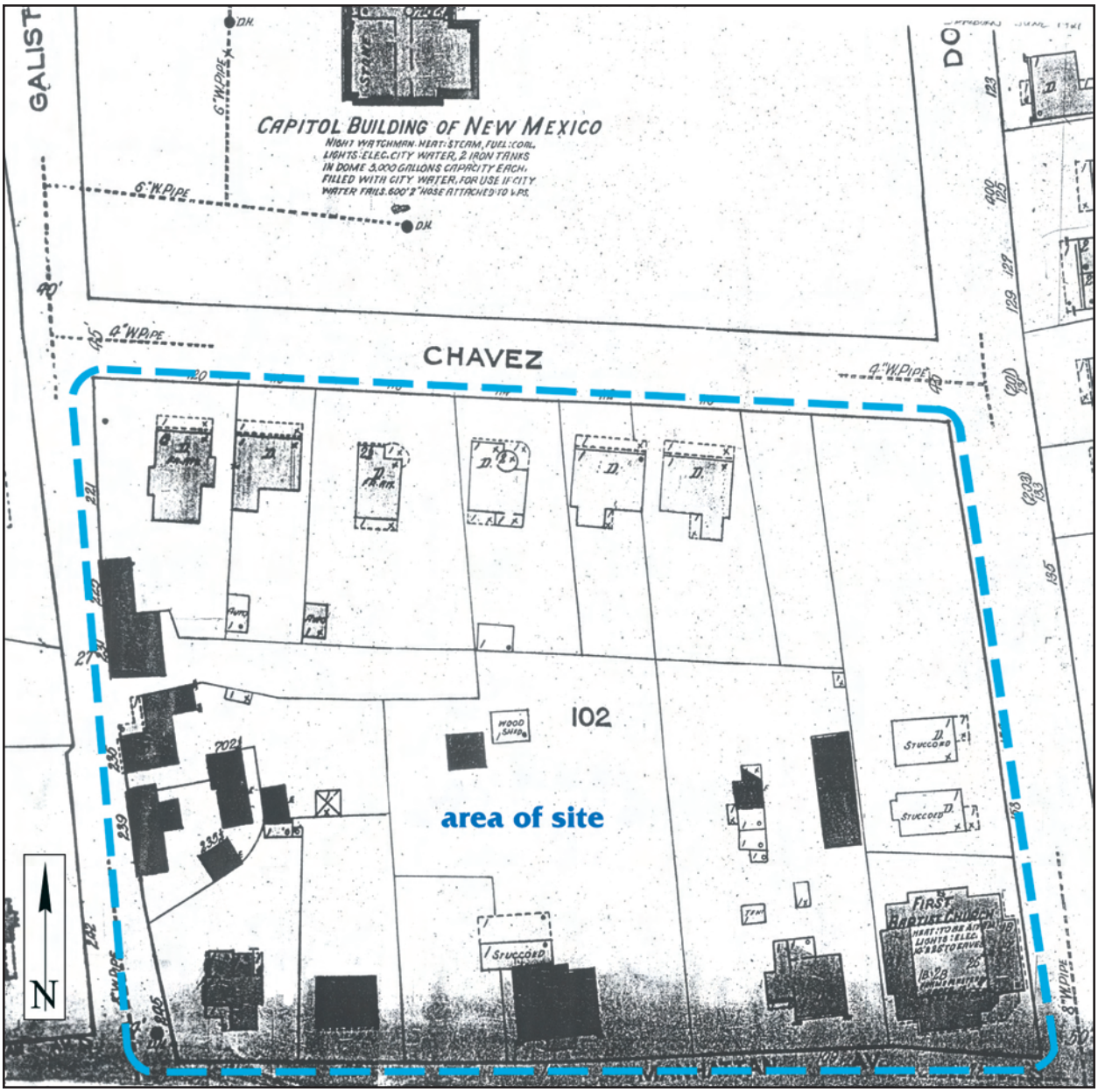

Figure 9. Detail of Sanborn map, 1921.

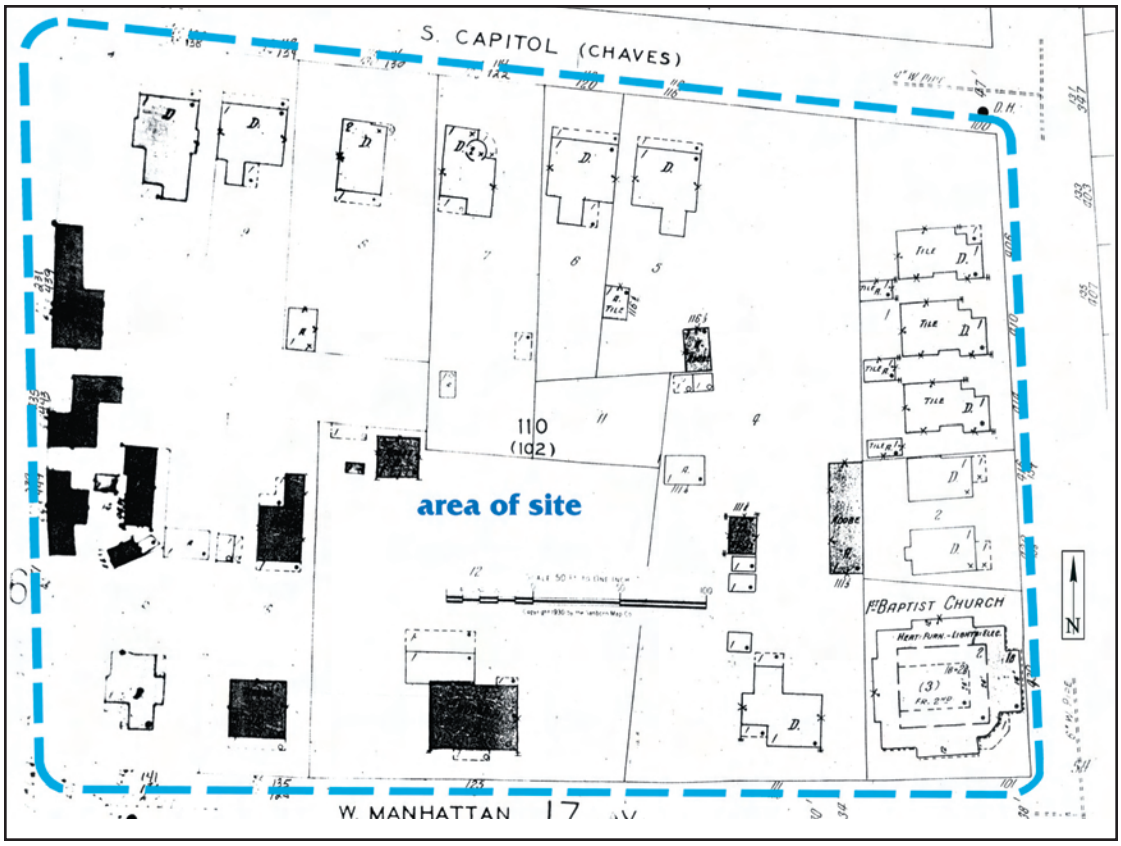

Figure 10. Detail of Sanborn map, 1930.

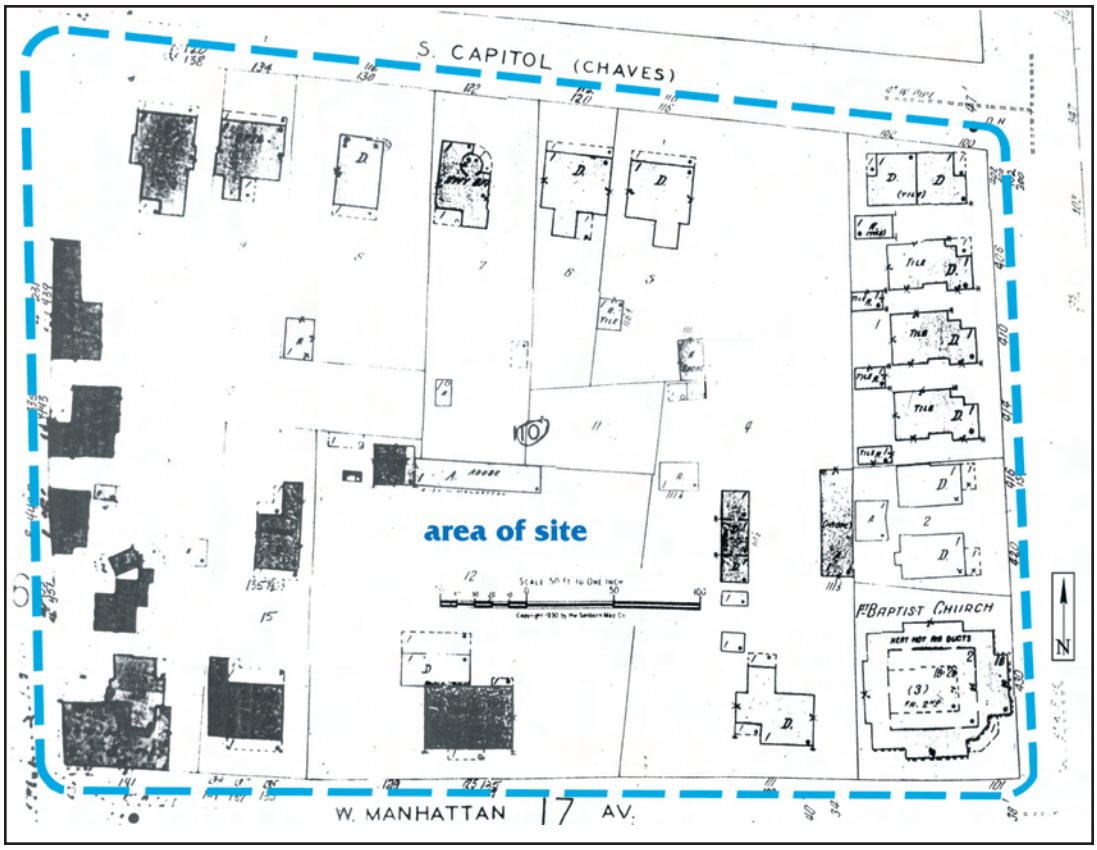

Figure 11. Detail of Sanborn map, 1942.

Figure 12. Capitol Building, built in 1886. Museum of New Mexico Neg. No. 76041.

Figure 13. Capitol Building after it burned in 1892. Museum of New Mexico Neg. No. 16710.

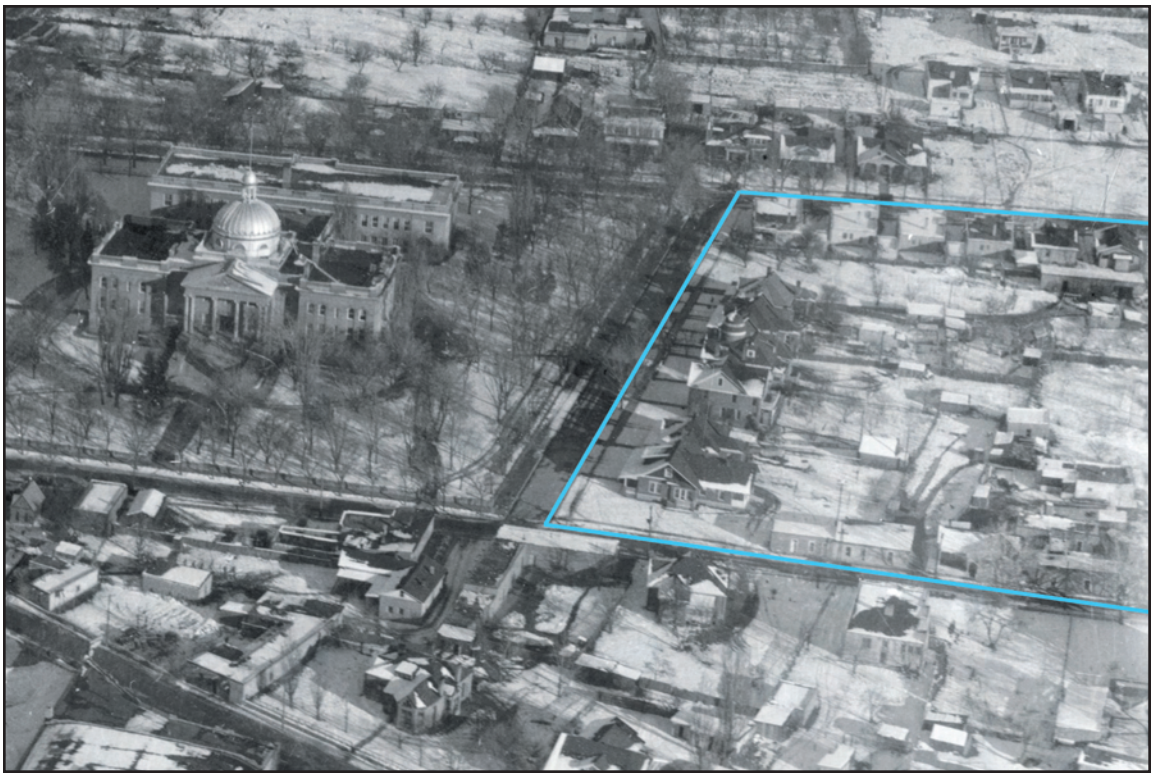

Figure 14. Aerial view of the Old State Capitol Building, looking east, ca. 1930s. Museum of New Mexico Neg. No. 40671.

Figure 15. The First Baptist Church, ca. 1949. Museum of New Mexico Neg. No. 73834.

those shown on the Hartmann map of 1885-1886, including the Alarid and Romero surnames.

The directory also shows several businesses in the project area, including the First Baptist Church, Dick's Barber Shop, Pete's Supermarket, Butler & Foley Plumbers, and Ray's Floor Covering Service.

By the end of the 1950s, the character of the neighborhood began to change as the state of New Mexico began to buy out property owners, and in 1960 the residential neighborhood was being reborn as a center for state agencies, including the State Directory of Surplus Property, the State Highway Department, and the New Mexico Education Association.

Santa Fe Business Directories

Once a business was found to be in the project area, the *Santa Fe Business Directories* was consulted to gauge who owned the business and if the business advertised. The majority of businesses found within the area were mom-and-pop operations that did little in the way of advertising and often existed for little more than a year or two.

Two of the more noteworthy businesses were Dick's Barber Shop, owned by Richard Alarid Jr., and Ray's Floor Covering Service, owned by Ramón Romero Jr. Both were grandsons of nineteenth-century Alarids and Romeros and represent the last of their families to occupy the project area before it was purchased by the state of New Mexico. However, both businesses were relatively short lived. Dick's Barber Shop lasted from 1957 to 1958. Ray's Floor Covering Service started in 1949 and continued into the early 1960s.

The only business which advertised regularly was Butler & Foley Plumbers, at 120 South Capitol. The Butlers lived at their shop and ran ads regularly. Figure 16 shows the first ad, from 1930, when the business was founded. It appears to have gone bankrupt in 1943.

The Direct and Indirect Deed Books at the Santa Fe County Courthouse

An examination of the 1848-1934 direct and indirect deed books at the Santa Fe County Courthouse revealed the Alarid family was one of the largest landowners south of the Santa Fe River. There are hundreds of transactions and claims under the Alarid surname. Within the project area, Richard Alarid Jr. appears to have owned no fewer than four residences. Interestingly, the deeds appear to have all been made out to a Ricardo Alarid Jr.; why *Hudspeth Santa Fe City Directories* chose to anglicize his name is unknown. Other Alarids owning property in the area included Amadeo, Pete, and Carmen, Richard's wife.

A study of deed books is sometimes used to establish the history behind who owned the area under archaeological investigation, but because of the large number of claims and information gathered from *Hudspeth*, no intensive study was conducted.

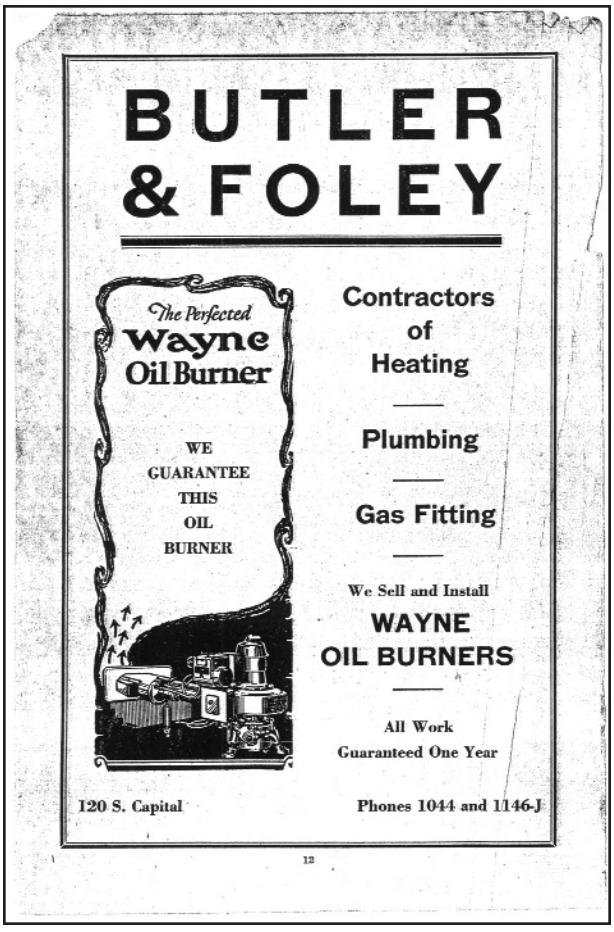

Figure 16. Butler & Foley Plumbers advertisement, 1930. Used with permission of the Fray Angélico Chávez History Library and Photo Archives.

Table 2. *Hudspeth Directories* entries for occupants within the project area

Address	Dates	Occupant	Status	Profession
102 South Capitol	1934-1935	Feld, H. L.	Renter	Assistant manager, Santa Fe Book Stat. Co.
102 South Capitol	1936-1937	Kreasch, F. A.	Renter	Jeweler
102 South Capitol	1938-1941	Horne, C. F.	Renter	Office engineer, NM Highway Planning & Survey
102 South Capitol	1942-1943	Burnett, R. B.	Renter	Agent, Magnolia Petroleum Co.
102 South Capitol	1944-1948	Smith, L. W.	Renter	Guard, Brims General Hospital
102 South Capitol	1949-1950	Conarty, Lewers R.	Renter	Commissioner, NM Public Service Commission
102 South Capitol	1951-1952	Marshall, Joy	Renter	Unknown
102 South Capitol	1953-1960+	Hamlett, Cath, Mrs.	Owner	Supervisor, State Land Office
104 South Capitol	1951-1960+	Apartments 1-8	Renters	NA
112 South Capitol	1932-1933	Tyler, W. C.	Renter	Owner, Tyler's Drug Store
116 South Capitol	ca. 1928-1940	Beacham, William	Owner	President, Beacham-Minardot Hardware
116 South Capitol	1942-1957	Beacham, Leonore M., Mrs.	Owner	Widow
116 South Capitol	1959-1960+	State Directory of Surplus Property	Renter	State office
116 South Capitol	1959-1960+	State Department Division of Indian Education	Renter	State office
116 South Capitol	1959-1960+	Division of Science, Math and Foreign Languages	Renter	State office
120 South Capitol	ca. 1928-1929	Lamb, Charles	Renter	Clerk, State Corporation Commisssion
120 South Capitol	1930-1943	Butler, R. E.	Renter	Plumber
120 South Capitol	1930-1943	Butler & Foley Plumbers	Renter	Business
120 South Capitol	1944-1946	Turner, Arthur	Renter	Unknown
120 South Capitol	1947-1948	Nelson, C. R.	Renter	Engineer, State Highway Department
120 South Capitol	1949-1957	Compton, Jas. C.	Owner	US Army
120 South Capitol	1958-1960+	State Educators Retirement Building	Renter	State office
122 South Capitol	ca. 1928-1929	Hill, R. J.	Unknown	Insurance agent
122 South Capitol	1930-1933	Flores, A. R.	Renter	Student
122 South Capitol	1934-1937	Fidel, J. N.	Renter	Fidel Brothers Co.
122 South Capitol	1938-1939	Russel, D. M.	Renter	Mining
122 South Capitol	1940-1948	Vacant	NA	NA
122 South Capitol	1949-1956	Contractor License Board	Renter	State Office
122 South Capitol	1957-1960+	Albquerque Journal	Renter	Business
122 South Capitol	1957-1960+	Merit System Council	Renter	Business
130 South Capitol	ca. 1928-1935	Watson, J. C.	Renter	Justice, NM Supreme Court
130 South Capitol	1936-1937	Flores, Sarah, Mrs.	Renter	Unknown, boarding house
130 South Capitol	1938-1939	Burrus, R. E.	Renter	Unknown
130 South Capitol	1940-1943	Vacant	NA	NA
130 South Capitol	1944-1954	Boswell, William W.	Owner	Unknown
130 South Capitol	1955-1956	Moyers, Erma H., Mrs.	Renter	Office Manager, NM Education Association
130 South Capitol	1957-1960+	NM Education Association	Renter	State Office
130 South Capitol	1959	Horace Mann Insurance Co.	Renter	Business

Table 2. *Hudspeth Directories* entries for occupants within the project area

Address	Dates	Occupant	Status	Profession
130 South Capitol (rear)	1947-1950	Boswell, William H., Jr.	Owner	Manager, Deluxe Cab Co.
130 South Capitol (rear)	1951-1952	Aker, Harold & Black, Jas.	Renter	Aker-Salesman, Jas-Assistant Unit Instructor US Org. Reserves
130 1/2 South Capitol	1951-1952	Black, Jas. H.	Renter	Assistant unit instructor, US Org. Reserves
130 1/2 South Capitol	1953-1954	Lamborne, Robert	Renter	Spotter, A-1 Cleaners
130 1/2 South Capitol	1955	Vacant	NA	NA
134 South Capitol	ca. 1928-1929	Yerex, Lowell	Unknown	Unknown
134 South Capitol	1930-1931	Elliott, J. W.	Renter	Superintendent, NM Northern Pueblo Indian Agency
134 South Capitol	1932-1933	Carter, E. M., Mrs.	Renter	Widow
134 South Capitol	1934-1935	Prichard, G. W.	Renter	Lawyer
134 South Capitol	1936-1937	Miera, M. F.	Renter	Unknown
134 South Capitol	1938-1950	Ball, Fred G.	Owner	Unknown
134 South Capitol	1951-1954	Romero, M. Antonio	Owner	Oil operator
134 South Capitol	1955-1957	Kirby, Jennie M., Mrs.	Renter	Widow of Franklin
134 South Capitol	1958-1960+	State Proration Mtr Carriers	Renter	State office
134 1/2 South Capitol	1949-1950	Wallace, Jas. L.	Renter	Assistant engineer, NM Power Company
134 1/2 South Capitol	1951-1952	Chumbres, Peter	Renter	Assistant state attorney general
134 1/2 South Capitol	1958-1960+	Ripley, Edward P.	Renter	Lawyer
134 1/2 South Capitol	1958-1960+	Mullins, Robert J.	Renter	Investor
134 1/2 South Capitol	1958-1960+	Chapman, John W.	Renter	Lawyer
138 South Capitol	ca. 1928-1929	Chavez, Miguel	Unknown	Real estate
138 South Capitol	1930-1931	Chapman, J. W.	Renter	Attorney, State Tax Commission
138 South Capitol	1932-1933	Vacant	NA	NA
138 South Capitol	1934-1935	Owen, A. H.	Renter	Pastor, First Baptist Church
138 South Capitol	1936-1937	Bickel, T. W.	Renter	Muller's Garage, Studebaker Cars
138 South Capitol	1938-1948	Gilbert, Ernest	Renter	Auditor, Sales Tax Division, Bureau of Revenue
138 South Capitol	1949-1952	State Ins. Comnr.	Renter	State office
138 South Capitol	1953-1957	State Highway Department	Renter	State office
138 South Capitol	1958-1960+	Mtr. Vehicle Div. Financ. Resp.	Renter	State office
138 South Capitol	1958-1960+	State Bureau of Revenue	Renter	Drivers License Section
138 South Capitol	1960+	State Dept. of Educ. Natl. Def.	Renter	State office
138 South Capitol	1960+	Div. of Science, Math, For. Lang.	Renter	State office
138 South Capitol	1960+	Educ School Lunch Div.	Renter	State office
402 Don Gaspar	1930-1931	Vacant	NA	NA
402 Don Gaspar	1932-1933	McDonnell, J. J.	Renter	Unknown
402 Don Gaspar	1934-1937	McGill, W. F.	Renter	Lumberman
402 Don Gaspar	1938-1960+	McGill, Rose S., Mrs.	Renter	Widow of W. F.
402 Don Gaspar	1947-1948	Bryan, Zella	Renter	Unknown
402 Don Gaspar	1949-1950	McCauley, Robert	Renter	Unknown

Table 2. *Hudspeth Directories* entries for occupants within the project area

Address	Dates	Occupant	Status	Profession
406 Don Gaspar	1930-1931	Watts, E. A.	Owner	NM State Treasurer
406 Don Gaspar	1932-1933	Kingsley, P. F.	Renter	State agent, Fireman's Fund Insurance
406 Don Gaspar	1934-1950	Douthirt, Cranfield H.	Renter	Director, County Health and State Bureau of Public Health
406 Don Gaspar	1951-1952	Martin, Mary E., Mrs.	Owner	Widow, secretary treasurer Modern Construction Co.
406 Don Gaspar	1953-1954	Suman, Loren L.	Renter	Painter
406 Don Gaspar	1955-1956	Beaty, George R.	Renter	Assistant engineer, State Highway Department
406 Don Gaspar	1957	Meador, Rew W.	Renter	Secretary and executive assistant, State Tax Commission
406 Don Gaspar	1958-1960+	Fidel, Victor	Renter	Owner, Vic's Mobil Service Station
410 Don Gaspar	1930-1931	Streit, George	Renter	Unknown
410 Don Gaspar	1932-1933	Brown, A. K., Mrs.	Renter	Widow of C. T.
410 Don Gaspar	1934-1937	Luchini, B. D.	Renter	Unknown
410 Don Gaspar	1938-1941	Worden, G. F.	Renter	State Land Commission
410 Don Gaspar	1942-1943	Shepard, Guy	Renter	State chairman, Democratic State Headquarters
410 Don Gaspar	1944-1956	Lusk, Georgia L., Mrs.	Owner	Unknown
410 Don Gaspar	1957-1958	Stotts, David C.	Renter	Service manager, Schneider Buick Co.
410 Don Gaspar	1958-1959	Vacant	NA	NA
410 Don Gaspar	1959-1960+	Stine, Arth	Renter	Mining operations
414 Don Gaspar	1930-1933	Birdseye, R. W.	Renter	Publicity director, Santa Fe Transportation Company
414 Don Gaspar	1934-1935	Livingston, Hyman	Renter	President, H. Livingston and Co.
414 Don Gaspar	1936-1950	Kahn, Gus	Owner	Owner, Kahn's Shoe Store
414 Don Gaspar	1951-1952	Kilkenny, Joe G.	Renter	Shipping clerk, NM School Book Depository
414 Don Gaspar	1953-1960+	Stine, Arth	Owner	Mining operations
416 Don Gaspar	ca. 1928-1929	Birdseye, R. W.	Renter	Advertiser
416 Don Gaspar	1930-1931	Ervein, Sybil, Mrs.	Renter	Stenographer, Taxpayers Association of NM
416 Don Gaspar	1932-1933	Harrison, C. O.	Renter	Dentist, 16-17 Laughlin Bldg.
416 Don Gaspar	1934-1937	Pincetl, Bertha, Mrs.	Renter	Widow of M. F.
416 Don Gaspar	1938-1939	Julian, T. E.	Renter	Tax investigator, State Tax Commission
416 Don Gaspar	1940-1941	Wheeler, L. E.	Renter	Designer, State Highway Department
416 Don Gaspar	1942-1943	Beene, M. C.	Renter	Director, NM Veterans Service Commission
416 Don Gaspar	1944-1957	Rutherford, William E.	Owner	Freight agent, Atchinson, Topeka & Santa Fe Railyway
416 Don Gaspar	1958	Shephard, John B.	Renter	Teacher, Young Jr. High School
416 Don Gaspar	1959	Montgomery, Elizabeth	Renter	Unknown
416 Don Gaspar	1960+	Rourke, Frank	Renter	Plumber
420 Don Gaspar	ca. 1928-1929	Carruth, J. A.	Renter	Printer, Museum of NM
420 Don Gaspar	1930-1931	Carruth, C. H., Mrs.	Renter	Widow of J. A.
420 Don Gaspar	1932-1933	Carter, W. C.	Renter	Meat cutter, Kaune Grocery Co.
420 Don Gaspar	1934-1939	Yoder, H. B.	Renter	Clerk, State Highway Department
420 Don Gaspar	1940-1943	Stinson, Anne, Mrs.	Renter	Dressmaker

Table 2. *Hudspeth Directories* entries for occupants within the project area

Address	Dates	Occupant	Status	Profession
420 Don Gaspar	1944-1946	Seibert, J. A.	Renter	Structural detailer, NM State Highway Dept.
420 Don Gaspar	1947-1948	Gray, G. J.	Renter	Assistant staff manager? US Forest Service
420 Don Gaspar	1949-1950	Rutherford, Robert E.	Renter	Wholesale manager? Chas. Ilfeld
420 Don Gaspar	1951-1954	Newman, Rubel R.	Renter	Widow of Walter
420 Don Gaspar	1955-1957	Newman, Rubel R., Mrs.	Renter	Stenographer, State Dept. of Game and Fish
420 Don Gaspar	1958-1960+	Rutherford, William E.	Owner	Agent, Atchinson, Topeka & Santa Fe Railway
424 Don Gaspar	1947-1948	Irvin, Clint	Renter	Pastor
424 Don Gaspar	1949-1960+	First Baptist Church Study	Renter	Business
424, 428, or 430 Don Gaspar	ca. 1928-1960+	First Baptist Church	Owner	Church
437-439 Galisteo	ca. 1928-1943	Alarid, Amadeo	Owner	Janitor, Capitol Building
437-439 Galisteo	1944-1954	Alarid, Reyes P., Mrs.	Owner	Widow of Amadeo
437-439 Galisteo	1955-1956	Vacant	NA	NA
437-439 Galisteo	1957-1958	Savala, Pete	Renter	Sheet metal worker
437-439 Galisteo	1958-1959	White Cottage Coffee Room	Renter	Business
437-439 Galisteo	1960+	Santa Fe Scene Publishers	Renter	Business
437-439 Galisteo	1960+	Pinon Publishing Co.	Renter	Business
443 Galisteo	1928-1932	Alarid, Richard, Jr.	Owner	Owner, Dick's Barber Shop
443 Galisteo	1932-1943	McKenzie, Donald	Renter	Unknown
443 Galisteo	1944-1946	Lane, A. W.	Renter	Salesman, MacFeldhake Footwear
443 Galisteo	1947	Summa, Anthony	Renter	Laborer
443 Galisteo	1947-1948	Smith, J. H.	Renter	Unknown
443 Galisteo	1949-1950	Mathey, Reba	Renter	Telephone Operator
443 Galisteo	1951-1954	Apartments 1-3	Renter	NA
443 Galisteo	1955-1956	Houkgreen, J. W.	Renter	Unknown
443 Galisteo	1957-1960+	Byers, Joe R.	Renter	Unknown
443 Galisteo	1958-1960+	Smith, Robert B.	Renter	Unknown, DeVargas Hotel
443 Galisteo	1959	Bustos, Bennie J.	Renter	Unknown
443 Galisteo	1960+	Brown, Geo R.	Renter	Bellman, DeVargas Hotel
449 Galisteo	ca. 1928-1929	Romero, Adolph	Owner	Clerk, Zook's Pharmacy
449 Galisteo	1930-1931	Romero, Romancita, Mrs.	Owner	Widow of Adolph
449 Galisteo	1932-1933	Baca, Nellie Mrs.	Renter	Unknown
449 Galisteo	1934-1935	Vacant	NA	NA
449 Galisteo	1936-1937	Romero, Ramon	Owner	Unknown
449 Galisteo	1938-1959	Romero, Ramon, Jr.	Owner	Driver, Broome Furniture
449 Galisteo	1949-1960+	Ray's Floor Covering Service	Renter	Business
449 Galisteo	1955-1958	Alarid, Richard	Renter	Unknown
449 Galisteo	1958-1960+	Apartments 1-4	Renter	NA
449 Galisteo (rear)	ca. 1928-1935	Romero, Ramon	Owner	Laborer

Table 2. *Hudspeth Directories* entries for occupants within the project area

Address	Dates	Occupant	Status	Profession
450 Galisteo (rear)	1936-1937	Romero, Ramon, Jr.	Owner	Unknown
451 Galisteo (rear)	1938-1943	Romero, Ramon	Owner	Laborer
452 Galisteo (rear)	1944	Vacant	NA	NA
451 Galisteo	1938-1943	Alarid, Richard, Jr.	Owner	Owner, Dick's Barber Shop
451 Galisteo	1944-1948	Summa, Anthony	Renter	US Army
451 Galisteo	1949-1950	Richards, Vada, Mrs.	Renter	Housekeeper
451 Galisteo	1951-1956	Vacant	NA	NA
451 Galisteo	1957-1958	Dick's Barber Shop	Renter	Business
451 Galisteo	1958-1960+	Ethel's Beauty Shop	Renter	Business
451 Galisteo (rear)	1951	Anderson, Myrtle	Renter	Waiter, New Canton Café
111 Manhattan	ca. 1928-1935	Muller, Fred	Owner	Real estate and insurance agent
111 Manhattan	1936-1954	Muller, Adella, Mrs.	Owner	Widow of Fred
111 Manhattan	1955-1956	Vacant	NA	NA
111 Manhattan	1957-1958	Collier, Adella	Owner	Unknown
111 Manhattan	1958	Vacant	NA	NA
111 Manhattan	1959	Harwell, Callie L,	Renter	Unknown
111 Manhattan	1960+	Evans, M. L.	Renter	Owner, Evans Weatherproof Drumheads
111 Manhattan (rear)	1947-1948	King, Charles	Renter	Unknown
112 Manhattan (rear)	1947-1948	Orcutt, F.	Renter	Unknown
113 Manhattan (rear)	1949-1950	Kitzs, Steve	Renter	Unknown
111-1/2 Manhattan	1951-1952	Pepperis, Louis	Renter	Owner, Louis' Flower Shop
111-1/2 Manhattan	1953-1956	Aragon, Andrew	Renter	Unknown
111-1/2 Manhattan	1957	Vacant	NA	NA
111-1/2 Manhattan	1958	Harper, Clyde D.	Renter	Salesman, Family Record Plan
111-1/2 Manhattan	1959-1960+	Bradley, Walter L.	Renter	Unknown
125 Manhattan	ca. 1928-1933	Parker, F. W.	Owner	Clerk, State Land Office
125 Manhattan	1934-1937	Vacant	NA	NA
125 Manhattan	1938-1939	Bell, W. P., Rev.	Renter	Minister, First Baptist Church
125 Manhattan	1940-1946	Vacant	NA	NA
125 Manhattan	1947-1960+	Apartments 1-6	Renter	NA
129 Manhattan	1936-1937	Goodwin, Edna, Mrs.	Renter	Clerk, US Treasury Department
129 Manhattan	1938	Vacant	NA	NA
135 Manhattan	ca. 1928-1929	Thomas, B. R.	Renter	Attorney at 241 Washington Ave.
135 Manhattan	ca. 1928-1929	Carter, A. H.	Renter	Editor, NM State Records
135 Manhattan	1928-1929	Mumford, W. L.	Renter	Unknown
135 Manhattan	1930-1931	Williams, D. L.	Renter	Superintendent, Capitol Building
135 Manhattan	1932-1937	Alarid, Richard, Jr.	Owner	Owner, Dick's Barber Shop
135 Manhattan	1938-1939	Martinez, G. D.	Renter	Unknown

Table 2. *Hudspeth Directories* entries for occupants within the project area

Address	Dates	Occupant	Status	Profession
135 Manhattan	1940-1941	Velarde, Marie	Renter	Clerk, State Bureau of Revenue
135 Manhattan	1942-1943	Reid, Githon	Renter	Unknown
135 Manhattan	1944-1948	Ortiz, Zoilo	Renter	US Army
135 Manhattan	1949-1950	Ortiz, Juan (John) D.	Owner	Clerk
135 Manhattan	1951-1956	Vacant	NA	NA
135 Manhattan	1957-1959	Bello, Joe S.	Renter	Unknown
135 Manhattan	1960+	Sena, Secundino	Renter	Unknown
135 Manhattan (rear)	1938	Francis, Gene, Mrs.	Renter	Stenographer, Liquor Control Division, Bureau of Revenue
135-1/2 Manhattan	1936-1937	Gilcrease, M. A.	Renter	Clerk
135-1/2 Manhattan	1938-1939	Alarid, Richard, Jr.	Owner	Owner, Dick's Barber Shop
135-1/2 Manhattan	1940-1941	Duran, Fidel	Renter	Unknown
135-1/2 Manhattan	1942-1943	Padilla, Eleuterio	Renter	Assistant State Comptroller
135-1/2 Manhattan	1944-1948	Ethelbak, Mary, Mrs.	Renter	Unknown
135-1/2 Manhattan	1949-1950	O'Connor, Leo G.	Renter	Plant operator, Slade's Dairy
135-1/2 Manhattan	1951-1958	Andregg, Jos. A.	Renter	Apprentice electrician
135-1/2 Manhattan	1958	Vacant	NA	NA
135-1/2 Manhattan	1959	Alarid, Richard	Renter	Unknown
135-1/2 Manhattan	1960+	Ortiz, John	Owner	Foreman, Creamland Dairies
137 Manhattan	1940-1941	Hickmott, A. E.	Renter	Clerk, White Swan Grocery
137 Manhattan	1942-1943	Collamer, Bessie, Mrs.	Renter	Waitress, DeVargas Coffee Shop
137 Manhattan	1944-1946	Smith, George	Renter	US Army
137 Manhattan	1947-1948	Lambert, J. L.	Renter	Rate clerk, Atchinson, Topeka & Santa Fe Railway
137 Manhattan	1949-1950	Vacant	NA	NA
137 Manhattan	1951-1954	Kidd, Margaret E., Mrs.	Renter	Unknown
137 Manhattan	1955-1956	Rodriguez, Gilbert	Renter	Delivery man, NM Selling Co.
137 Manhattan	1957	Perea, Teresita, Mrs.	Renter	Unknown
137 Manhattan	1958	Vacant	NA	NA
137 Manhattan	1958-1960+	Perea, Maida	Renter	Telephone company operator
139 Manhattan	1940-1948	Anderson, Myrtle, Mrs.	Renter	Waitress , New Canton Café
139 Manhattan	1949-1950	Kidd, Margaret E., Mrs.	Renter	Seamstress, Santa Fe Maid Shop
139 Manhattan	1951-1952	Vacant	NA	NA
139 Manhattan	1953-1954	Bursik, Elmer J.	Renter	Unknown
139 Manhattan	1955-1958	Lucero, Willy R.	Renter	Piano player, Eddy's Night Club
139 Manhattan	1957-1958	Padilla, Gabriletta, Mrs.	Renter	Unknown
139 Manhattan	1958-1959	Lopez, Ruby	Renter	Clerk typist, State Driver's License
139 Manhattan	1959	Romero, Manuel	Renter	Unknown
139 Manhattan	1960+	Vacant	NA	NA
141 Manhattan	1930-1931	Hensley, H. P.	Renter	Clerk, State Land Office

Table 2. *Hudspeth Directories* entries for occupants within the project area

Address	Dates	Occupant	Status	Profession
141 Manhattan	1932-1939	Velarde, A. M., Mrs.	Renter	Chief clerk, State Auditor's Office
141 Manhattan	1940-1947	Alarid, Richard, Jr.	Owner	Owner, Dick's Barber Shop
141 Manhattan	1947-1957	Pete's Super Market	Renter	Business
141 Manhattan	1958	Vacant	NA	NA

Field Methods

The area that was to be investigated by archaeological testing was bounded by Galisteo Street, South Capitol Street, Don Gaspar Avenue, and Manhattan Avenue in the South Capitol area of Santa Fe. As calculated from aerial imagery, the testing project area, minus the area housing standing buildings, covered nearly 3.1 acres. All area under investigation was covered with asphalt, so no surface reconnaissance of the project area was conducted (see Fig. 3). Instead, the Historic Preservation Division approved backhoe excavation and monitoring of a 2-percent sample of the area, resulting in the placement of 260 m of backhoe trenches. Seventeen backhoe trenches were excavated, each 15.3 m long, 1 m wide, and 1.4 m deep (see Fig. 2).

Before excavation of the trenches, utility companies were notified to locate active lines and pipes. This resulted in a complicated web of marked subsurface utilities across the project area. Backhoe trenches were placed where the archaeologists thought subsurface deposits were mostly likely to occur based on the archival records search, and in areas free of utility line disturbance. An effort was made to cover the project area, but this endeavor was often hampered by the maze of utility trenches, and in several cases, unmarked lines were encountered during trenching.

Once the placement of backhoe trenches had been determined, an outline of the trench was marked on the asphalt and the outline of the trench was cut with an asphalt cutter. A time was then scheduled to restrict parking at the specified location. The backhoe excavated the trench, which was then profiled and photographed. Then the trench was backfilled.

Sterile sediments, primarily composed of river cobbles, were consistently encountered across the site at or above 1.4 m, making hand auguring impractical and unnecessary. Findings were recorded only in the excavated backhoe trenches. No hand excavation was performed.

Results

The investigation of 17 backhoe trenches resulted in the discovery of 11 site strata, 29 archaeological features, 91 artifacts, and 12 historic utilities (see Fig. 2). These archaeological manifestations have been recorded as LA 158037.

Stratigraphy

Eleven strata were defined during the profiling of 17 backhoe trenches. A relatively consistent stratigraphic profile is exhibited across these trenches; strata varied primarily in depth below present ground surface and thickness (Figs. 17-23). In general, the upper 30 to 40 cm were associated with mechanical leveling, base course, and asphalt accumulation. Archaeological phenomena were observed only below that depth.

Stratigraphy is presented in order of deposition, beginning with the most recent, not in order of assignment. Certain strata were only encountered in specific trenches and were assigned later numbers.

Stratum 1

Stratum 1 is the asphalt parking lot cap, which currently covers the area under investigation. The asphalt averages 8 cm thick.

Stratum 9

Stratum 9 is earlier asphalt immediately under Stratum 1. Stratum 9 occurs sporadically across the area, only appearing in Backhoe Trenches 3, 5, 11, and 17 (Figs. 19 and 21). On average, the stratum is 5 cm thick and extends 15 cm below the present ground surface.

Stratum 2

Stratum 2 is a 10YR 4/4 dark yellowish brown base course of sand and gravel. The stratum is 12 cm thick and extends to a depth of 20-25 cm below the present ground surface.

Strata 3, 8, and 10

Strata 3, 8, and 10 represent a rapid mechanical leveling of the area just prior to placement of the asphalt. All exhibit a similar color and composition of a 10YR 4/2 dark grayish brown silty sand. The strata occur 20-50 cm below the present ground surface. However, each could be distinguished through field investigation. Stratum 3 had significantly less gravel than Stratum 8, and Stratum 10 possessed higher quantities of brick fragments and other construction debris.

It is likely given this variability, Stratum 10 denotes the demolition of structural elements during the later half of the twentieth century. Then Stratum 8 was placed on top to cover up these components, hide jagged edges, and prepare the area. Stratum 3 was created when the top of Stratum 8 was rolled smooth to form a level ground upon which a parking lot could be constructed. Because the formation of these strata associated with demolition is so ephemeral (the demolition of 20 individual buildings accounts for on average 30 cm of cultural fill), it appears likely that the majority of debris associated with the demolition during the twentieth century was hauled off site.

Stratum 18

Stratum 18 was only encountered in Backhoe Trench 14 (Fig. 22). This stratum appears of particular importance because of its placement above Strata 4 and 5, representing agricultural fields, and below Strata 3, 8, and 10, representing twentieth-century demolition. It is characterized as a 7.5YR 4/8 red coarse sand and clay mix indicative of adobe melt and may represent in situ deterioration of architectural elements over time. This is reinforced by the presence of window glass within the strata, and it is possible that deterioration is associated with the structure at 451 Galisteo (Dick's Barbershop) or the superstructure of Feature 27 (the Romero privy).

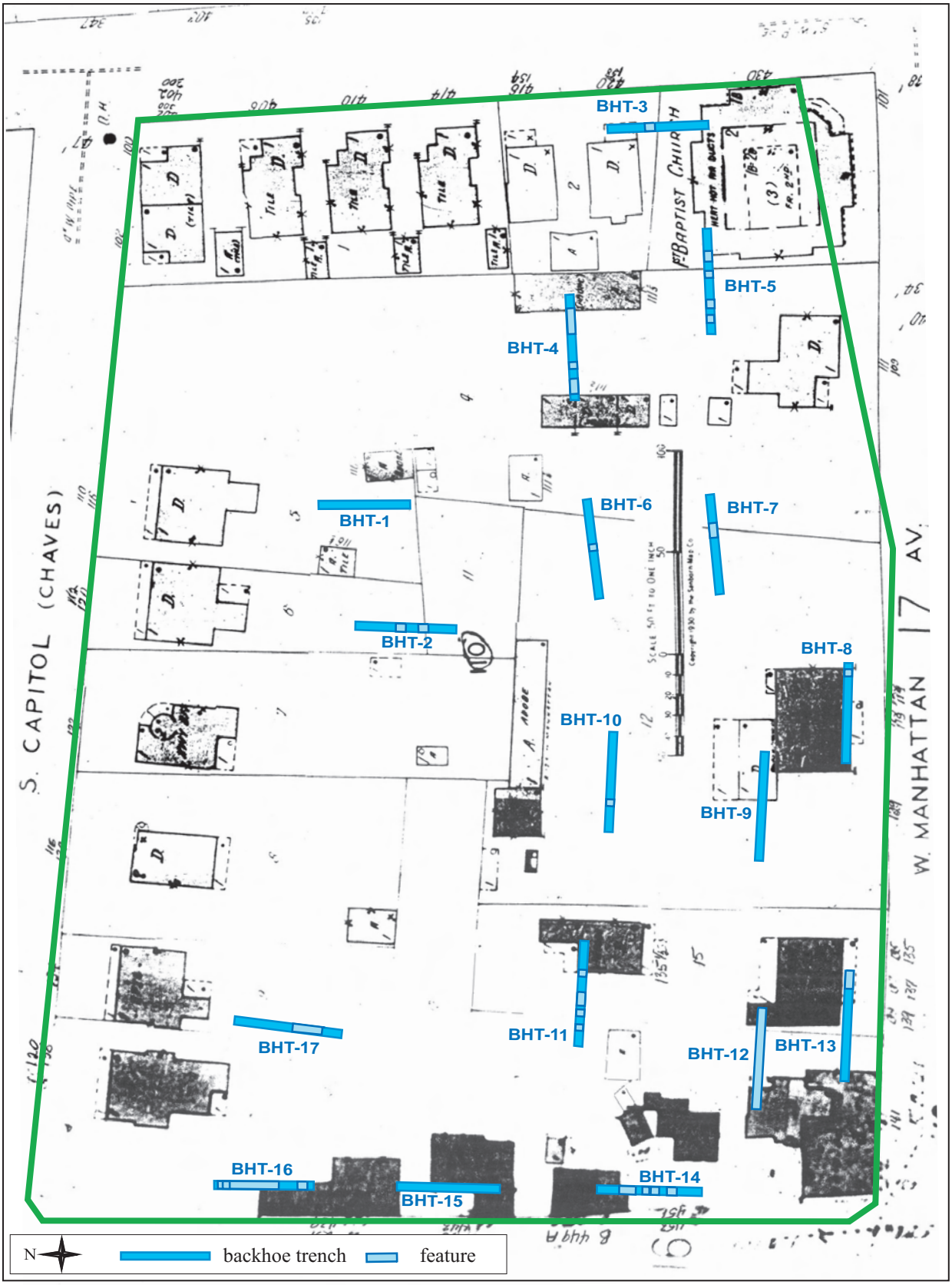

Figure 17. Detail of Sanborn map of 1942 with backhoe trenches.

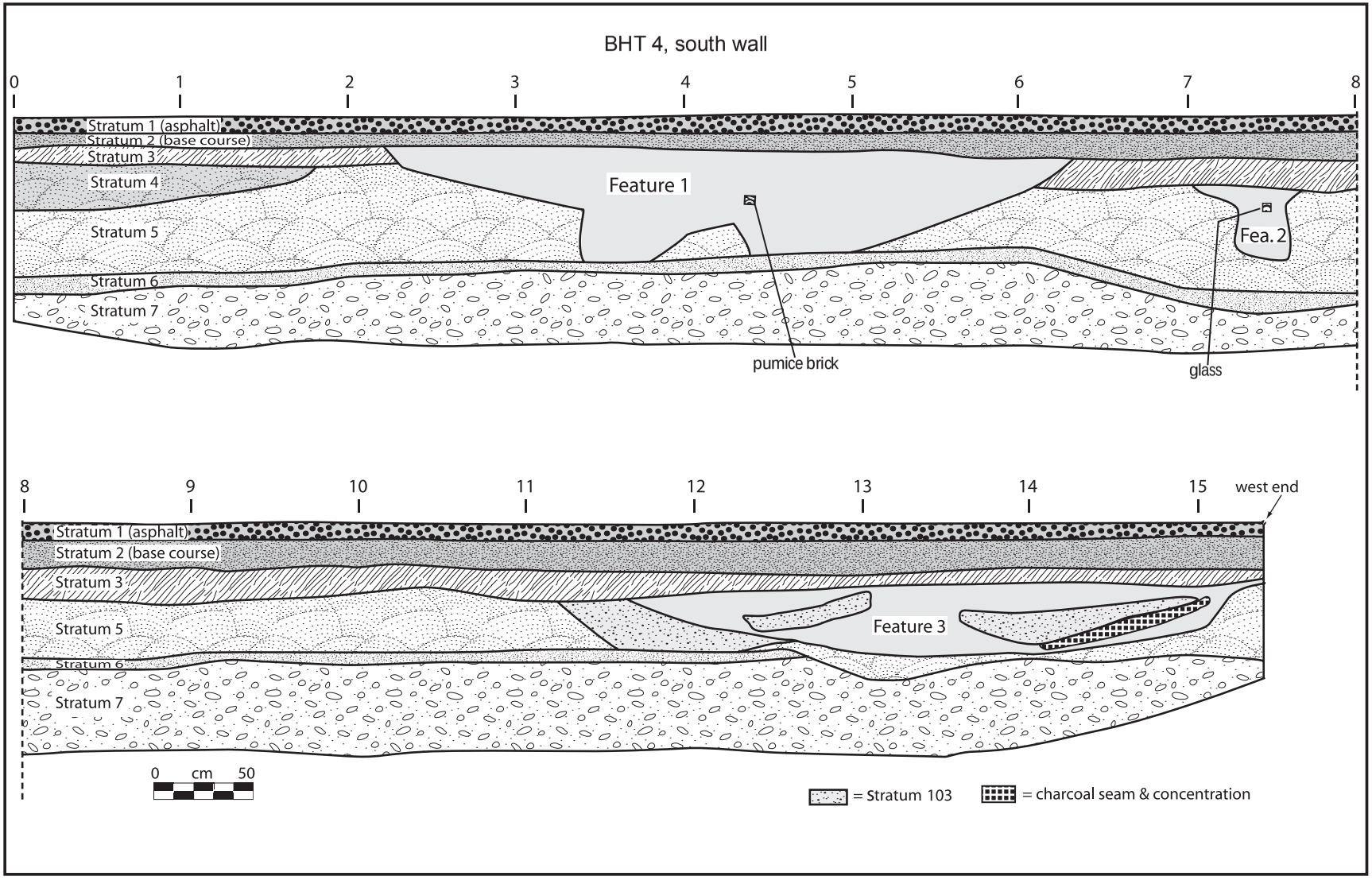

Figure 18. Profile of Backhoe Trench 4, Features 1, 2, and 3.

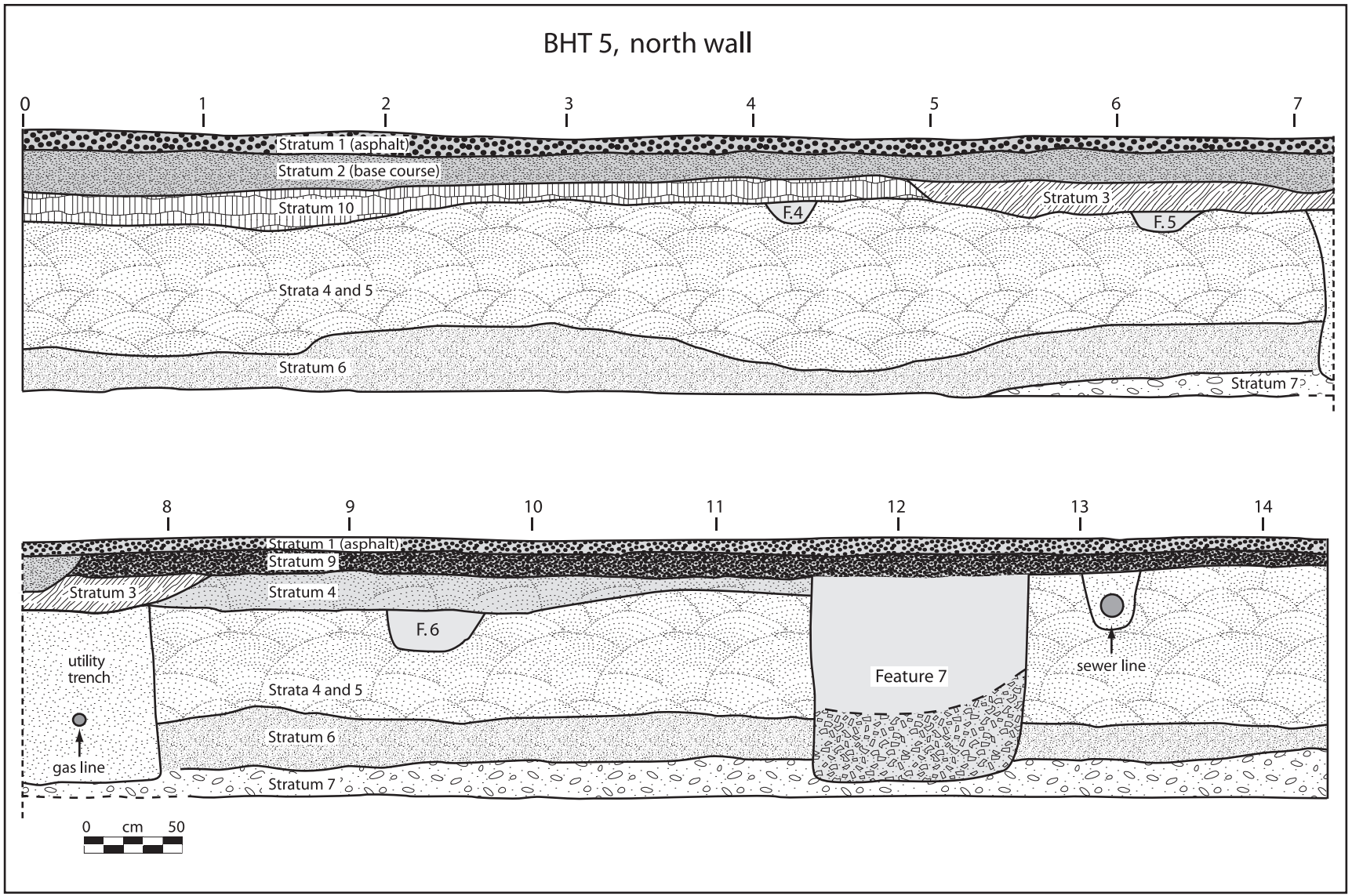

Figure 19. Profile of Backhoe Trench 5, Feature 4, 5, 6, and 7.

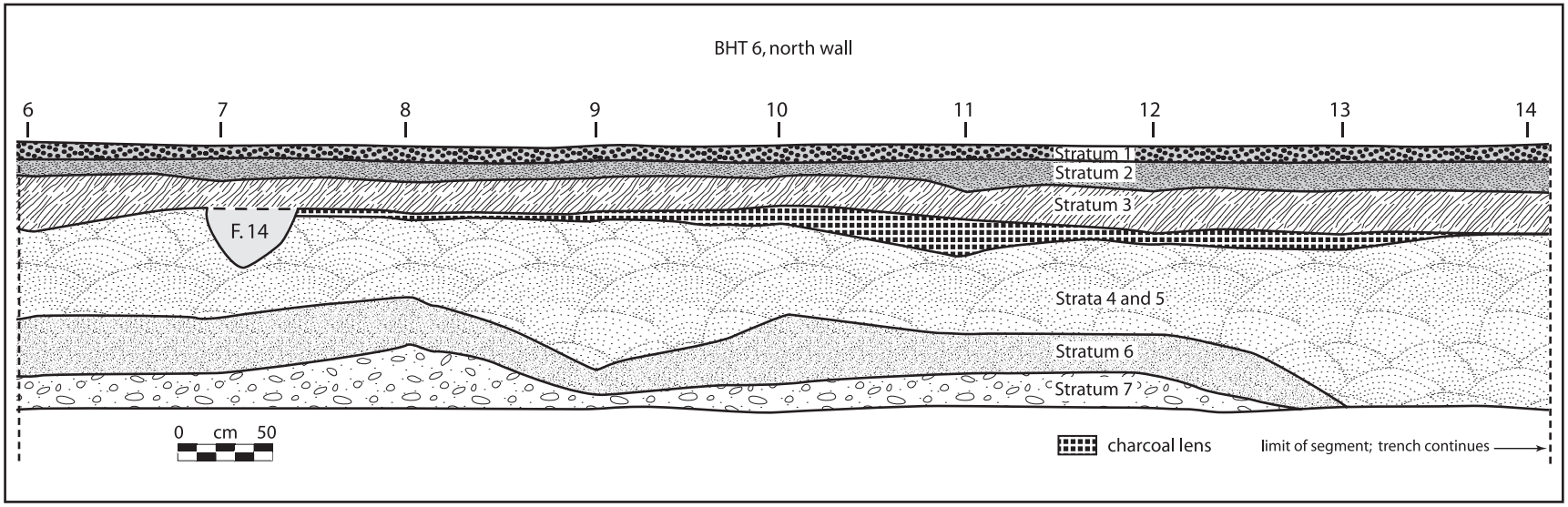

Figure 20. Profile of Backhoe Trench 6, Feature 14.

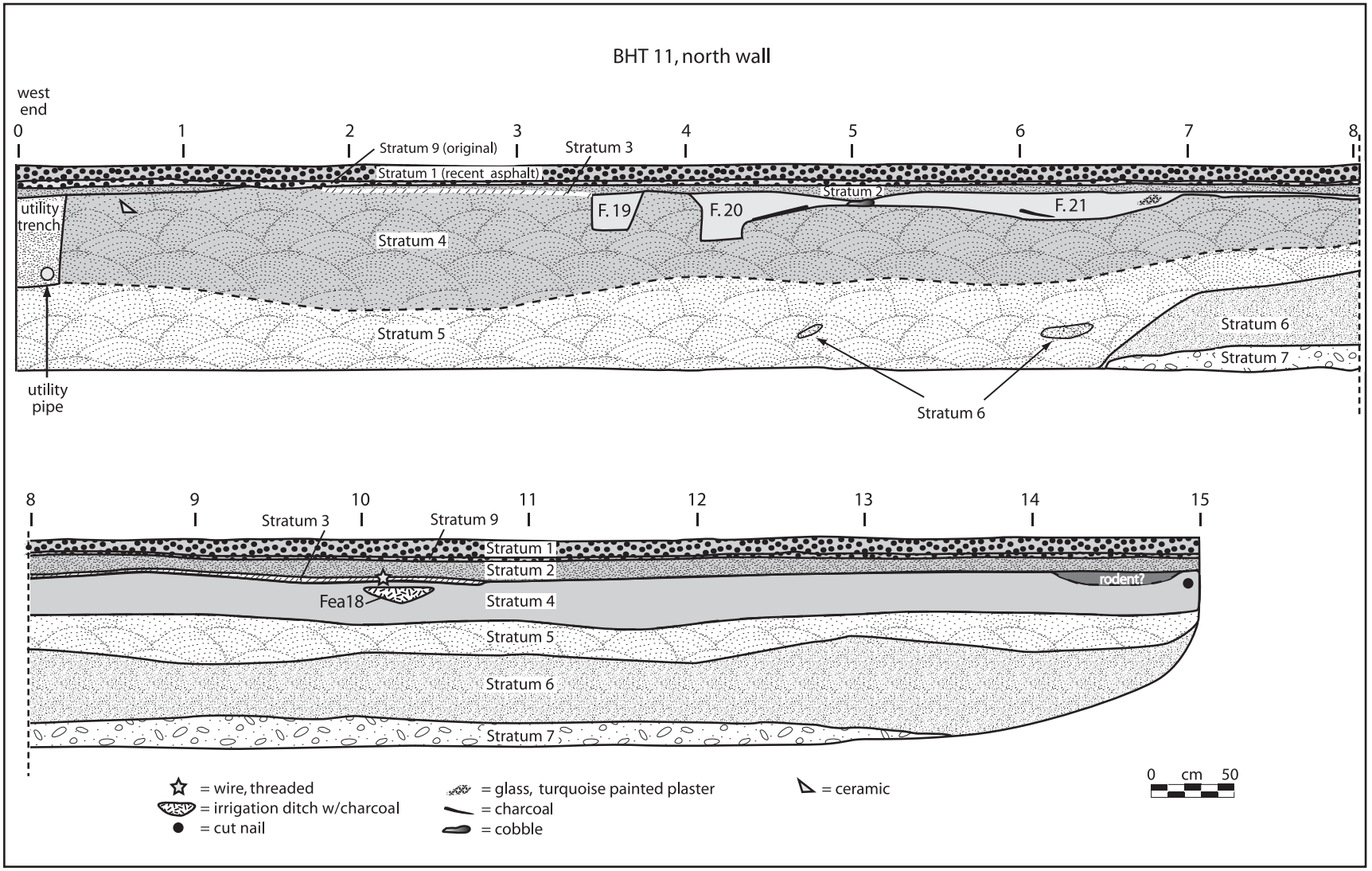

Figure 21. Profile of Backhoe Trench 11, Features 18, 19, 20, and 21.

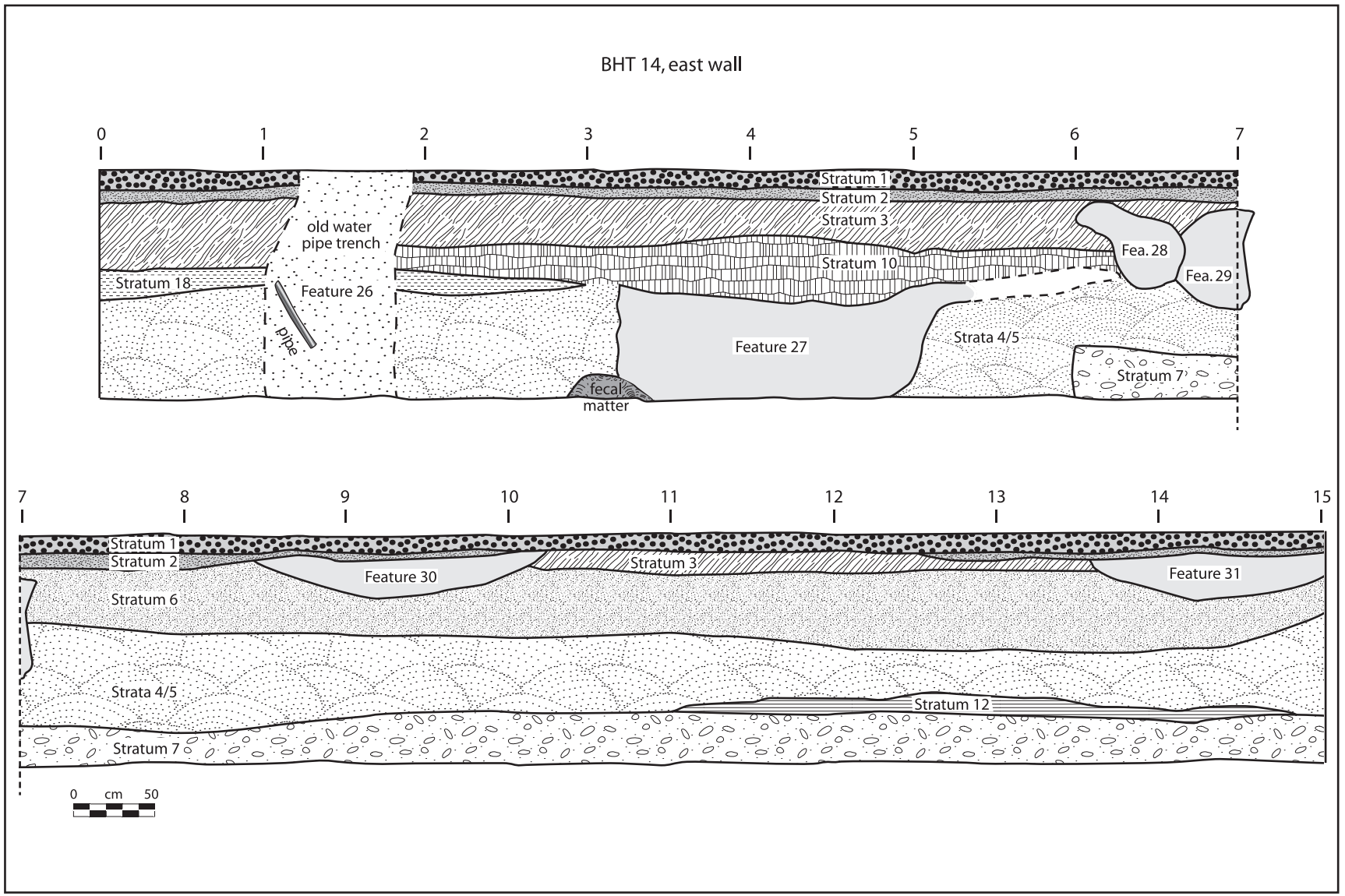

Figure 22. Profile of Backhoe Trench 14, Feature 27, 28, 29, 30, and 31.

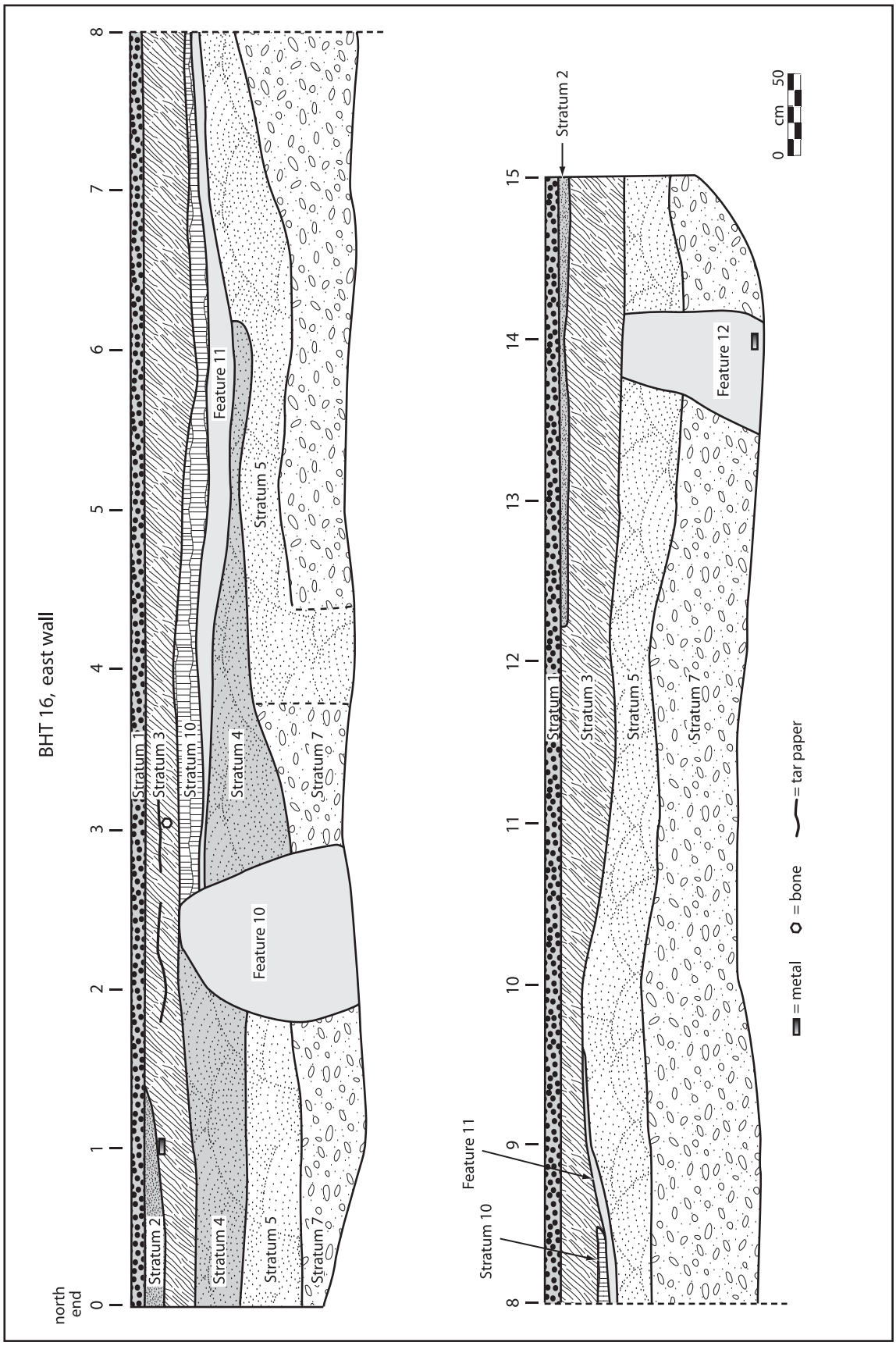

Figure 23. Profile of Backhoe Trench 16, Feature 10, 11, and 12.

Strata 4 and 5

Strata 4 and 5 represent the same natural stratum of a 10YR 6/3 pale brown eolian and alluvial mix of silty clay and was most frequently encountered between 35 and 95 cm below the present ground surface. The stratum, in its natural state, was called Stratum 5. However, in many instances, the upper 20 cm of the stratum exhibits signs of human alteration, with 1-2 percent charcoal inclusions and a less compact nature, similar to what would be expected in a plow zone. This modified Stratum 5 was designated Stratum 4. It appears likely that Stratum 4 is indicative of agricultural use of LA 158037 during the seventeenth, eighteenth, and nineteenth centuries as documented in historic maps. Domesticated fauna, Euroamerican-made white ware ceramics, and historic Tewa red wares were collected in association, as was a single prehistoric organic white ware sherd from the Northern Rio Grande. The majority of features were documented in this human-modified soil.

Stratum 6

Stratum is a 10YR 2/3 very pale brown silty soil infused with caliche. It is 95-120 cm below the present ground surface (25 cm average thickness). The stratum appears alluvial in origin and may be associated with low-energy deposition along the Santa Fe River terrace. No cultural materials were found in association with the stratum.

Stratum 7

Stratum 7 is a culturally sterile 10YR 4/3 brown coarse alluvial sand matrix containing abundant gravel and cobbles ranging from 5 by 5 cm up to 30 by 30 cm. Found throughout the downtown Santa Fe area, Stratum 7 likely represents an ancient high-energy streambed of the Santa Fe River. At LA 158037, the layer was encountered consistently at depths 1 to 1.2 m below the present ground surface. The thickness of the stratum is not known because it goes below depths reached through archaeological investigation (1.4+ m). Given the nature of the stratum, it is highly unlikely that cultural deposits will be discovered at depths below its occurrence.

Backhoe Trenches

Seventeen backhoe trenches were excavated. Each trench was 15.3 m long, 1 m wide and 1.4 m deep. These trenches were placed based on archival information and the archaeologists' judgment to characterize the full area of the proposed development (Fig. 2). Table 3 summarizes the findings associated with each trench. Figure 17 shows trench placement in relation to the residential neighborhood that occupied the area in the early twentieth century.

Backhoe Trench 1

Backhoe Trench 1 was placed along a north-south trajectory in the northeastern corner of the project area (Fig. 2, Table 3). This location placed the archaeological investigations in the backyard of 116 South Capitol, the Beacham House (Fig. 17). The Beacham House was erected sometime before 1928, and it appeared likely that the trench would encounter domestic refuse pits, cesspits, or privies associated with the structure, but no archaeological features or historic utilities were discovered. Subsurface strata encountered were typical of depositional phenomena described in the proceeding section. A modern unmarked Comcast Cable trunk line was severed at the 2.5 m marker as a result of the investigation.

Backhoe Trench 2

Placed along a north-south trajectory in the north central portion of the project area (Fig. 2, Table 3), Backhoe Trench 2 was within the backyards of 120 South Capitol, which housed Butler & Foley Plumbers during the 1930s and 1940s, and an unoccupied lot (Fig. 17). Testing turned up two features. Feature 23 was a posthole likely associated with the property boundary between the backyard and the lot. Feature 24 was a small coal- and clinker-infused domestic refuse pit within the unoccupied lot. The thickness of subsurface strata was typical of the general area, but between the 2 and 8 m markers, Stratum 5 was nearly 1 m thick. The reason for this dip in stratigraphy is unclear. The plow zone associated with fields in the eighteenth and nineteenth centuries covers the area, ruling out the depression's use as an acequia during those periods, and there

Table 3. Backhoe trenches

Backhoe Trench	Length (m)	Orientation	Strata	Cultural Resources
1	15.3	North-south	1, 2, 3, 4, 5, and 7	No cultural resources
2	15.3	North-south	1, 2, 4, 5, and 7	Features 23 and 24
3	15.3	North-south	1, 2, 3, 4, 5, 7, 8, 9, and 10	Feature 9
4	15.3	East-west	1, 2, 3, 4, 5, 6, and 7	Features 1, 2, and 3
5	15.3	East-west	1, 2, 3, 4, 5, 6, 7, 9 and 10	Features 4, 5, 6, and 7
6	15.3	East-west	1, 2, 3, 4, 5, 6, and 7	Feature 14
7	15.3	East-west	1, 2, 3, 4, 5, 6, and 7	Feature 22
8	15.3	East-west	1, 2, 3, and 7	Feature 13
9	15.3	East-west	1, 2, 3, 4, 5, and 7	No cultural resources
10	15.3	East-west	1, 3, 4, 5, 6, and 7	Feature 17
11	15.3	East-west	1, 2, 3, 4, 5, 6, 7, and 9	Features 18, 19, 20, and 21
12	15.3	East-west	1, 2, 3, 4, 5, 6, and 7	Feature 11
13	15.3	East-west	1, 2, 3, 4, 5, and 7	Feature 16
14	15.3	North-south	1, 2, 3, 4, 5, 7, 10, and 18	Features 27, 28, 29, 30, and 31
15	15.3	North-south	1, 2, 3, 4, 5, and 7	No cultural resources
16	15.3	North-south	1, 2, 3, 4, 5, and 7	Features 10, 11, and 12
17	15.3	North-south	1, 2, 3, 4, 5, and 7	Feature 15

is no evidence of human manipulation. This dip in natural stratigraphy may represent a noncultural channel or depression thousands of years old. No historic or modern utilities were discovered in Backhoe Trench 2.

Backhoe Trench 3

Backhoe Trench 3 was placed along a north-south trajectory within the southeast corner of project area (Fig. 2, Table 3). It was assumed this trench would encounter foundations or deposits associated with both the Carruth residence at 420 Don Gaspar and the First Baptist Church at 424 Don Gaspar (Fig. 17). We found only a posthole, Feature 9, which likely formed a property fence between the two structures. Stratigraphy was typical of the surrounding area, and no historic or modern utilities were discovered.

Backhoe Trench 4

Trench 4 was laid out along an east-west trajectory within the east-central portion of the project area (Fig. 2, Table 3), placing it between 416 Don Gaspar and 111 Rear West Manhattan. The former had different residents during the 1920s, 1930s, and 1940s, while the latter was owned and occupied by the Muller household from the 1920s to the 1950s (Fig. 17). Three features were found within the trench (Fig. 18). Feature 1 is a pit filled with modern construction debris; its relation to the structure at 416 Don Gaspar or the building in the rear of 111 West Manhattan is unclear. Features 2 and 3 appear to be domestic refuse pits, both of which were presumably excavated into the backyard by the residents of 416 Don Gaspar during the early twentieth century. Subsurface stratigraphy was defined for LA 158037 from profiling Backhoe Trench 4, which characteristics typical of the subsurface strata. No utilities, historic or otherwise, were discovered.

Backhoe Trench 5

Backhoe Trench 5 was excavated along an east-west trajectory within the east-central portion of the project area (Fig. 2, Table 3). The trench was placed between the First Baptist Church and the Muller House, at 111 West Manhattan (Fig. 17). Four features were identified (Fig. 19). Feature 4, a posthole, likely represents the boundary marker between the two properties. All remaining features are east of Feature 4, suggesting association with the back lot behind the First Baptist Church. Features 5 and 6 are pits of unknown function.

Feature 7 is a self-contained privy vault used by the church during the early decades of the twentieth century. Two historic utilities were also found as a result of the investigations. Both of the utilities ran perpendicular to the trench along a north-south trajectory. The first was a cast iron gas or water line roughly 6 cm in diameter at the 7.5 m marker of the trench; the second was a ceramic sewer line roughly 15 cm in diameter located at the 13.2 m marker. Stratigraphy was typical of subsurface strata.

Backhoe Trench 6

Backhoe Trench 6 was excavated along an east-west trajectory within the central portion of the project area (Fig. 2, Table 3), behind the properties at 111 and 125 West Manhattan-the Muller House and the rental property used by the Reverend W. P. Bell during the early twentieth century (Fig. 17). The only feature found within the trench, an irrigation ditch (Feature 14; Fig. 20), likely predates both structures and is presumably associated with the use of LA 158037 as agricultural fields during the eighteenth and nineteenth centuries. In close proximity to the feature was a slightly burned surface between the 6.8 and 13.6 m markers within the trench. This surface ran along the boundaries between Stratum 3 and Stratum 4. The origin of the burned surface is unclear. The burning is confined to a relatively small area and may represent something burned there during the later half of the nineteenth century. The burning may be associated with clearing the field by slash-and-burn methods to build residences; or fire may have devastated a crop, forcing the residents to partition the land for residential purposes; or yard waste may have been burned after residential structures were built. There is no way of knowing without further investigations. No utilities, historic or otherwise, were discovered.

Backhoe Trench 7

Backhoe Trench 7 was placed along an east-west trajectory within the central portion of the project area (Fig. 2, Table 3). It was assumed this trench would encounter foundations associated with the Muller House at 111 West Manhattan (Fig. 17). No foundations were identified. However, Feature 22, a small pit with domestic refuse, was encountered. The association of the pit with the Muller residence is unclear because the pit is visible only below Stratum 4, presumably dating it to the Spanish Colonial period. No utilities were encountered, and the stratigraphy was typical of deposits found throughout the area.

Backhoe Trench 8

On an east-west trajectory within the south-central portion of the project area (Fig. 2, Table 3), Backhoe Trench 8 was placed across the location of 125 West Manhattan, which was owned by the Parker Family in the 1920s and early 1930s and later rented to the Reverend W. P. Bell (Fig. 17). Archaeological investigations yielded one feature (Feature 13), a pit housing the skeletal remains of a cow, likely associated with agricultural use of the area prior to the construction of 125 West Manhattan in the 1910s. One utility was also documented, a cast iron pipe 6 cm in diameter, presumably for water or gas. The pipe ran along a north-south trajectory at the 4.5 m mark of the trench. Subsurface strata were typical of the depositional sequence.

Backhoe Trench 9

Trench 9 was laid out along an east-west trajectory within the central portion of the project area (Fig. 2, Table 3) behind 125 West Manhattan, the Parker residence (Fig. 17). No archaeological features were found within the trench. Nor were any utilities, historic or otherwise, encountered. Subsurface strata reflect the norm for deposits found in the surrounding area.

Backhoe Trench 10

Backhoe Trench 10 was excavated along an east-west trajectory within the central portion of the project area (Fig. 2, Table 3). The trench was placed in front of 129 West Manhattan, a property rented to Edna Goodwin during the latter half of the 1930s, and in front of 125 West Manhattan, which was owned by the Parker Family in the 1920s and early 1930s (Fig. 17). The trench yielded one posthole, Feature 17, which presumably served as property boundary between the two households. Subsurface strata were typical, and

no utilities were encountered.

Backhoe Trench 11

Backhoe Trench 11 was excavated along an east-west trajectory within the west-central portion of the project area (Fig. 2, Table 3). The trench was placed between two structures owned by Richard Alarid Jr. from the 1920s through the 1950s-451 Galisteo and 135½ West Manhattan (Fig. 17). The building at 451 Galisteo functioned as Dick's Barber Shop. Four features were identified within the trench (Fig. 21). Features 18, 19, and 20 represent irrigation ditches associated with the property used as fields during the eighteenth and nineteenth centuries before Richard Alarid Jr. resided on the property. The remaining feature, Feature 21, appears to represent a pit associated with maintenance activities during the twentieth century. West of the 6.5 m marker on the backhoe trench, subsurface stratigraphy abruptly slopes downward. Because no artifacts were encountered within Stratum 5, this dip in natural stratigraphy may represent a noncultural channel or depression thousands of years old. One historic utility was also encountered within the trench at the 0.2 m marker of the backhoe trench. This utility, a cast iron pipe 7 cm in diameter, was laid out along a north-south trajectory and presumably provided water or gas to one of the buildings in the area; however, direct association could not be established.

Backhoe Trench 12

Placed along an east-west trajectory within the west central portion of the project area (Fig. 2, Table 3), Backhoe Trench 12 was between two structures owned by Richard Alarid Jr. from the 1920s through the 1950s-139 and 141 West Manhattan (Fig. 17). The building at 141 West Manhattan became Pete's Supermarket in 1957. Feature 25, a large pit filled with ash and domestic refuse, was encountered along with two historic utilities. One of the utilities was a cast iron pipe 7 cm in diameter at 0.2 m marker, presumably the same pipe identified in Backhoe Trench 11. The other was a ceramic sewer line 15 cm in diameter at the 0.7 m marker. Both pipes ran along a north-south trajectory. Stratigraphy within the trench was typical of subsurface strata at the site.

Backhoe Trench 13

Backhoe Trench 13 was placed along an east-west trajectory within the southwestern portion of the site (Fig. 2, Table 3), inside the front yard of the structure that housed 135, 137, and 139 West Manhattan (Fig. 17). The building was owned by Richard Alarid Jr., but it was rented to numerous individuals. The single feature, Feature 16, a domestic refuse pit, appears to be associated with domestic activities in first half of the twentieth century, based on coal and cinder inclusions. It also appears likely that two cast iron metal pipes found on a north-south trajectory provided gas or water to the structure. These pipes, at 0.3 m and 5.5 m in the backhoe trench, were 4 cm in diameter. For the most part, subsurface strata were typical of those encountered elsewhere within the project limits. The exception was Stratum 3, fill associated with twentieth-century demolition, which was over 40 cm thick in some places.

Backhoe Trench 14

Placed along a north-south trajectory within the southwest portion of the project area (Fig. 2, Table 3), Backhoe Trench 14 was in front of 451 Galisteo, Dick's Barber Shop, and along the south side of the Romero household at 449 Galisteo (Fig. 17). Archaeological investigations yielded five features: Features 28, 29, 30, and 31, domestic refuse pits associated with the two structures; and Feature 27, the Romero privy (Fig. 22). A utility was also discovered at the 1.25 m marker in the backhoe trench. This utility was constructed of cast iron pipe 4 cm in diameter, either water or gas. The utility ran along an east-west trajectory. Subsurface strata were typical of the area, with the notable exception of Stratum 18, a lens of melted adobe, which may represent in situ deterioration of architectural elements.

Backhoe Trench 15

Backhoe Trench 15 was excavated along a north-south trajectory within the west-central portion of the project area (Fig. 2, Table 3). The trench ran between the 443 and 449 Galisteo. The structure

at 443 was owned by Richard Alarid Jr., who owned the majority of properties within the area under investigation, and the structure at 449 was owned by the Romero Family (Fig. 17). No features were encountered within the trench, but three utilities were found. Two of these utilities ran within and in the same direction as the trench, north-south. One of these lines was a cast iron gas pipe 4 cm in diameter, and the other was a ceramic sewer line 15 cm in diameter. Because these utilities ran the length of the trench, the trench profile was not a reliable indication of site stratigraphy in the surrounding area. The modern fill goes deeper where the trench eclipsed the east wall of the backhoe trench and does not represent a concentrated refuse deposit. The other utility was a cast iron pipe 7 cm in diameter which ran east-west at the 1 m marker.

Backhoe Trench 16

Backhoe Trench 16 was placed north-south along the northwestern vicinity of the project area (Fig. 2, Table 3). This positioned the trench to test deposits associated with 439 Galisteo, the initial building constructed by the Alarid family in the 1880s (Fig. 17). Investigations yielded three features. Features 11 and 12 represent domestic refuse pits associated with the structure (Fig. 23). The remaining feature, Feature 10, appears to be the Alarid privy. No utilities were present, and subsurface strata were typical of the surrounding area.

Backhoe Trench 17

Backhoe Trench 17 was laid out along a north-south trajectory within the north-central portion of the project area (Fig. 2, Table 3). This put the trench in the backyard of 134 South Capitol, a residence rented out to numerous occupants during the early twentieth century (Fig. 17). An irrigation ditch, designated Feature 15, was found. It is presumed that this ditch is associated with Colonial and early Territorial fields which covered the area during the eighteenth and nineteenth centuries. No utilities, historic or otherwise, were found within the trench, and the stratigraphic sequence was similar to that of other trenches in the immediate area.

Features

Twenty-nine of the 31 features discovered during the backhoe trenching are described in this section of the report (Table 4): 11 domestic refuse pits, 5 irrigation ditches, 4 postholes, 3 construction-debris pits, 3 self-contained vault privies, 2 pits of unknown function, and 1 interred cow. The remaining two features, Feature 8 and Feature 26, were initially assigned feature numbers during archaeological investigations, but later it became apparent that they are utility lines.

Feature 1

Feature type: Construction-debris pit (Figs. 18 and 24).
Feature age: ca. 1960.
Location: Backhoe Trench 4.
Size: The pit was 2 m east-west, 60 cm deep, and ranged between 25 and 85 cm below the present ground surface.
Construction material and method: The method of building the pit is unknown. It is likely that the pit was hand excavated. No prepared lining or floor was visible.
Depositional context and content: Feature fill was designated Stratum 100. Stratum 100 consisted of a 10YR 4/2 dark grayish brown silty compacted loam containing 10 percent charcoal lensed with a lighter 10YR 6/3 pale brown silt. No artifacts were documented in association with the pit. However, brick fragments were visible.
Interpretation: Because the fill lensed with a lighter silt, similar to Stratum 5, it is likely that the pit was filled in with surrounding soils. The location of the pit within a historical context suggests that feature was associated with either 416 Don Gaspar or 111 West Manhattan (Fig. 17). The exact association of the pit and the reason for its construction are unclear.

Feature 2

Feature type: Domestic refuse pit (Fig. 18).
Feature age: After 1913.
Location: Backhoe Trench 4.
Size: The pit was 60 cm east-west, 50 cm deep, and ranged between 40 and 90 cm below the present ground surface.
Construction material and method: The uneven

Table 4. Features

Feature No.	Type	Location	Size (m)	Age (AD)	Associated Historic Structure
1	Construction debris pit	BHT 4	2 by 0.6	ca. 1960	416 Don Gaspar and 111 West Manhattan
2	Domestic refuse pit	BHT 4	0.6 by 0.5	1913+	416 Don Gaspar
3	Domestic refuse pit	BHT 4	4 by 0.4	Between 1904 and 1920	416 Don Gaspar
4	Posthole	BHT 5	0.2 by 0.15	ca. 1940	424 Don Gaspar and 111 West Manhattan
5	Unknown pit	BHT 5	0.2 by 0.1	ca. 1940	424 Don Gaspar
6	Unknown pit	BHT 5	0.5 by 0.2	ca. 1940	424 Don Gaspar
7	Self contained vault privy	BHT 5	1.2 by 1.15	Between 1904 and 1934	424 Don Gaspar
9	Posthole	BHT 3	0.3 by 0.35	ca. 1940	420 and 424 Don Gaspar
10	Self contained vault privy	BHT 16	1 by 1.1	ca. 1930	439 Galisteo
11	Construction debris pit	BHT 16	7 by 0.16	ca. 1960	439 Galisteo
12	Domestic refuse pit	BHT 16	0.78 by 0.9	ca. 1880	439 Galisteo
13	Interred cow	BHT 8	0.8 by 0.4	ca. 1900	Unknown
14	Irrigation ditch	BHT 6	0.5 by 0.3	ca. 1700 to 1880	Unknown
15	Irrigation ditch	BHT 17	0.9 by 0.75	ca. 1700 to 1880	Unknown
16	Domestic refuse pit	BHT 13	1.5 by 0.16	1904+	135, 137, 139 West Manhattan
17	Posthole	BHT 10	0.4 by 0.45	ca. 1940	125 and 129 West Manhattan
18	Irrigation ditch	BHT 11	0.4 by 0.1	ca. 1700 to 1880	Unknown
19	Irrigation ditch	BHT 11	0.28 by 0.2	ca. 1700 to 1880	Unknown
20	Irrigation ditch	BHT 11	0.3 by 0.25	ca. 1700 to 1880	Unknown
21	Construction debris pit	BHT 11	2 by 0.2	ca. 1930	451 Galisteo or 135 1/2 West Manhattan
22	Domestic refuse pit	BHT 7	0.4 by 0.16	ca. 1700 to 1880	Unknown
23	Posthole	BHT 2	0.25 by 0.5	ca. 1940	120 South Capitol
24	Domestic refuse pit	BHT 2	0.3 by 0.2	ca. 1920	Unknown
25	Domestic refuse pit	BHT 12	15 by 0.5	1904+	135, 137, 139 West Manhattan
27	Self contained vault privy	BHT 14	2 by 0.7+	ca. 1930	449 Galisteo
28	Domestic refuse pit	BHT 14	0.6 by 0.6	ca. 1940	449 or 451 Galisteo
29	Domestic refuse pit	BHT 14	0.4 by 0.6	ca. 1940	449 or 451 Galisteo
30	Domestic refuse pit	BHT 14	1.8 by 0.24	ca. 1940	449 or 451 Galisteo
31	Domestic refuse pit	BHT 14	1.4 by 0.3	ca. 1940	449 or 451 Galisteo

Figure 24. Feature 1, construction-debris pit.

boundaries of the pit suggest that it was hand dug.
Depositional context and content: Pit fill was designated Stratum 101. Stratum 101 was a 10YR 3/2 very dark grayish brown silty sand impregnated with 1 percent charcoal, glass shards, and animal bones. No artifacts were collected from the feature.
Interpretation: The visible quantities of bottle glass fragments, charcoal, and animal bones suggest a domestic refuse pit. Domestic activities had been on going within the immediate vicinity from at least 1913 on. It appears likely given the feature's location that the deposition of the refuse is associated with former occupants of 416 Don Gaspar (Fig. 17).

Feature 3

Feature type: Domestic refuse pit (Figs. 18 and 25).
Feature age: Between 1904 and 1920.
Location: Backhoe Trench 4.
Size: The pit measured 4 m east-west, 40 cm deep, and ranged between 35 and 75 cm below the present ground surface.
Construction material and method: No evidence was found of how the pit was built, nor was any lining or floor visible.
Depositional context and content: Fill within the domestic refuse pit was characterized by two separate strata. Stratum 102 represented the majority of the feature fill. Stratum 102 was a 10YR 2/2 very dark brown semiconsolidated silty sand with 1-3 percent charcoal and gravel inclusions. Lensed within Stratum 102 was Stratum 103. Stratum 103 is a 10YR 4/3 brown silty clay loam with 1 percent charcoal inclusions. Twelve artifacts were retrieved from the pit fill, including purple bottle glass shards, cow bones, and an ironstone cup.
Interpretation: The artifact assemblage as a whole appears to represent domestic refuse. Cross tabulation of artifact manufacture dates places deposition between 1904 and 1920. The products appear to be associated with the former occupants of 416 Don Gaspar (Fig. 17).

Figure 25. Feature 3, domestic refuse pit.

Feature 4

Feature type: Posthole (Fig. 19).
Feature age: Ca. 1940.
Location: Backhoe Trench 5.
Size: The posthole was 20 cm east-west, 15 cm deep, and ranged between 40 and 55 cm below the present ground surface.
Construction material and method: Presumably, the posthole was excavated by hand.
Depositional context and content: Fill within the posthole was assigned to Stratum 104. Stratum 104 is a 10YR 3/4 dark yellowish brown silty loam with 7 percent charcoal. No artifacts were collected in association with Feature 4.
Interpretation: Given the location of Feature 4 between the historic properties of 424 Don Gaspar (the First Baptist Church) and 111 West Manhattan, it appears likely that the posthole represents a fenceline marking a property boundary between the two lots (Fig. 17).

Feature 5

Feature type: Unknown pit (Fig. 19).
Feature age: Ca. 1940.
Location: Backhoe Trench 5.
Size: The pit was 20 cm east-west, 10 cm deep, and ranged between 40 and 50 cm below the present ground surface.
Construction material and method: It appears likely that the post was excavated by hand, but the method of construction could not be identified.
Depositional context and content: The feature fill was designated Stratum 105, a 10YR 2/2 very dark brown soil with 10 percent charcoal. No artifacts were visible in the fill or collected in association with the pit.
Interpretation: The lack of visible artifacts precludes any definitive interpretation of the function of Feature 5. The location of the pit places it behind the 424 Don Gaspar, the First Baptist Church, in the early and mid-twentieth century (Fig. 17).

Feature 6

Feature type: Unknown pit (Fig. 19).
Feature age: Ca. 1940s.
Location: Backhoe Trench 5.

Size: The pit was 50 cm east-west, 20 cm deep, and ranged between 40 and 60 cm below the present ground surface.
Construction material and method: Linear surfaces within the feature suggest the pit was shaped by machine. However, the method of construction could not be confirmed, and no lining or floor was visible along the sides or the base of the pit.
Depositional context and content: Fill within the pit was designated Stratum 106. Stratum 106 is a 10YR 4/6 dark yellowish brown silty clay with 5 percent charcoal. No artifacts were collected in association with the pit.
Interpretation: The lack of visible artifacts precludes any definitive interpretation of the function of Feature 6. The location of the pit places it behind 424 Don Gaspar, the First Baptist Church, in the early and mid-twentieth century (Fig. 17).

Feature 7

Feature type: Self-contained vault privy (Figs. 19 and 26).
Feature age: Between 1904 and 1934.
Location: Backhoe Trench 5.
Size: The self-contained vault privy measured 1.2 m east-west, 1.15 m deep, and ranged between 0.2 and 1.35 m below the present ground surface.
Construction material and method: The privy appears hand dug, with no visible lining along the walls or floor of the vault.
Depositional context and content: Two strata were defined within the feature. Stratum 107 represented post abandonment fill. It was characterized as a 7.5YR 4/4 brown sand which ranged between 20 and 95 cm below the present ground surface. The remaining fill, designated Stratum 108, was human waste associated with use of vault. The waste was a 7.5YR 2.5/3 very dark brown color and ranged from 95 to 135 cm below the present ground surface. Twelve artifacts were collected from it, including two Lucky Strike chewing tobacco tins; a hand-painted porcelain bowl manufactured by C. Tielsch & Co. of Altwasser, Silesia (Kovel and Kovel 1986:23); and a granite ware saucepan.
Interpretation: The artifact assemblage as whole appears to represent domestic refuse. Cross tabulation of artifact manufacture dates the assemblage to between 1904 and 1934. Consumption of the products appears to be connected with domestic functions at the First Baptist Church.

Feature 9

Feature type: Posthole.
Feature age: Ca. 1940.
Location: Backhoe Trench 3.
Size: The posthole was 30 cm north-south, 35 cm deep, and ranged between 35 cm and 70 cm below the present ground surface.
Construction material and method: Presumably, the posthole was excavated by hand.
Depositional context and content: Fill within the posthole was designated Stratum 131, a 10YR 6/3 pale brown silty clay with 1 percent charcoal. No artifacts were collected in association with Feature 9.
Interpretation: Given its early twentieth-century context between 420 and 424 Don Gaspar, the post probably was part of a fenceline separating the two properties.

Feature 10

Feature type: Self-contained vault privy (Figs. 23 and 27).
Feature age: Ca. 1930.
Location: Backhoe Trench 16.
Size: The feature was 1 m north-south, 1.1+ m deep, and ranged between 0.3 and 1.4+ m below the present ground surface.
Construction material and method: The privy appears hand dug, with no visible lining along the walls or floor of the vault.
Depositional context and content: Feature fill was designated Stratum 110. It was characterized as a 10YR 4/3 brown sand which ranged between 0.3 and 1.4 m below the present ground surface. The fill was lensed heavily with human waste associated with use of vault. A single artifact, the femur of domesticated sheep/goat, was collected in direct association with the privy. However, undiagnostic fragments of glass and metal were visible within the profile.
Interpretation: The location of the vault in a historic context places the privy in association with 439 Galisteo, one of the initial buildings constructed by the Alarid family in the 1880s (Fig. 17). While only a single artifact was collected in association with the privy, it appears likely that its use and abandonment is linked to the adop-

Figure 26. Feature 7, self-contained vault privy.

Figure 27. Feature 10, self-contained vault privy.

tion of ceramic sewer line in the early twentieth century. In the case of the project area, this transition appears to have happened as late as the 1930s, judging from Feature 7, the First Baptist Church privy.

Feature 11

Feature type: Construction-debris pit (Figs. 23 and 28).
Feature age: Ca. 1960.
Location: Backhoe Trench 16.
Size: The pit was 7 m north-south and 16 cm deep, and ranged between 50 and 66 cm below the present ground surface.
Construction material and method: The method of construction is unclear because the pit forms a shallow bowl. The edges of the pit are uneven, as if it were hand excavated. However, such a shallow impression suggests machinery.
Depositional context and content: Feature fill was designated Stratum 111. Stratum 111 was a 10YR 4/2 dark grayish brown clayey silt with an abundance of charcoal, cinder, ash, and brick inclusions. No artifacts were collected in association with the feature.
Interpretation: The location of the pit places it in association with 439 Galisteo, one of the first buildings constructed by the Alarid family in the 1880s (Fig. 17). However, the building was continuously occupied until the late 1950s. The brick inclusions in the fill suggest the shallow pit may be associated with demolition of the building in ca. 1960.

Feature 12

Feature type: Domestic refuse pit (Fig. 23).
Feature age: Ca. 1880.
Location: Backhoe Trench 16.
Size: The pit was 78 cm north-south and 90 cm deep, and ranged between 0.5 and 1.4 m below the present ground surface.
Construction material and method: It is presumed that the pit was excavated by hand; however, the edges of the pit are relatively sharp and may have been dug by machine.
Depositional context and content: Feature fill was designated Stratum 112. Stratum 112 is a 10YR 4/2 dark grayish brown silt with 1 percent charcoal flecking and gravel inclusions. No artifacts were collected in association with the pit. However, unrecognizable fragments of metal were visible within the profile.
Interpretation: We believe that the pit dates to ca. 880 and that it functioned as a domestic refuse pit. This conclusion is conjectural and is based on the location of the pit within a historic context, which places the pit in association with 439 Galisteo, one of the first buildings constructed by the Alarid family in the 1880s (Fig. 17). The pit could just as easily be associated with construction/maintenance activities.

Feature 13

Feature type: Interred cow (Fig. 29).
Feature age: Ca. 1900.
Location: Backhoe Trench 8.
Size: The pit containing the cow was 80 cm north-south, 40 cm deep, and ranged between 0.7 and 1.1 m below ground surface.
Construction material and method: The pit was hand excavated. The remains of the cow were deposited at the base of the pit. Surrounding soils were used to cover the carcass.
Depositional context and content: Fill surrounding the cow was designated Stratum 113. Stratum 113 was a 7.5YR 5/4 brown silt with gravel inclusions of roughly 5 cm and 3 percent charcoal. No artifacts were collected in association with the cow.
Interpretation: The cow was probably buried before construction of the structure at 125 West Manhattan in the 1910s (Fig. 17), but it is unclear how long. The cow was probably associated with agricultural use of the area.

Feature 14

Feature type: Irrigation ditch (Figs. 20 and 30).
Feature age: Ca. 1700-1880.
Location: Backhoe Trench 6.
Size: The irrigation ditch was roughly 50 cm east-west and 30 cm deep, and ranged between 35 and 65 cm below the present ground surface.
Construction material and method: It appears likely that the ditch was created by hand or by plow. However, the method used to dig it could not be determined from the profile.
Depositional context and content: Fill within the ditch was labeled Stratum 114. Stratum 114 was a 7.5YR 3/2 dark brown alluvial silt and sand mixture with root inclusions. No artifacts were col-

Figure 28. Feature 11, construction-debris pit.

Figure 29. Feature 13, interred cow.

Figure 30. Feature 14, irrigation ditch.

lected in association with the feature.
Interpretation: Feature 14 was identified as an irrigation ditch based on its linear orientation and wedge shape. The exact dates of its use are unknown. The Urrutia map and historical documents suggest that the area south of the river was extensively used as agricultural fields in the eighteenth and nineteenth centuries. By the mid-nineteenth century the property had come into the possession of the Alarid family, who probably farmed their land. Because of the long history of farming in this area and the absence of artifacts, the feature could not be confidently dated.

Feature 15

Feature type: Irrigation ditch.
Feature age: Ca. 1700 to 1880.
Location: Backhoe Trench 6.
Size: The irrigation ditch was roughly 90 cm north-south and 75 cm deep, and ranged between 0.4 and 1.15 m below the present ground surface.
Construction material and method: It appears likely that the ditch was dug by hand or by plow. However, the method of construction could not be determined from the profile.
Depositional context and content: Fill within the ditch was labeled Stratum 115. Stratum 115 was a 10YR 6/3 dark brown alluvial silt and sand mixture with root inclusions. No artifacts were collected in association with the feature.
Interpretation: Feature 15 was identified as an irrigation ditch based on its linear orientation and wedge shape. The exact dates of its use are unknown. The Urrutia map and historical documents suggest the area south of the river was extensively used as agricultural fields in the eighteenth and nineteenth centuries. By the mid-nineteenth century the property had come into the possession of the Alarid family, who probably farmed their land. Because of the long history of farming in this area and the absence of artifacts, the feature could not be confidently dated.

Feature 16

Feature type: Domestic refuse pit (Fig. 31).
Feature age: After 1904.
Location: Backhoe Trench 13.

Figure 31. Feature 16, domestic refuse pit.

Size: The pit was at least 1.5 m east-west by 16 cm deep and ranged between 20 and 36 cm below the present ground surface.
Construction material and method: The smooth uneven surfaces of the pit suggest that it was hand excavated.
Depositional context and content: Fill within the feature was designated Stratum 116. Stratum 116 was a 10YR 3/2 dark grayish brown semiconsolidated silty clay with ash, charcoal, glass, and metal inclusions. Three artifacts were collected in association with the feature, including a machine-made pomade jar and casserole dish.
Interpretation: The pomade jar and casserole dish are artifacts associated with domestic activities in the surrounding area. The machine-made pomade jar dates the assemblage after 1904, but no other diagnostic attributes were noted. Within a 1940s context, the pit is within the front yard of the structure that housed 135, 137, and 139 West Manhattan (Fig. 17). The structure was owned by Richard Alarid Jr.

Feature 17

Feature type: Posthole.
Feature age: Ca. 1940.
Location: Backhoe Trench 10.
Size: The posthole was 40 cm east-west and 45 cm deep, and ranged between 30 to 75 cm below the present ground surface.
Construction material and method: Presumably, the posthole was excavated by hand.
Depositional context and content: Fill within the posthole was assigned Stratum 117. Stratum 117 was a 7.5YR 5/3 brown silt with less than 1 percent gravel and charcoal inclusions. No artifacts were collected in association with Feature 17.
Interpretation: Given the historic location of Feature 17 between 125 and 129 West Manhattan (Fig. 17), it is possible that the posthole could represent a fenceline, but its size suggests an old telephone or utility pole.

Feature 18

Feature type: Irrigation ditch (Figs. 21 and 32).
Feature age: Ca. 1700 to 1880.

Figure 32. Feature 18, irrigation ditch.

Location: Backhoe Trench 11.
Size: The irrigation ditch was roughly 40 cm east-west and 10 cm deep, and ranged between 30 and 40 cm below the present ground surface.
Construction material and method: It appears likely that the ditch was created by hand or by plow. However, its method of construction could not be determined from the profile.
Depositional context and content: Fill within the ditch was labeled Stratum 126. Stratum 126 is a 10YR 4/4 dark yellowish brown silty sand with 1 percent waterworn gravel inclusions. No artifacts were collected in association.
Interpretation: Feature 18 was designated an irrigation ditch based on its linear orientation and wedge shape. The exact dates of its use are unknown. The Urrutia map and historical documents suggest the area south of the river was extensively used as agricultural fields in the eighteenth and nineteenth centuries. By the mid-nineteenth century the property had come into the possession of the Alarid family, who probably farmed their land. Because of the long history of farming in this area and the absence of artifacts, the feature could not be confidently dated.

Feature 19

Feature type: Irrigation ditch (Figs. 21 and 33).
Feature age: Ca. 1700 to 1880.
Location: Backhoe Trench 11.
Size: The irrigation ditch was roughly 28 cm east-west and 20 cm deep, and ranged between 16 and 36 cm below the present ground surface.
Construction material and method: It appears likely that the ditch was dug by hand or by plow. However, the construction method could not be determined from the profile.
Depositional context and content: Fill within the ditch was labeled Stratum 127. Stratum 127 is a 10YR 6/4 dark yellowish brown loamy sand with 1 percent waterworn gravel inclusions. No artifacts were collected in association.
Interpretation: Feature 19 was identified as an irrigation ditch based on its linear orientation and rectangular shape. The exact dates of its use are unknown. The Urrutia map and historical documents suggest the area south of the river was extensively used as agricultural fields in the eighteenth and nineteenth centuries. By the mid-nineteenth century the property had come into the

Figure 33. Feature 19, irrigation ditch.

possession of the Alarid family, who probably farmed their land. Because of the long history of farming in this area and the absence of artifacts, the feature could not be confidently dated.

Feature 20

Feature type: Irrigation ditch (Fig. 21).
Feature age: Ca. 1700 to 1880.
Location: Backhoe Trench 11.
Size: The irrigation ditch was roughly 30 cm east-west and 25 cm deep, and ranged between 20 and 45 cm below the present ground surface.
Construction material and method: It appears likely that the ditch was dug by hand or by plow. However, method of construction could not be determined from the profile.
Depositional context and content: Fill within the ditch was labeled Stratum 128. Stratum 128 is a 10YR 5/4 yellowish brown loamy sand with 1 percent waterworn gravel inclusions. No artifacts were collected in association.
Interpretation: Feature 18 was identified as an irrigation ditch based on its linear orientation and rectangular shape. The exact dates of its use are unknown. The Urrutia map and historical documents suggest the area south of the river was extensively used as agricultural fields in the eighteenth and nineteenth centuries. By the middle nineteenth century the property had come into the possession of the Alarid family, who probably farmed their land. Because of the long history of farming in this area and the absence of artifacts, the feature could not be confidently dated.

Feature 21

Feature type: Construction-debris pit (Fig. 21).
Feature age: Ca. 1930.
Location: Backhoe Trench 11.
Size: The pit was 2 m east-west and 20 cm deep, and ranged between 20 and 40 cm below the present ground surface.
Construction material and method: The method of construction unclear because the pit forms a shallow bowl. The edges of the pit are uneven, suggesting that it was excavated with a hand tool. However, such a shallow impression suggests machinery.
Depositional context and content: Fill within the pit

was assigned Stratum 129. Stratum 129 is characterized as a 10YR 4/4 dark yellowish brown fine loamy sand. No artifacts from the feature were collected. However, significant quantities of plaster and other construction debris were noted along the base of the pit.
Interpretation: Given the shallow depth of the pit and its uneven surfaces, it is possible that Feature 21 represents a natural dip in the twentieth-century ground surface. Construction debris associated with maintenance activities accumulated in the depression. It is also possible that the pit is a deep machinery scrape that occurred during demolition. The historical location of the pit places it at 451 Galisteo or 135½ West Manhattan (Fig. 17). Both properties were owned by Richard Alarid Jr. during the 1920s, 1930s, and 1940s.

Feature 22

Feature type: Domestic refuse pit (Fig. 34).
Feature age: Ca. 1700 to 1880.
Location: Backhoe Trench 7.
Size: The pit was 40 cm east-west and 16 cm deep, and ranged between 50 and 66 cm below the present ground surface.
Construction material and method: The pit appears to have been excavated by hand, given its uneven edges.
Depositional context and content: Fill within the pit was assigned Stratum 118. Stratum 118 is a 10YR 4/4 dark yellowish brown silt mixed with 5 percent charcoal. Bird bones, presumably chicken, were encountered in the profile. However, no artifacts were collected.
Interpretation: Given the bird bones and charcoal, it is likely that the pit was used to discard domestic refuse. However, the lack of coal in the pit and its position below Stratum 4, the Colonial fields, deposition may have been rather early in the sequence of the investigated area. As a result, the pit was dated to the 1700s or 1800s. This date is speculative at best, and it is not known who occupied the area in the eighteenth and early nineteenth centuries.

Feature 23

Feature type: Posthole.
Feature age: Ca. 1940.
Location: Backhoe Trench 2.
Size: The posthole was 25 cm north-south and 50 cm deep, and ranged between 30 to 80 cm below the modern day ground surface.
Construction material and method: Presumably, the posthole was excavated by hand. The limestone block visible in profile was likely used as a shim or wedge to keep the post from coming loose.
Depositional context and content: Fill within the posthole was assigned Stratum 119. Stratum 119 is 10YR 4/4 dark yellowish brown silty loam with 5 percent charcoal. No artifacts were collected in association with Feature 23.
Interpretation: Given the location of Feature 23 between 120 South Capitol and a vacant lot (Fig. 17), it appears likely that the posthole represents a fenceline that formed a property boundary between the two lots. 120 South Capitol housed Butler & Foley Plumbers during the 1930s and 1940s.

Feature 24

Feature type: Domestic refuse pit (Fig. 35).
Feature age: Ca. 1920.
Location: Backhoe Trench 2.
Size: The domestic refuse pit was 30 cm north-south and 20 deep, and ranged between 40 to 60 cm below the present ground surface.
Construction material and method: Given the size and uneven boundaries of the pit, it is likely that Feature 24 was excavated by hand. No prepared lining or floor was visible.
Depositional context and content: Fill within the refuse pit was assigned Stratum 120. Stratum 120 is a coal clinker, charcoal, and ash infused 10YR 6/4 silty loam with 1 percent gravel inclusions. No artifacts were collected.
Interpretation: The coal suggests that the pit dates after the coming of the railroad in 1880. The feature may reflect domestic activities that reached their climax in the 1920s and 1930s, when the project area was a residential neighborhood. The exact association of the feature is unclear. The historical location of Feature 24 places it within an abandoned lot.

Feature 25

Feature type: Domestic refuse pit.
Feature age: After 1904.
Location: Backhoe Trench 12.

Figure 34. Feature 22, domestic refuse pit.

Figure 35. Feature 24, domestic refuse pit.

Size: The pit was roughly 15 m east-west and 50 cm deep, and ranged between 30 cm and 80 cm below the present ground surface.
Construction material and method: The method of construction could not be inferred. Given the size of the pit, it is likely that earthmoving tools such as a plow or a backhoe were employed.
Depositional context and content: Fill within Feature 25 was assigned Stratum 132. Stratum 132 is a 10YR 4/4 brown silty sand with 2 cm lenses of ash and charcoal. Two shards of machine-made glassware were collected in association with the pit.
Interpretation: It appears likely given the ash and charcoal that Feature 25 represents a domestic refuse pit. However, the size of the feature is problematic, since refuse pits are not often that large. The feature is located between two historic structures owned Richard Alarid Jr. (Fig. 17), but it is unclear if the refuse is associated with the Alarid family or a renter in the early twentieth century.

Feature 27

Feature type: Self-contained vault privy (Figs. 22 and 36).
Feature age: Ca. 1930.
Location: Backhoe Trench 14.
Size: The self-contained vault privy was 2 m north-south and 0.7+ m deep, and ranged between 0.7 and 1.4+ m below the present ground surface.
Construction material and method: The privy appears hand dug, with no visible lining along the walls or floor of the vault.
Depositional context and content: Two strata were defined within the feature. Stratum 122 represented postabandonment fill. It was characterized as a 10YR 4/4 dark yellow brown sand, which ranged between 0.7 and 1.2 m below the present ground surface. The remaining fill, designated Stratum 124, was human waste associated with use of vault. The waste was a 5Y 5/3 olive color and ranged from 1.2 to 1.4+ m below the present ground surface. No artifacts were collected. However, undiagnostic fragments of glass and metal were visible within the profile.
Interpretation: The location of the vault in a 1940s historic context is on the south side of 449 Galisteo, owned by the Romeros, and in front of 451 Galisteo, owned by Richard Alarid Jr. (Fig. 17). It appears likely that the self-contained vault privy is associated with the Romero household. It is highly unlikely that the Alarids would have built a privy in front of their residence. While no artifacts were collected in association with the privy, it appears likely that it use and are linked to the adoption of ceramic sewer line in the early twentieth century. In the case of the project area, this transition appears to have occurred as late as the 1930s, as indicated by Feature 7, the First Baptist Church privy.

Feature 28

Feature type: Domestic refuse pit (Figs. 22 and 37).
Feature age: Ca. 1940.
Location: Backhoe Trench 14.
Size: The pit was roughly 60 cm north-south and 60 cm deep, and ranged between 20 and 80 cm below the current ground surface.
Construction material and method: Given the size and uneven boundaries of the pit, it is likely that Feature 28 was excavated by hand. No prepared lining or floor was visible.
Depositional context and content: Fill within the pit was assigned Stratum 124. Stratum 124 is a 10YR 4/4 dark yellowish brown silty sand with 3 percent coal, charcoal, and gravel inclusions. No artifacts were collected. However, undiagnostic fragments of glass and metal were visible in the profile.
Interpretation: While no artifacts were collected in association, the presence of glass and metal in the profile suggests the pit dates to the late nineteenth or early twentieth century and that Feature 28 was used to discard domestic refuse. The historical location of the pit is on the south side of 449 Galisteo, owned by the Romeros, and in front of 451 Galisteo, owned by Richard Alarid Jr., leaving its exact association unknown (Fig. 17).

Feature 29

Feature type: Domestic refuse pit (Figs. 22 and 37).
Feature age: Ca. 1940.
Location: Backhoe Trench 14.
Size: The pit was roughly 40 cm north-south and 60 cm deep, and ranged between 16 and 76 cm below the current ground surface.

Figure 36. Feature 27, self-contained privy vault.

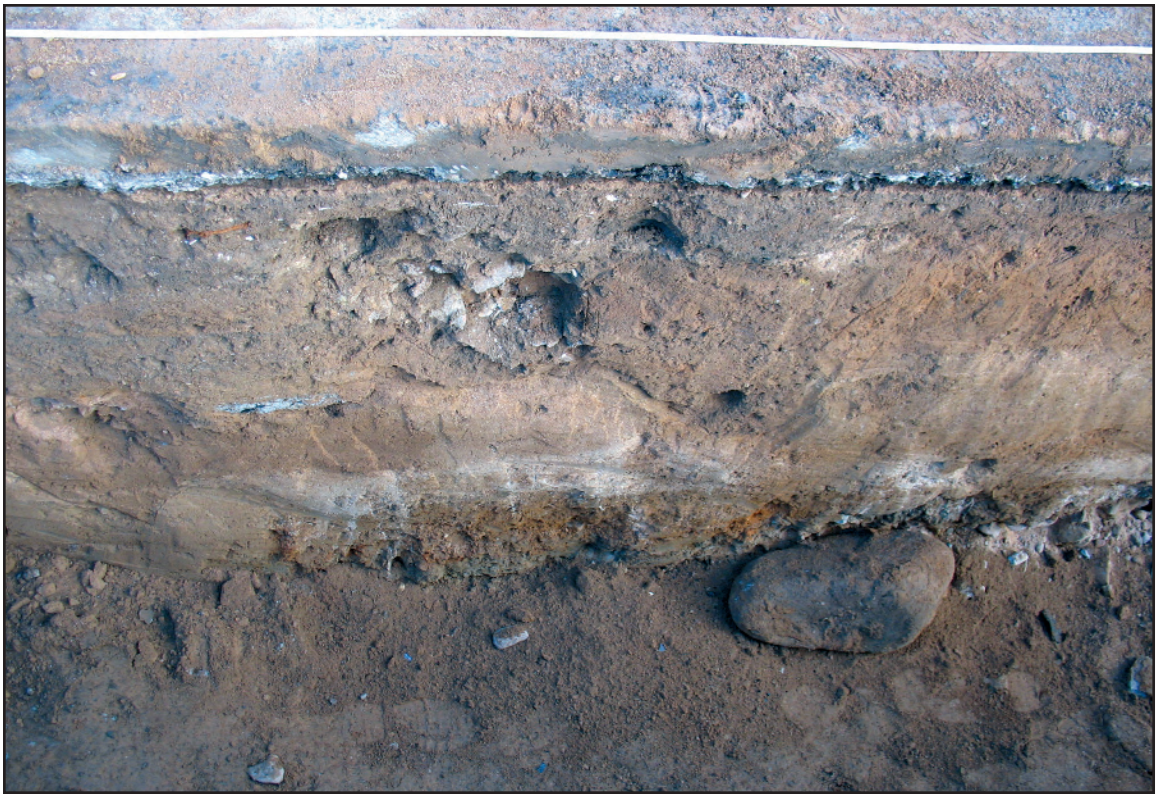

Figure 37. Features 28 and 29, domestic refuse pits.

Construction material and method: Given the uneven and diffuse boundaries of the pit, it is likely Feature 29 was excavated by hand. No prepared lining or floor was visible.
Depositional context and content: Fill within the pit was designated Stratum 125. Stratum 125 is a 10YR 5/3 brown silty sand with 3 percent coal, charcoal, and gravel inclusions. No artifacts were collected. However, undiagnostic fragments of glass and metal were visible in the profile.
Interpretation: Glass and metal within the profile suggest the pit dates to the late nineteenth or early twentieth century and that Feature 29 was used to discard domestic refuse. The historical location of the pit is on the south side of 449 Galisteo, owned by the Romeros, and in front of 451 Galisteo, owned by Richard Alarid Jr., leaving its exact association unknown (Fig. 17).

Feature 30

Feature type: Domestic refuse pit (Fig. 22).
Feature age: Ca. 1940.
Location: Backhoe Trench 14.
Size: The pit was roughly 1.8 m north-south and 24 cm deep, and ranged between 18 and 42 cm below the present ground surface.
Construction material and method: Given the size and uneven boundaries of the pit, it is likely that Feature 30 was excavated by hand. No prepared lining or floor was visible.
Depositional context and content: Fill within the pit was assigned Stratum 126. Stratum 126 is a 7.5YR 4/4 brown sandy loam with 3 percent coal, charcoal, and gravel inclusions. No artifacts were collected. However, undiagnostic fragments of glass and metal were visible within the profile.
Interpretation: While no artifacts were collected in association, glass and metal in the profile suggest the pit dates to the late nineteenth or early twentieth century and that Feature 30 was used to discard domestic refuse. The historical location of the pit is on the south side of 449 Galisteo, owned by the Romeros, and in front of 451 Galisteo, owned by Richard Alarid Jr., leaving its exact association unknown (Fig. 17).

Feature 31

Feature type: Domestic refuse pit (Fig. 22).
Feature age: Ca. 1940.
Location: Backhoe Trench 14.
Size: The pit was roughly 1.4 m north-south and 30 cm deep, and ranged between 16 and 46 cm below the present ground surface.
Construction material and method: Given the size and uneven boundaries of the pit, it is likely that Feature 31 was excavated by hand. No prepared lining or floor was visible.
Depositional context and content: Fill within the pit was assigned Stratum 127. Stratum 127 is a 7.5YR 4/4 brown sandy loam with 3 percent coal, charcoal, and gravel inclusions. No artifacts were collected. However, undiagnostic fragments of glass and metal were visible within the profile.
Interpretation: Although no artifacts were collected in association, glass and metal in the profile suggest the pit dates to the late nineteenth or early twentieth century and that Feature 31 was used to discard domestic refuse. The historical location of the pit is on the south side of 449 Galisteo, owned by the Romeros, and in front of 451 Galisteo, owned by Richard Alarid Jr., leaving its exact association unknown (Fig. 17).

Artifacts

A total of 91 artifacts were collected and analyzed from LA 158037. Analysis was conducted by Nancy Akins, Matthew Barbour, and Dean Wilson of the OAS using standard methodologies specifically created to analyze nineteenth- and twentieth-century Euroamerican artifact assemblages (OAS 1994c). Descriptive attributes such as material type, manufacturing technique, and color were recorded for each artifact, but emphasis within the analysis was geared towards determining artifact function to derive information about site use, the economic status of those who lived there, and date of deposition.

The 91 artifacts recovered from the project area appear to represent at least 61 individual objects. Table 5 is a breakdown of these items by functional category. The division of the artifacts into the domestic, food, construction/maintenance, and indulgences categories correlates well with historic documents, which suggest that the project area was a residential environment in the early twentieth century. The majority of the artifacts were not associated with features but were recovered opportunistically during backhoe trench monitoring.

The domestic category, 40.5 percent of the total assemblage, had the most artifacts of any functional category (n = 25). Ironstone vessels were the most common within this category. Ironstone is dish ware associated with the latter half of the nineteenth and early twentieth centuries. Often undecorated and mass produced, ironstone was typical of low- and middle-class households. However, a porcelain bowl bearing the mark of C. Tielsch & Co. was also found (Fig. 38). C. Tielsch & Co. porcelain was manufactured exclusively in Altwasser, Silesia (Kovel and Kovel 1986:23). It was among the higher-end products of the early twentieth century. This was also the case with a white ware vessel bearing the mark of the Johnson Bros., a member of the Wedgewood Company of England (Kovel and Kovel 1986:92), showing that the assemblage has a great deal of variability.

The food category contained significant quantities of both domesticated cow (n = 2) and sheep/goat (n = 6) bone. The consumption of lamb or mutton has long been associated with Hispanic cultural traditions but may also reflect the position of New Mexico within the wool economy, which peaked in the first quarter of the twentieth century. Unfortunately, the condiment bottles and vegetable can (Fig. 39) could not be linked to specific brands of the period.

It had been assumed that the construction/maintenance category would contain the majority of artifacts identified and collected from in-field investigations, since the project area contained no fewer than 20 freestanding structures during the early twentieth century. However, representing only 11 individual objects, construction/maintenance made up less than 20 percent of the total assemblage. These relatively small numbers appear to lend credence to the stratigraphic evidence that most construction debris was hauled off during the demolition process during the twentieth century. Artifacts in this category included window glass, bricks, and common nails.

The indulgences (n = 5), personal effects (n = 4), unassignable (n = 3), furnishing (n = 1), and transportation (n = 1) categories each accounted for less than 10 percent of the overall material culture assemblage. Objects such as beer and soda bottles, shoes, and a hubcap are all commonly occurring artifacts within an early twentieth-century context. The only artifacts of particular note were chewing tobacco tins bearing the mark of the Lucky Strike Company (Fig. 40). These tins were manufactured by the same process used to manufacture sardine cans, as opposed to the more common flip lids associated with Prince Albert and other tobacco products of the period.

A single sherd of Biscuit B was recovered from Backhoe Trench 15 (Fig. 41). Biscuit B is a Tewa-made ceramic dating roughly between AD 1400 and 1600 and probably does not represent a prehistoric component, since the sherd was found in clear association with twentieth-century European manufactured white wares and ironstone. It is possible that it was part of a personal collection found in a plowed field or collected from a Classic-period site.

Table 5. Artifacts

Category	Function	Fragments	MNI	MNI (Percent of Category)	MNI (Percent of Assemblage
Unassignable	Unidentifiable	1	1	33%	1.6%
	Unidentifiable bottle	2	2	67%	3.3%
	Unassignable total	3	3	100%	4.9%
Food	Vegetable can	2	1	9.1%	1.6%
	Condiment cottle	2	2	18.2%	3.3%
	Cow	2	2	18.2%	3.3%
	Sheep/goat	12	6	54.5%	9.8%
	Food total	18	11	100%	18%
Indulgences	Soda bottle	1	1	20%	1.6%
	Beer bottle	1	1	20%	1.6%
	Ale bottle	1	1	20%	1.6%
	Chewing tobacco can	6	2	40%	3.3%
	Indulgences total	9	5	100%	8.1%
Domestic	Sauce pan	1	1	4%	1.6%
	Porcelain bowl	8	1	4%	1.6%
	Ironstone bowl	4	3	12%	4.9%
	Delftware bowl	7	1	4%	1.6%
	Porcelain cup	1	1	4%	1.6%
	Whiteware cup	1	1	4%	1.6%
	Ironstone cup	1	1	4%	1.6%
	White ware indeterminate vessel	2	2	8%	3.3%
	Ironstone indeterminate vessel	3	3	12%	4.9%
	Tewa polished indeterminate vessel	1	1	4%	1.6%
	Biscuit B indeterminate vessel	1	1	4%	1.6%
	Ironstone mixing/serving Bowl	1	1	4%	1.6%
	Ironstone saucer	1	1	4%	1.6%
	Ironstone serving dish	2	2	8%	3.3%
	Unidentifiable glassware	1	1	4%	1.6%
	Goblet	1	1	4%	1.6%
	Tumbler	1	1	4%	1.6%
	Stoneware crock	3	2	8%	3.3%
	Domestic total	40	25	100%	40.5%
Furnishings	Wood/coal stove vent	1	1	100%	1.6%
	Furnishings total	1	1	100%	1.6%
Construction/ maintenance	Rod	1	1	9.1%	1.6%
	Spike	3	3	27.3%	4.9%
	Nail, common	2	2	18.2%	3.3%
	Brick	1	1	9.1%	1.6%
	Window glass	1	1	9.1%	1.6%
	Fire brick	2	2	18.2%	3.3%
	Battery	1	1	9.1%	1.6%
	Construction/maintenance total	11	11	100%	17.9%
Personal effects	Shoe	2	2	50%	3.3%
	Pomade jar	2	1	25%	1.6%
	Ointment jar	4	1	25%	1.6%
	Personal effects total	8	4	100%	6.5%
Transportation	Hubcap	1	1	100%	1.6%
	Transportation total	1	1	100%	1.6%
Total		91	61		100%

MNI = Minimum number of individuals, vessels, or objects

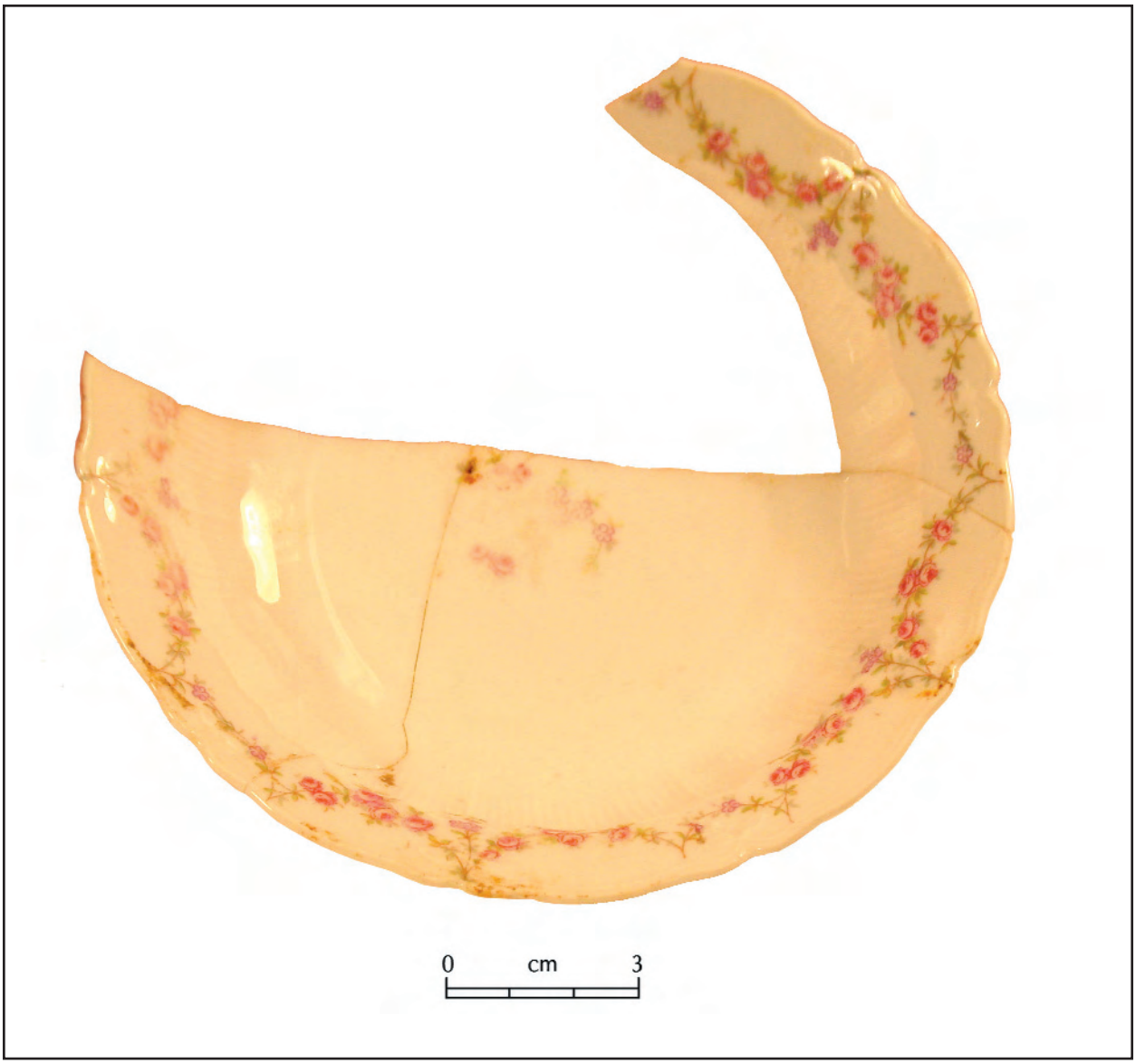

Figure 38. Hand-painted porcelain bowl, C. Tielsch & Co., Altwasser, Silesia, ca. 1875-1934.

While this material-culture study was limited to 91 artifacts comprised of only 61 individual objects, the assemblage clearly appears to be associated with a twentieth-century residential neighborhood. As illustrated by the domestic artifacts, there appears to be some variability in the economic status of the individuals residing in the area, judging from the presence of both hand-painted porcelains and undecorated ironstone, as well from evidence in the food category suggesting a largely Hispanic population. The construction/maintenance category confirms that most construction debris associated with demolition of the neighborhood was moved off site.

Figure 39. Vegetable can.

Figure 40. Lucky Strike chewing tobacco tin, ca. 1871-1942.

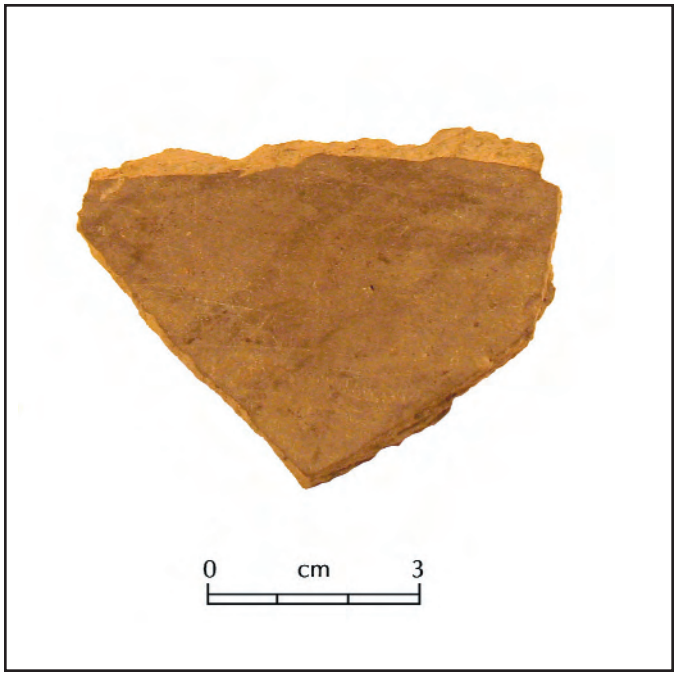

Figure 41. Biscuit B ceramic sherd, ca. 1400-1600.

Utilities

All utilities (n = 13) discovered as a result of archaeological investigations at LA 158037 represent unmarked lines that were discovered accidentally. The majority of these utilities (n = 12) could be recorded as archaeological features because they represent human activities occurring over 50 years ago. However, outside of their location, function, and structural association, data recovered as a result of archaeological investigation was minimal. Table 6 shows the utilities by backhoe trench, construction material, diameter, trajectory, depth below present ground surface, possible association with historic structures, and whether or not the utility is still active (if known). No attempt was made to address installation date, since plumbing, sewer, and electric lines existed in the downtown Santa Fe area as early as the nineteenth century, and the time of their implementation within the Capitol Complex Historic Neighborhood is unknown. Further, the exact function of the utility cannot be not inferred from pipe material, since cast iron was used for both water and gas lines. That said, it is very likely that all ceramic pipes encountered were sewer lines.

Only one utility was found to be active, an insulated cable that functioned as the Comcast Cable trunk line for several residences immediately northeast of the project area. It is presumed that the majority of lines which marked "unknown" have been decommissioned; however, this was not proven as a result of testing.

On a peculiar side note, most of the utility work performed within the project area in the early twentieth century was likely done by people residing on the property. Butler & Foley Plumbers, where the Butler family lived, was at 120 South Capitol. They advertised heating, plumbing, and gas fitting services (Fig. 16): "All work guaranteed one year."

Table 6. Utilities

Backhoe Trench	Material Type	Diameter (cm)	Trajectory	Depth (m)	Association	Activity
1	Insulated cable	2.5	East-west	0.8	Unknown	Active
5	Cast iron	7	North-south	1.0	424 Don Gaspar	Unknown
5	Ceramic	15	North-south	0.4	424 Don Gaspar	Dead
8	Cast iron	7	North-south	0.7	125 West Manhattan	Dead
11	Cast iron	7	North-south	0.6	135 1/2 West Manhattan	Dead
12	Cast iron	7	North-south	0.15	135 1/2 West Manhattan	Dead
12	Ceramic	15	North-south	0.4	135 1/2 West Manhattan	Dead
13	Cast iron	4	North-south	0.9	135, 137, and 139 West Manhattan	Dead
13	Cast iron	4	North-south	0.8	135, 137, and 139 West Manhattan	Dead
14	Cast iron	4	East-west	1.1	451 Galisteo	Dead
15	Cast iron	4	North-south	0.4	443 Galisteo	Dead
15	Ceramic	15	North-south	0.6	443 Galisteo	Dead
15	Cast iron	7	East-west	0.8	449 Galisteo	Unknown

Testing Summary

Backhoe excavation resulted in the exposure of 11 site strata, documentation of 29 archaeological features, recovery of 91 artifacts, and the unearthing of 12 historic utilities. These archaeological features and deposits reflect changing land use in the Capitol District during the nineteenth and twentieth centuries. While features were generated by multiple households and commercial enterprises, and the site boundary is the limit of the undertaking, for the purposes of effectively managing the cultural resources and providing for treatment of the significant features, they have been registered in NMCRIS as LA 158037. The majority of features (n = 23), utilities (n = 12), and cultural strata represent demolition and use activities associated with a late nineteenth- and early twentieth-century residential neighborhood. Archival research supports these findings. Historic maps dating from 1885 onwards show residential structures on the land. The foundations of these structures were not located, and it appears likely from Strata 3, 8, and 10 that a rapid mechanical leveling of the project area occurred in the mid to late twentieth century and that the majority of construction refuse was hauled off site and deposited elsewhere.

Domestic refuse pits were the most common feature found in association with the residential neighborhood and artifacts recovered from these pits (n = 10), and three self-contained vault privies appear to show significant variability in the economic status of the residents, specifically through their use of undecorated ironstone and hand-painted porcelain dishes. *Hudspeth Santa Fe City Directories* provides a narrative of who deposited the domestic refuse: the Alarid and Romero families owned several buildings in the project area.

Archival research on the twentieth-century neighborhood shows that several businesses were located in the area. Butler & Foley Plumbers, at 120 South Capitol, was likely at least partially responsible for the utilities uncovered, since they advertised both heating and plumbing services. The Alarid and Romero families both had businesses: Dick's Barber Shop and Ray's Floor Covering Service, respectively. However, most of the businesses on the site were small, mom-and-pop endeavors that lasted at most one or two years, making documentation difficult if not impossible.

There is a wealth of historical and architectural information about Santa Fe's neighborhoods, but there have been few opportunities to study multiple-residence consumption patterns on a single site. These distinct traits of LA 158037 provide the opportunity to study a residential neighborhood from an archaeological perspective.

Another archaeological perspective available to researchers is the use of the area as agricultural fields during the Spanish Colonial, Mexican, and early Territorial periods (ca. 1700-1880). This assertion is backed by Stratum 4, which appears to represent a plow zone, and five irrigation ditches. There have been very few studies of irrigation and farming in the South Capitol area. Since the project area may have been mostly open-space, it should provide a unique opportunity to examine end-user irrigation practices and field structure. As these old neighborhoods are redeveloped and open space is filled, much of the information about rural or nonresidential land-use practices will be lost.

One domestic refuse pit, Feature 22 (Fig. 34), appears to also be associated with residential use during the agricultural period, in the late Spanish Colonial or early Territorial periods. However, neither the Urrutia map of 1766 nor the Gilmer Map of 1846-1847 shows any structures in the investigated area (Figs. 4 and 5). No prehistoric component was identified. A single Biscuit B ceramic sherd was uncovered. However, the sherd was found in clear association with twentieth-century European manufactured white wares and ironstone. It is not known how the sherd was deposited with twentieth-century materials.

Studied as a whole, the 11 site strata, 31 archaeological features, 91 artifacts, and 13 historic utilities provide a compelling generalized overview of the settlement pattern within the city of Santa Fe for the area south of Barrio de Analco, first as fields and then, after the coming of the railroad 1880, the emergence of residential neigh-

borhoods. Both of these areas of study-agricultural systems and residential neighborhoods-have the potential to contribute to the history of Santa Fe and provide new information about "the City Different."

Site Eligibility and Recommendations

Test excavations revealed that LA 158037 is a multicomponent archaeological site containing features and deposits representing agricultural and irrigation practices from the eighteenth and nineteenth centuries and a late nineteenth- and early twentieth-century transformation into a residential and small-scale commercial neighborhood. Because many of the features documented by test excavation are older than 50 years and may yield information important to understanding past agricultural and land-use practices and early urbanization of the Capitol District neighborhood, we recommend that LA 158037 be considered for nomination to the *National Register of Historic Places* and the *State Register of Cultural Properties* under Criterion D of 36 CFR Part 60.4 and in conformance with 4.10.15.16 NMAC.

The irrigation ditches identified in association with Spanish Colonial and early Territorial fields may contribute to our understanding of agricultural systems as they existed in the Santa Fe area between 1700 and 1880. During this period, the majority of the population within the city was engaged in subsistence-based activities, and these agricultural systems were pivotal in maintaining that economy.

Work in the past has focused primarily on large-scale acequia systems distributing water throughout the city (Snow 1988; Wenker 2005). LA 158037 may yield specific information on distribution systems within one agricultural field south of the river-a case study by which field-specific agricultural systems can be modeled.

The domestic refuse pits and self-contained vault privies also have the ability to contribute to our knowledge of the past. *Hudspeth Santa Fe City Directories* shows significant variability both in ethnicity and socioeconomic status of the individuals residing at LA 158037 (Table 2). This variability also appears evident within the material culture collected as a result of testing (Table 5). Archival and archaeological resources enable researchers to cross-examine differences in material culture from both ethnic and socioeconomic perspectives.

The OAS recommends that the features and deposits that contribute most significantly to the site's archaeological and historical importance be investigated through the implementation of a research design and data recovery plan. Under the current design plans for the proposed Capitol Parking Structure, avoidance of significant archaeological resources does not appear to be a realistic option. Therefore, the OAS recommends investigating the features and deposits through implementation of a research design and data recovery plan in conformance with NMAC 4.10.16.13.

Table 7 lists the features by type, age, and treatment recommendation. Twenty-four features, including the 11 domestic refuse pits, the 5 irrigation ditches, 1 of the 3 construction-debris pits, the 3 self-contained vault privies, the 2 pits of unknown function, and the 1 interred cow may provide key insights into the history of the area. The OAS proposes to investigate these features and other similar feature types that are encountered as part of the data recovery effort.

Based on the test excavation, two classes of features, postholes and construction-debris pits, yield limited information and will not be investigated further or excavated if similar features are encountered during the data recovery effort. Postholes are useful for defining property lines, activity areas, and the location of aboveground utility and communication lines within the residential neighborhood. However, the fill and content rarely yield artifacts or samples that reflect feature function. Therefore, the OAS will field-record these features as they are encountered, but they will not be excavated. Excavation of Features 1 and 11, which were construction-debris pits, and other features of similar age and composition will not be excavated because they represent activities that are less than 50 years old. Like postholes, they will be documented in the field.

Table 7. Recommendations for treatment of features and Stratum 18

Feature No.	Type	Dates (AD)	Recommendation
1	Construction debris pit	ca. 1960	No further work
2	Domestic refuse pit	1913+	Further investigation
3	Domestic refuse pit	Between 1904 and 1920	Further investigation
4	Posthole	ca. 1940	No further work
5	Unknown pit	ca. 1940	Further investigation
6	Unknown pit	ca. 1940	Further investigation
7	Self-contained vault privy	Between 1904 and 1934	Further investigation
9	Posthole	ca. 1940	No further work
10	Self-contained vault privy	ca. 1930	Further investigation
11	Construction-debris pit	ca. 1960	No further work
12	Domestic refuse pit	ca. 1880	Further investigation
13	Interred cow	ca. 1900	Further investigation
14	Irrigation ditch	ca. 1700 to 1880	Further investigation
15	Irrigation ditch	ca. 1700 to 1880	Further investigation
16	Domestic refuse pit	1904+	Further investigation
17	Posthole	ca. 1940	No further work
18	Irrigation ditch	ca. 1700 to 1880	Further investigation
19	Irrigation ditch	ca. 1700 to 1880	Further investigation
20	Irrigation ditch	ca. 1700 to 1880	Further investigation
21	Construction-debris pit	ca. 1930	Further investigation
22	Domestic refuse pit	ca. 1700 to 1880	Further investigation
23	Posthole	ca. 1940	No further work
24	Domestic refuse pit	ca. 1920	Further investigation
25	Domestic refuse pit	1904+	Further investigation
27	Self-contained vault privy	ca. 1930	Further investigation
28	Domestic refuse pit	ca. 1940	Further investigation
29	Domestic refuse pit	ca. 1940	Further investigation
30	Domestic refuse pit	ca. 1940	Further investigation
31	Domestic refuse pit	ca. 1940	Further investigation
Stratum 18	Adobe melt	ca. 1890	Further investigation

Research Design and Data Recovery Plan

Following archaeological testing, Architectural Research Consultants, Inc., and the Property Control Division of the General Services Department of the state of New Mexico selected less than half of the originally planned project area for construction of the proposed Capitol Parking Structure (Fig. 42). The new area consists of 6,140 sq m along the southern two-thirds of the current Bataan Memorial Building and Capitol Building parking lot, on the northeast corner of the intersection of Galisteo and West Manhattan. This area contains Backhoe Trenches 4-14 and Features 1-7, 14, 16-22, 25, and 27-31 (Table 8).

The archaeological testing of the proposed Capitol Parking Structure yielded a diverse range of feature types, including domestic refuse pits, postholes, self-contained vault privies, irrigation ditches, and construction-debris pits dating to the Spanish Colonial, Mexican, Territorial, and Statehood periods. These features are well suited to the study of a wide range of research themes pertaining to New Mexico's historical period. Variability in feature function, content, and age should facilitate cross-cultural comparisons of social and economic interaction as the area in and around the proposed Capitol Parking Structure changed from agricultural to residential in nature.

Research Domains and Research Questions

As outlined under "Recommendations," LA 158037 has the potential to contribute to our understanding of agricultural systems, and contextual variability in occupational patterns and residential material culture. These research domains are to be examined using data from the archaeological field excavation and laboratory analysis in combination with archival and ethnohistorical research.

Research Domain 1: Agricultural Systems

The irrigation ditches identified in association with Spanish Colonial and early Territorial fields have the potential to increase our understanding of agricultural systems as they existed in the Santa Fe area between 1700 and 1880. During this period, the majority of the population in the city was engaged in a subsistence-based economy for which these agricultural systems were pivotal.

Work in the past has focused primarily on large-scale acequia systems that distributed water throughout the city (Snow 1988; Wenker 2005). LA 158037 provides the opportunity to acquire information specific to water distribution within one agricultural field south of the river.

Research Question 1. Can we date agricultural systems? Were small, management features built for continuous use, or is there evidence of expansion or periodic remaking of the system? If so, how often did such changes occur?

These questions examine agricultural-system chronology and sequence from initial construction to ultimate abandonment of the fields in the project area. Testing revealed both a plow zone, Stratum 4, and several irrigation ditches: Features 14, 18, 19, and 20. These features and others like them will be the key to understanding chronology in agricultural systems. The age of the field is unknown, but archival sources suggests that it existed before the Urrutia map of 1766 was drawn (Fig. 4).

The Gilmer map of 1846-1847 (Fig. 5) confirms the presence of fields in this area during the early Territorial period. This pattern of agricultural land use changes with the coming of the railroad in 1880 and by the time of the Hartmann map of 1886 was drawn (Fig. 7).

It is expected that features identified during testing represent the last use of the field, since yearly plowing may have erased evidence of earlier field use. This plowing would presumably cause diagnostic artifacts and chronometric samples to mix during the field's use period. However, substantial features such as floodgates or check dams may have been used for a significant time and, when compared, may provide evidence of changing field-modification practices.

Research Question 1 data needs. Primarily, chronometric data are needed to address questions of sequence. Recovering chronometric sam-

Figure 42. Area scheduled for data recovery.

Table 8. Features impacted by construction of the Capitol Parking Structure

Feature No.	Type	Location	Size (m)	Dates (AD)	Associated Historic Structure
1	Construction debris pit	BHT 4	2.0 by 0.6	ca. 1960	416 Don Gaspar and 111 West Manhattan
2	Domestic refuse pit	BHT 4	0.6 by 0.5	1913+	416 Don Gaspar
3	Domestic refuse pit	BHT 4	4.0 by 0.4	Between 1904 and 1920	416 Don Gaspar
4	Posthole	BHT 5	0.2 by 0.15	ca. 1940	424 Don Gaspar and 111 West Manhattan
5	Unknown pit	BHT 5	0.2 by 0.1	ca. 1940	424 Don Gaspar
6	Unknown pit	BHT 5	0.5 by 0.2	ca. 1940	424 Don Gaspar
7	Self-contained vault privy	BHT 5	1.2 by 1.15	Between 1904 and 1934	424 Don Gaspar
13	Interred cow	BHT 8	0.8 by 0.4	ca. 1900	Unknown
14	Irrigation ditch	BHT 6	0.5 by 0.3	ca. 1700 to 1880	Unknown
16	Domestic refuse pit	BHT 13	1.5 by 0.16	1904+	135, 137, 139 West Manhattan
18	Irrigation ditch	BHT 11	0.4 by 0.1	ca. 1700 to 1880	Unknown
19	Irrigation ditch	BHT 11	0.28 by 0.2	ca. 1700 to 1880	Unknown
20	Irrigation ditch	BHT 11	0.3 by 0.25	ca. 1700 to 1880	Unknown
21	Construction-debris pit	BHT 11	2.0 by 0.2	ca. 1930	451 Galisteo or 135 1/2 West Manhattan
22	Domestic refuse pit	BHT 7	0.4 by 0.16	ca. 1700 to 1880	Unknown
25	Domestic refuse pit	BHT 12	15.0 by 0.5	1904+	135, 137, 139 West Manhattan
27	Self-contained vault privy	BHT 14	2.0 by 0.7+	ca. 1930	449 Galisteo
28	Domestic refuse pit	BHT 14	0.6 by 0.6	ca. 1940	449 or 451 Galisteo
29	Domestic refuse pit	BHT 14	0.4 by 0.6	ca. 1940	449 or 451 Galisteo
30	Domestic refuse pit	BHT 14	1.8 by 0.24	ca. 1940	449 or 451 Galisteo
31	Domestic refuse pit	BHT 14	1.4 by 0.3	ca. 1940	449 or 451 Galisteo

ples or temporally diagnostic artifacts from reliable contexts will be difficult due to displacement of artifacts through erosion and mixing of soils in the course of field activities. Further complicating the matter, many traditional chronometric methods employed for dating archaeological contexts offer too broad a time frame to accurately assess historic deposits.

Dendrochronological samples identify the exact year of tree-death and could be employed to date agricultural systems to relatively small periods of time if recovered from dependable contexts. The location of these fortuitously preserved contexts within the agricultural system cannot be predetermined, so we will rely on the results of systematic excavation.

Hand excavation of deposits within and adjacent to irrigation ditches will provide the stratigraphic and contextual basis for assessing the potential dating reliability of the recovered artifacts. Expected temporally diagnostic artifact types may include Pueblo-made pottery from Spanish Colonial to the beginning of the later Territorial period (1880). Low frequencies of glass, ceramic, or metal factory-made items may suggest early Territorial-period use with increased frequencies corresponding to later Territorial-period use, and predominantly factory-made items from the post-Statehood period, reflecting the covering and abandonment of ditches. Relative frequencies of different artifact classes in combination with datable artifacts may provide the best potential for dating and sequencing the use of the features.

In addition to dendrochronological samples and diagnostic artifacts, Berger et al. (2004a, 2004b; see also Nials and Henderson 2004) experimented with the dating of irrigation-canal sediments directly. Using infrared photon-stimulated luminescence, burial-age estimates of sedimentary particles and strata can be derived. "The accuracy of such luminescence dating of water lain sediments depend critically upon the effectiveness of daylight exposure of individual mineral grains, [which] zeros the light-sensitive clock" (Berger et al. 2004b:3). A polymineral regenerative-dose luminescence method, in conjunction with statistical pooling of the dose measurements, "can generate precision values of 20-100 years for samples <1,000 years old" (Berger et al. 2004b:4). If appropriate sample-recovery settings are encountered, sediment samples will be collected and retained for possible dating analysis through this experimental method. One primary criterion for the use of this approach would be the potential for both complementary dendrosamples and diagnostic artifacts to be recovered from the same strata, since data from additional sources would be necessary to allow adequate evaluation of the photon-stimulated luminescence results.

Research Question 2. What do traces of remnant fields and diversion and dispersion features indicate about changes in irrigation, farming, or land tenure? Do technological changes in farming and irrigation practices correspond to the introduction of the Santa Fe Trail? Do any changes occur after the coming of the railroad?

Research Question 2 deals with methods used to establish and maintain land tenure upon a landscape marginal to an urban setting. While only small-scale irrigation ditches were identified as a result of testing, similar contexts have yielded check dams, floodgates, and other features (Wenker 2005).

W. H. H. Davis (1938:67-71), a circuit judge who traveled extensively through New Mexico during the nineteenth century, specifies that field systems were composed of numerous agricultural beds. Each bed is characterized as a section of land, sixty by forty feet, whose perimeter is surrounded by mounded earth. Adjacent to the bed, a minor irrigation ditch runs upon the highest portion of land within the field. This ditch is fed by a lateral from the *acequia madre*, or mother ditch. When water is needed for the field, the perimeter around the bed is breached, and water is allowed to flood that specific bed within the field.

In the case of LA 158037, the lateral which fed this minor ditch was the Acequia or Arroyo de los Pinos, immediately south of the project area (Snow 1988), the current location of Paseo de Peralta. The area impacted as a result of construction associated with the proposed Capitol Parking Structure measures 6,140 sq m, which would accommodate at least nine beds within the project area. Because of this, it is expected that significant water-dispersion and diversion features will be evident, including breaches in the bed, as well as the minor irrigation ditches fed off

of the Acequia or Arroyo de los Pinos. It is hypothesized that the same location for the breach was used repetitively over time to cut down on construction and maintenance costs associated with the agricultural system. If so, these breaches may be recognized within the archaeological record as cobble check dams or floodgates supported by wooden posts.

Research Question 2 data needs. Data required for this research may be obtained through both mechanical and hand excavation. Primary data sources will be stratigraphic, morphological, and spatial information about the field and its subfeatures. The known existing features will be relocated and subjected to detailed excavation and recording. Mechanical scraping along the edges of projected or exposed ditch alignments will be conducted to at least the depth that features appeared in testing. Hand scraping and sweeping of these mechanically scraped areas may expose articulated rock piles, wooden posts, or post holes, and presumably more small-scale irrigation ditches.

Mechanical scraping of upper and lower field layers may provide a comprehensive map of the spatial layout of field features and their organization in and relationship to nearby ditches. Hand excavation of internal field channels may provide fine-grained information about the stratigraphy and the distribution of different strata that may result from multiple irrigation strategies. Hand excavation within the field deposits will also provide stratigraphic information about field-formation processes. When tied to chronometric data, these mechanisms can then be linked to specific times of use (i.e., the later Spanish Colonial period or the early Territorial period) and then cross-referenced to see if practices changed over time.

Research Question 3. Is there evidence of crops or plant species? Did crop selection change during the life of the field? What evidence is there of crop diversification?

Work within surrounding areas has indicated that pollen and flotation samples recovered from similar locales 150 m to the west yielded evidence of plant species associated with agricultural fields (Wenker 2005:Appendix 3). While corn was the obvious crop of choice throughout New Mexico's history and prehistory, Davis's (1938) account of field division into individual beds hints at crop diversification within the agricultural system. Water to each bed could be regulated individually to meet specific crop needs.

Direct historical evidence of which crops were cultivated at LA 158037 does not exist. Noble (1989:107) characterizes the periphery of Santa Fe at the time of American conquest as a conglomeration of wheat, corn, chile, and bean fields. This assertion has been proven archaeologically by pollen samples taken from a Mexican-period refuse pit associated with agricultural activities north of the Santa Fe River at LA 1051 (personal communication, Stephen Lentz, 2007).

Expectations are that the majority of the area at LA 158037 will contain significant quantities of corn pollen but should also include pollen from other subsistence crops such as wheat, chile, and beans. It appears unlikely that cash crops will be evident, given the overland distances and means of conveyance used to transport goods between Santa Fe and major economic centers within central Mexico and the eastern United States. However, no agricultural products should be ruled out, and even if only corn is recovered, variability within the specific species may be evident.

Research Question 3 data needs. While archaeobotanical samples were not collected during archaeological testing, recovery of archaeobotanical samples from field and channel contexts may provide information on changing crop selection and distribution. Like chronometric samples and temporally diagnostic artifacts, reliable contexts will be difficult to find due to displacement of botanical materials through erosion and mixing of soils during the course of field activities. The use of botanical sampling will be guided by the quality of the contexts as determined by in-field observation. Botanical samples can then be linked to chronometric data to determine time of species use (i.e., the later Spanish Colonial period or the early Territorial period) and then cross-referenced to see if crop selection change occurs over time.

Research Domain 2: Contextual Variability in Occupation Patterns and Residential Material Culture

The domestic refuse pits and self-contained vault privies have the potential to increase our knowledge of the late nineteenth and early twentieth centuries. Contextual variability at the site suggests features representing multiple activities produced by numerous family units within a fairly restricted temporal framework. This variability occurs on many different levels at LA 158037.

Hudspeth Santa Fe City Directories shows significant variability in ethnicity and socioeconomic status of the individuals residing at LA 158037 (Table 2). This variability is also evident in the artifacts collected from the First Baptist privy and domestic refuse associated with the Alarid household (Table 5). These differences provide opportunities using archival and archaeological resources to cross-examine differences in material culture from both ethnic and socioeconomic perspectives.

Contextual variability can also be explored between feature types. The presence of both domestic refuse pits and privies allows for a comparative study of differences in discard patterns. Contextual variability in residential material culture from the perspective of feature type will enable us to address the treatment of domestic waste; medicinal, alcohol, and illicit-drug consumption patterns (as laws pertaining to certain drugs change over time); and overall, how each feature type informs upon the different consumption patterns of individual domestic households.

Research Question 4. Does recognizable variability occur within the discarded material culture that may represent different consumption patterns of Hispanic and Anglo-American households in the late nineteenth and early twentieth centuries? What artifact classes are most sensitive to different consumption patterns as they relate to cultural identity?

While the majority of residential structures in the project area were owned by Richard Alarid Jr. and Ramon Romero Jr. during the early twentieth century, the properties were rented by individuals of Hispanic and Anglo-American backgrounds (Table 2), suggesting that questions of ethnicity and identity can be addressed.

Past studies have focused on New Mexico as a frontier of the Spanish Empire and Mexico, and as a territory of the United States through shifts in material culture (Boyer 1992; Moore 2001). The arrival of the railroad increased availability and reduced costs of mass-produced products from the eastern United States. This influx of abundant and affordable goods could have resulted in a homogenizing of material culture assemblages left by late nineteenth- or early twentieth-century households, and may have allowed for the standardization of material culture assemblages.

However, previous studies show that assemblage variability can still be found in some settings. For example, a study of households on the eastern plains showed marked increases within artifacts associated with domestic and routine activities associated with Spanish residential settings, as indicated by increased quantities of dish ware and Native food products (Moore et al. 2003). Animal products show the most variability: Hispanic households consumed primarily sheep and goat meat, and beef in lesser quantities; whereas pork, beef, poultry, and fish occur in assemblages exemplifying Anglo-American tastes (Crass and Wallsmith 1992).

The parameters of this study are well established, since all household units occur on the same block and are approximately contemporaneous. The identities of the household occupants have also been established through archival research. The record reflects a greater homogenizing and melding of cultures as Hispanic and other groups become assimilated into the greater US macroculture. Addressing the current sample, this may be more conspicuous at a local level than regionally. Further, these differences might be time sensitive; that is, earlier assemblages may tend to display higher quantities of foodstuff and items traditionally associated with a particular group. As diachronic change occurs, it can be expected that fewer commodities associated with any particular group will be present. Therefore, it can be anticipated that regional variability is not a compelling factor at this level of investigation, and variability between ethnic groups will be difficult, if not impossible, to detect.

Research Question 4 data needs. Primarily, artifact assemblages discarded by different households are needed to address questions relating to and exploring ethnicity and identity in the late nineteenth and early twentieth centuries. To enable this study, clear association of the material culture to known household units must be demonstrated. This association may be established through archival research. Potential archival sources include *Hudspeth City of Santa Fe Directories* and the direct and indirect indexes to deeds on file at the Santa Fe County Clerk's office. Further, assemblages must be contemporaneous and result from a similar range of activities.

Domestic refuse pits such as Features 2, 3, 28, 29, 30, and 31, and self-contained vault privies (Features 7 and 27) provide ideal opportunities to collect materials associated with family units. Mechanical removal of upper layers of modern strata should reveal a comprehensive spatial distribution of these features. This distribution can then be compared with archival maps and directories to establish association with specific families or residents.

Hand excavation and screening of feature fill should recover significant artifact quantities. Sampling methods will focus on the collection of samples that are representative of the assemblage as a whole based on horizontal extent and stratigraphy.

Based on the testing results, expected artifact classes include large quantities of bottle glass, can fragments, animal-bone fragments, and Euroamerican pottery vessels. These materials will be analyzed using the specific methodologies described in the "Laboratory Analysis" section of this report. Diagnostic attributes will be used to date the activities associated with deposition of the material culture. Archaeobotanical samples will also be collected from reliable contexts to inform upon dietary choices of the individuals residing within the project area.

Research Question 5. Do consumption patterns differ between low- and middle-class households in the late nineteenth and early twentieth centuries? If so, are these differences exaggerated or diminished by the Great Depression (1929-1939)?

Hudspeth City of Santa Fe Directories indicates that the majority of occupants at LA 158037 held jobs such as laborer, driver, housekeeper, clerk, and minister (Table 2). Such jobs are usually associated with low- to middle-income households and allow for limited comparison of consumption patterns within a socioeconomic group.

Models in the past have relied on using material culture to determine the socioeconomic status of individuals. These studies often use a scale based on distance from the manufacturer and the availability and implied intrinsic value of some goods over others (Miller 1991). This study proposes to do exactly the opposite. Using archival research to establish socioeconomic status, cultural material will then be explored to see if variability within artifact assemblages occurs.

Several potential indicators of differences in social status are food, indulgences, and dish ware. Food is ideal. The type and cut of meat consumed is often directly related to cost. Oysters cost more to procure than sheep, and t-bone is more desirable than a spinal cut. Indulgences follow a similar pattern in that specialty liquors and illicit drugs such as opium or cocaine cost more than more readily available items such as beer and whisky. However, such distinctions diminished during the prohibition era of the 1920s, making such assertions somewhat problematic. Dish ware is an indicator in many ways. Social status can be inferred by manufacturer and shipping costs associated with a specific good, but perhaps most important in determining the social status of the individual using the good are manufacture costs associated with an individual piece, specifically those of decorative technique. The labor associated with hand-painted objects increases the cost of a good exponentially over undecorated, mass-produced utility wares.

Expectations are that there will be only minor differences within material culture reflecting individual preference. Differences within low- and middle-class households may not even exist, or all households may appear low-income if examined by a nationally applied standard taken from similar studies along the East and West Coasts and the Midwest.

The Great Depression of the 1930s affected a broad spectrum of socioeconomic strata. In rural areas, the hardest hit were small-time subsistence farmers who were unable to claim federal aid until after their land was lost to tax collec-

tion (Post 1999). This led to alienation and disenfranchisement of rural populations and ultimately to relocation to more-urban environments.

In urban environments, both the rich and poor were hit by job loss. Federal government assistance programs of the New Deal implemented in New Mexico included the Works Progress Administration and the Civilian Conservation Corps. The Civilian Conservation Corps in particular had a headquarters and "fly-camps" in Santa Fe and numerous outlying communities. (Calkins 1937; Martinez 1996.) These measures returned some cash to families, and for the poor may have been enough to maintain the status quo. However, it is unlikely that the middle class, if there are visible differences in the material culture of the poor before 1929, would be able to maintain these distinctions on a fixed income, leading to a homogenized urban material culture. Economic goods associated with the depression era, such as depression glass, likely occur in all assemblages, showing a similar downward adaptation in lifestyle.

Research Question 5 data needs. As in the case of Research Question 4, material culture items are needed to address questions associated with socioeconomic variability. Such material culture items must be clearly associated with known household units, which can be established through archival research in *Hudspeth City of Santa Fe Directories* and indexes to deeds on file at the Santa Fe County Clerk's office, for example. Further, assemblages must be contemporaneous and result from a similar range of activities.

Material culture items associated with various family units can be collected from domestic refuse pits such as Features 2, 3, 28, 29, 30, and 31, and self-contained vault privies (Features 7 and 27). Testing showed that privies in the area were likely decommissioned during the 1930s with the installation of sewer lines, making material culture from Features 7 and 27 essential to answering research objectives geared towards the Great Depression. Mechanical removal of upper layers of modern strata should reveal a comprehensive spatial distribution of these features, which can then be compared with archival maps and directories to establish association with specific families or residents.

Hand excavation and screening of feature fill should recover significant artifact quantities. Sampling methods employed will focus on the collection of samples that are representative of the assemblage as a whole based on horizontal extent and stratigraphy.

Based on the testing results, expected artifact classes include large quantities of animal-bone fragments, bottle glass, can fragments, and Euroamerican pottery vessels. These materials will be analyzed by the methods described in the "Laboratory Analysis" section of this report. Diagnostic attributes will be used to date the activities associated with deposition of the material culture. Archaeobotanical samples will also be collected from reliable contexts to inform upon dietary choices of the individuals living in the project area.

Research Question 6. Do discard patterns differ in domestic refuse pits and self-contained vault privies? If so, what characteristics of consumption patterns are similar?

Recent excavations of privies and refuse pits in a military setting appear to show substantial variability in discard patterns between the two contexts (Post et al. 2006). Self-contained vault privies show increasing quantities of goods associated with domestic and routine activities, such as dishes, and personal effects, such as medicinal bottles, whereas a domestic refuse pit contains marked increases in the quantity of butchered animal bone and canned goods. Both contain high quantities of indulgences such as liquor and tobacco products.

While it is expected that residential and military discard patterns may be similar, a study modeling such behaviors within the context of a residential neighborhood in downtown Santa Fe has never been conducted. Through the analysis methods used by the OAS for Euroamerican artifacts, this study will look in detail at the treatment of domestic waste; medicinal, alcohol, and illicit-drug consumption patterns; and, overall, how each feature type informs differently upon the individual domestic household under investigation.

The OAS analysis format and procedures developed over the last 10 years to examine Euroamerican artifacts are suitable for analyzing these differences (OAS 1994c). Described in detail under the "Laboratory Analysis" section, these

methods were designed to accommodate a wide range of variability. The function of each artifact is identified by a hierarchical series of attributes that classifies it by functional category, type, and specific function. These attributes are closely related and provide a chain of variables that will specify the function of the artifact. This system also allows for general assemblage classifications. When identified, these attributes can be used to describe differences or similarities in discard patterns between features at LA 158037.

Research Question 6 data needs. Data needs for Research Question 6 follow those described under Research Questions 4 and 5. To enable this study, clear association of the material culture to known household units must be demonstrated, which may require the use of archival research and archaeological methods.

Domestic refuse pits, such as Features 2, 3, 28, 29, 30, and 31, and self-contained vault privies (Features 7 and 27) may provide an ideal circumstance for examining discard-pattern differences between vault privies and domestic refuse pits, since all may have been created by the same family unit.

Processes used to gather material culture will follow the same idealized model initially proposed under Research Question 4. Mechanical removal of upper layers of modern strata should reveal a comprehensive overview of the spatial layout of these features. This spatial layout can then be examined in association with archival maps and directories to establish association with specific families.

Hand excavation will be performed on the pits to gather significant quantities of material culture. Sampling methods employed will focus on the collection of samples that are representative of the assemblage as a whole using horizontal and vertical controls.

Artifacts expected to be recovered include large quantities of bottle glass, can fragments, animal-bone fragments, and Euroamerican pottery vessels. These materials will be analyzed using the methods described in the "Laboratory Analysis" section of this report. Diagnostic attributes will be used to date the activities associated with deposition of the material culture. Archaeobotanical samples will also be collected from reliable contexts to provide information about dietary choices of the people living in the project area.

Data Recovery Plan for LA 158037

The initial steps of fieldwork will be to remove the asphalt, reexcavate the backhoe trenches from the testing phase, and identify and mark all known utility lines within the area. Mechanical stripping will then commence, exposing four large scraping areas around all known agricultural features and domestic pits. These scraping areas will encompass roughly 3,200 sq m, or 52 percent of the impacted area (Fig. 43), and extend over all known historic property boundaries, providing for an adequate sample of all know household units along West Manhattan, the Alarid domicile on Galisteo, and the First Baptist Church on Don Gaspar.

Using backhoe trench profiles as a guide, the mechanical leveling of the area will focus on the removal of Strata 3, 8, and 10, roughly equating to a sediment block extending up to 50 cm below the present ground surface. These strata were characterized during testing as sediments accumulated through late twentieth-century demolition and construction activities at LA 158037 and will not be further investigated.

Removal of modern fill will expose Stratum 4, the Colonial plow zone, Stratum 18, the adobe melt, and features associated with agricultural and residential activities. These cultural deposits will be investigated by means of mechanized and hand-excavation methods.

Research Domain 1: Agricultural System Studies

LA 158037 lacks a major water conveyance channel within its boundaries. However, archaeological work at the site has the potential to reveal a field remnant up to 50 cm thick within the 3,200 sq m zone of investigation that includes small-scale irrigation systems.

The field remnant or plow zone, known as Stratum 4, has numerous characteristics that will yield data that can be used to address chronology and sequence, technology and function, and dynamics of irrigation and farming. Potential data sources include artifact type and age distribution across the field, structural and geomorphological data from the known field

Figure 43. Proposed location of scraping units in area scheduled for data recovery.

component and features, and spatial-temporal relationships that may exist between the field and the nearby Acequia or Arroyo de los Pinos.

To obtain the data necessary to address agricultural systems, excavation will employ targeted hand excavation and extensive mechanical excavation within Stratum 4. Controlled hand excavation will yield artifact assemblage, feature morphology and content, and geomorphological data from field and internal channel deposits. Extensive mechanical excavation will provide large-scale internal channel orientation and distribution data, potentially provide spatial links with the nearby Acequia de los Pinos, and expose previously undiscovered additional irrigation or farming features that may be present.

Once horizontal and vertical controls are reestablished, the stripped surface, created by the removal of Strata 3, 8, and 10, will be inspected for features, artifact concentrations, linear channel outlines, or anomalies not observed during the testing phase. At least 16 1 by 1 m units will be placed in high-potential areas exposed by the scraping to obtain information from throughout the actual field deposits. These units will be hand excavated, and the fill will be screened through 1/4-inch mesh to collect artifacts. Testing results from a nearby plow zone indicate that the field and channel fill contain an average of 79 artifacts per square meter (Wenker 2005). By that standard, this effort should yield more than 1,200 artifacts, which should be sufficient to assign relative dates to the field deposits and make observations about the origin of the materials. Hand excavation will follow stratigraphic layers through the entire depth of the field fill unless natural strata are not present or are thicker than 20 cm, in which case arbitrary 20 cm levels will be excavated within strata.

In addition to hand excavation of the 1 by 1 m units, preliminary evaluation of new features that may be discovered may include sweeping and light trowel or shovel scraping before intensive archaeological investigation. Additional features, not discovered during the testing phase, will be evaluated for integrity and data potential by excavation of a 1 by 1 m unit (for features with greater than a 2 m maximum dimension) or 25-percent excavation (for features with less than a 2 m maximum dimension). If the artifacts and deposits recovered from the feature or feature morphology have the potential to help answer the research questions stated in the previous section, the feature will be investigated according to procedures outlined below. Excavation of features associated with the agricultural system study, both known through testing and found as a result of mechanical surface scraping, will follow procedures for specific feature types and outlined in "Field Excavation Methods and Procedures." In addition to excavation, the overall field-channel distribution will be mapped, described, and photo-documented.

Irrigation ditches. Several irrigation ditches (Features 14, 18, 19, and 20) have been documented within the area impacted by construction of the proposed Capitol Parking Structure. Small-scale irrigation systems will be subjected to no less than a 10-percent sample of feature fill, or four 1 by 1 m excavation units using 1/4-inch screen to collect artifacts. This sampling will be done systematically at regularly spaced intervals along the channel, with appropriate samples collected from each investigated location. Specific attention will be paid to the collection of chronometric samples to confirm dates assigned based on diagnostic artifacts.

Small-scale pits. Two small pits associated with use of LA 158037 as agricultural fields were encountered during testing: Feature 13, which contained an interred cow; and Feature 22, a small domestic refuse pit. Small pit features (less than 2 m in diameter) associated with agricultural field studies will be fully excavated using 1/4-inch screen to collect artifacts following procedures outlined in "Field Excavation Methods and Procedures." Specific attention will be paid to the collection of chronometric samples to confirm dates assigned based on diagnostic artifacts.

Large-scale pits. Large pit features (over 2 m in diameter) associated with agricultural field studies will be sampled. In pit features under 8 m in diameter, the sample size will never fall beneath a 10-percent sample of the total feature. In the case of pits exceeding 8 m, the sample size may drop to as low as 5 percent. However, exact sample size will be determined on an individual basis based on integrity and data potential. Sampled areas will be fully excavated with 1 by 1 m units

for features less than 8 m maximum dimension, and with up to 2 by 2 m units for features 8 m or larger using 1/4-inch screen to collect artifacts, following procedures outlined in "Field Excavation Methods and Procedures." Specific attention will be paid to the collection of chronometric samples to confirm dates assigned based on diagnostic artifacts.

Postholes. Postholes, identified by outlines under 40 cm in diameter, will be documented and mapped. Their location may further the agricultural system studies, but limited data can be gained through their excavation. If chronometric samples appear evident, systematic recovery of materials from the posthole will commence using the techniques outlined in "Field Excavation Methods and Procedures." However, if no reliable chronometric samples are evident, excavation will not be performed.

Cobble clusters. Hand excavation using 1/4-inch screen to collect artifacts will be used to expose cobble clusters and/or other check dam systems. These systems will then be documented and mapped. Appropriate macrobotanical and chronometric samples will be collected from reliable contexts (e.g., pollen underneath primary cobble).

Archaeobotanical samples, especially pollen or phytolith samples, will be collected from feature, field, and channel deposits. At least one sample will be collected from field and channel deposits within each 1 by 1 m excavation unit. Macrobotanical samples will be collected from pit or midden features that are exposed by mechanical scraping or hand excavation. Chronometric samples will be collected as appropriate contexts are encountered. Radiocarbon samples will be collected from discrete charcoal-impregnated strata. If encountered, dendrochronological samples will be collected from specimens of nonmilled lumber. Archaeomagnetic samples will be taken from oxidized contexts as they are encountered (e.g., Feature 53). All sample collection will follow procedures outlined in "Field Excavation Methods and Procedures."

Research Domain 2: Contextual Variability in Occupation Patterns and Residential Material Culture

The contextual variability in occupation patterns and residential material culture study will be addressed using artifact assemblages recovered from Features 2, 3, 16, 25, 28, 29, 30, and 31 (domestic refuse pits), Features 7 and 27 (self-contained vault privies), and Feature 21 (construction-debris pit), among other features of similar types that may be exposed during excavation. These features contain artifact-bearing deposits that postdate the arrival of the Atchison, Topeka & Santa Fe Railway in 1880 and are associated with residential occupations at LA 158037. The artifacts recovered from these pits provide an opportunity to examine socioeconomic and ethnic consumption patterns in a changing residential community between the late nineteenth and early twentieth centuries. The results from this study will also be compared with material culture assemblages recovered from residential sites in the surrounding area.

After removal of modern overburden, horizontal feature outlines will be exposed. Work will begin with the reestablishment of horizontal and vertical controls from testing. Excavation of features associated with the contextual variability in residential material culture study will be excavated using 1/4-inch screen following procedures outlined in "Field Excavation Methods and Procedures." Treatment of late nineteenth- and twentieth-century features with 1/4-inch screen for artifact collection is justified by studies of similar settings in the nearby vicinity, where hand excavation yielded between 160 and 450 artifacts per square meter in domestic refuse pits (Wenker 2005). Known features alone are likely to yield somewhere between 7,200 and 26,550 artifacts, which should be sufficient to address the research questions.

Removal of the modern overburden will undoubtedly expose additional features. Additional features will be evaluated for integrity and data potential by excavation of a 1 by 1 m unit for features with greater than a 2 m maximum dimension, or 25-percent excavation of features with less than a 2 m maximum dimension. If the artifacts and deposits recovered from the feature or feature morphology have the potential

to help answer the research questions stated in the previous section, the feature will be investigated according to procedures outlined below. If, during initial excavation, there is evidence of a feature less than 50 years old, excavation will be halted. Excavation of all features will follow procedures for specific feature types and as outlined in "Field Excavation Methods and Procedures." In addition to excavation, the overall distribution of late nineteenth- and twentieth-century features will be mapped and recorded.

Small-scale domestic refuse pits. Three small domestic refuse pits (Features 2, 28, 29, and 31) were thought to be associated with residential activities at LA 158037 as a result of testing. These and other small pit features (less than 2 m in diameter) associated with the late nineteenth and early twentieth centuries will be fully excavated using 1/4-inch screen for collection of artifacts following procedures outlined in "Field Excavation Methods and Procedures." Specific attention will be paid to the collection of chronometric samples to confirm dates assigned based on diagnostic artifacts.

Large-scale domestic refuse pits. Large pit features (over 2 m in diameter) associated with residential activities at LA 158037, such as Features 3, 16, 25, and 30, will be sampled. In pit features with a diameter of less than 8 m maximum dimension, the sample size will never fall beneath a 10-percent sample of the total feature. In the case of pits exceeding 8 m, the sample size may drop to as low as 5 percent. However, exact sample size will be determined on an individual bases based on integrity and data potential. Sampled areas will be fully excavated within 1 by 1 m units for features of less than 8 m maximum dimension and up to 2 by 2 m units for features 8 m or larger using 1/4-inch screen for artifact collection following procedures outlined in "Field Excavation Methods and Procedures." Specific attention will be paid to the collection of chronometric samples to confirm dates assigned based on diagnostic artifacts.

Construction-debris pits and pits of unknown function. Construction-debris pits associated with residential activities, such as Feature 21, and pits of unknown function, such as Features 5 and 6, will be sampled because the pits have little potential of answering the research questions proposed above. In pit features under 8 m in diameter, the sample size will never fall beneath a 10-percent sample of the total feature. In the case of those pits exceeding 8 m, the sample size may drop to as low as 5 percent. However, exact sample size will be determined on an individual basis based on integrity and data potential. Sampled areas will be fully excavated within 1 by 1 m units for features of less than 8 m maximum dimension and up to 2 by 2 m units for features 8 m or larger using 1/4-inch screen for artifact collection following procedures outlined in "Field Excavation Methods and Procedures." Specific attention will be paid to the collection of chronometric samples to confirm dates assigned based on diagnostic artifacts.

Self-contained vault privies. Regardless of size, the quantity and quality of cultural materials often found in association with privies dictates that all privies will be fully excavated using 1/4-inch mesh for artifact collection. This feature type, including Features 7 and 27, offers the best potential to address issues associated with contextual variability in material culture. Procedures outlined in "Field Excavation Methods and Procedures" will be used with specific attention paid to the collection of macrobotanical and coprolite samples at regular intervals within the pit.

Postholes. Postholes, identified by pit outlines less than 40 cm in diameter, will be documented and mapped since they help to identify property boundaries, which need to be recognized to answer questions associated with contextual variability in material culture. If chronometric samples appear evident, systematic recovery of materials from the posthole will commence using the techniques outlined in "Field Excavation Methods and Procedures." However, if no reliable chronometric samples are evident, excavation will not be performed.

Utilities. Outside of their location, function, and structural association, data recovered as a result of archaeological investigation of historic utilities is not vital to answering questions associated with contextual variability in residential material

culture. Field recording will document the location, material of manufacture, diameter, trajectory, depth, and possible association with historic structures of utilities, and, if known, whether the utility is still active. If diagnostic artifacts are evident within a historic utility's trench, these artifacts may be collected by the excavator. However, no systematic recovery will be initiated.

Stratum 18. Stratum 18 was identified within Backhoe Trench 14 and likely represents adobe melt. The role of the adobe melt in answering questions regarding contextual variability in material culture is unknown. Treatment of the adobe melt will involve mechanical scraping to expose horizontal boundaries and learn its relationship to nearby features. If Stratum 18 is associated with intact structural elements, excavations will follow the methods used for documenting structural elements as discussed below.

If no clear association can be made between Stratum 18 and other archaeological manifestations, the stratum will be subjected to a 20-percent sample excavation using 2 by 2 m excavation units and 1/4-inch screen to collect artifacts to document the chronology of the stratum in its archaeological context. Specific attention will be paid to the collection of chronometric samples to confirm dates assigned based on diagnostic artifacts.

Archaeobotanical samples, including pollen samples, will be collected from pit feature deposits. Pollen and flotation samples will be collected from appropriate strata within pit features. Chronometric samples will be collected as appropriate contexts are encountered. Radiocarbon samples will be collected from discrete charcoal-impregnated strata. Dendrochronological samples will be collected, if they are encountered. Collection of dendrochronological samples will be limited to nonmilled lumber. Archaeomagnetic samples will be taken from oxidized contexts as they are encountered. All sample collection will follow procedures outlined in "Field Excavation Methods and Procedures."

Other Archaeological Manifestations

While testing of LA 158037 did not reveal prehistoric features, human remains, or historic structural elements, all three may be discovered during the course of archaeological investigations.

Prehistoric features. Regardless of feature type and size, prehistoric features will be excavated fully using 1/8-inch mesh for collection of artifacts following procedures outlined in "Field Excavation Methods and Procedures." Chronometric samples will be collected in conjunction with diagnostic artifacts to ensure accurate dating of the features.

Human remains. If human remains are uncovered, notification, excavation, and documentation will comply with all state laws, discussed in detail under "Field Excavation Methods and Procedures."

Historic structural elements. While no historic structural elements outside of Stratum 18 were documented during archaeological testing, structural foundations and basements may be encountered (see "Archival Research"). If such elements are discovered, their documentation will begin with the rapid removal of overburden by mechanical means. The goals of excavation for this class of features will be to expose the architectural details of interest and to locate subfeatures and any intact deposits associated with those elements. The fill will be mechanically and manually removed from the structure area in stages, which will allow the recording of cross section and profile drawings along the short and long axes of each structure, when appropriate.

If intact deposits or subfeatures are encountered within the structural elements, hand excavation will be employed using 1/4-inch screen to find diagnostic artifacts and record details of interest. Sampling may be employed based on the integrity and data potential of the deposits. Chronometric samples will also be collected as availability and need dictate. A detailed map of the structural elements will be drawn.

Unexpected Discoveries

There is always the risk of finding unexpected deposits or features during an archaeological excavation. Procedures that will be followed in the event of an unexpected discovery will vary

with the nature and extent of the find. Small features, structures, or cultural deposits that were not aniticpated will be excavated according to the procedures outlined above. On the other hand, finds that have the potential to significantly alter the scope and intent of this plan will be addressed through consultation with HPD and the client.

Additional Backhoe Trenching

Following excavation of the 1 by 1 m units and the sampling of all visible features, additional mechanical trenching will be used to determine if features are present at lower elevations. At least 32 additional backhoe trenches will be excavated. Each will be 10 m long, 1 m wide, and 1.4 m deep, and will run along a southwest-to-northeast trajectory to identify linear agricultural features running north-south and east-west (Fig. 44). If features are exposed at lower levels, they will be considered for excavation according to their integrity and data potential, as described above. Their location in the overall feature distribution will also be mapped and recorded.

Monitoring

When excavations are completed, monitoring may be required based on excavation results. The primary purpose of monitoring will be to assess the deposits and features intruding into Stratum 7. The scope of the monitoring will be determined through consultation with HPD and the client.

Figure 44. Location of proposed backhoe trenches.

Field Excavation Methods and Procedures

Excavation methods will follow standard modern archaeological procedures (e.g., Joukowsky 1980), especially the excavation, sampling, and proveniencing procedures outlined by Boyer et al. (2000; see also Sesler and Hovezak 1992), to maintain comparability of the Capitol Parking Structure data with other OAS project data. The procedures in the OAS safety manual (OAS 1995) will also be followed.

Mapping and Locational Controls

The corners of all hand-excavation units, backhoe excavations, elevation-datum stakes, and other points of interest will be mapped with a Nikon DTM-330 Total Station. The project grid system established during the testing phase with an arbitrary Cartesian grid system will be employed and then overlaid onto a construction blueprint of the Capitol Parking Structure. The southwest corner of grid units will be recorded when 1 by 1 and 2 by 2 m grid excavations are undertaken. All site elevations will be subtracted from a 10 m control elevation established at the initial site datum.

Provenience Control

A field specimen (FS) log for the site will be maintained to catalog all artifacts and samples collected from excavation contexts. Each unique excavated context (e.g., a 10 cm level, the loose backdirt from a whole backhoe trench, or a single item extracted from a specific stratum in a trench wall) will be assigned a separate FS number that identifies the recovery context of the associated artifacts and samples.

Excavation Methods

The initial step of fieldwork will be to identify and mark all known utility lines in each site area. Mechanical and manual excavation procedures are outlined below.

Mechanical Excavation

Backhoe trenching was the predominant approach used during the testing phase, and additional exploratory trenches are planned for the data recovery phase. The position, orientation, and length of all trenches will be designed to maximize the potential of each trench while simultaneously avoiding existing utilities Backhoes will be equipped with buckets between 81 to 91 cm wide. Trenches will be excavated to a minimum width of 90 cm and a maximum depth of 1.4 m. Frequently, culturally sterile gravel and cobble deposits were encountered during testing, in most cases at depths of 0.76 to 0.91 m, and in those cases the trenches will not be excavated to the full 1.4 m depth.

An archaeologist will monitor the excavation of each backhoe trench (BHT). Functionally or temporally diagnostic artifacts will be opportunistically collected from trench backdirt as they are observed. After excavation, loose and smeared soil will be cleaned off of the trench walls with hand tools, and all trenches will be closely examined for exposed cultural deposits or features. The stratigraphic character and cultural content of each backhoe trench will be documented on a standardized excavation form. Artifacts found in situ in trench walls may be point-provenienced. Trenches are to be mechanically backfilled as soon as practicable after documentation is complete. Horizontal provenience of trenches will be maintained at each site by assigning each a unique number.

The mechanical removal of recent and historical overburden, as well as of other bulk deposits, will be conducted with backhoes equipped with wide, smooth-edged buckets to allow clean scraping surfaces to be exposed. The goal of this approach is to remove relatively thin (5 to 10 cm), sequential sediment layers from large expanses of site area horizontally defined as scraping units. The primary use of this method is expected to be the removal of modern and historical postabandonment overburden (Strata 3, 8, and 10) from above Stratum 4. Further, when excavating within expansive cultural deposits, this method may expose buried use-surfaces or occupation levels, allowing contemporaneous features to be identified. An archaeologist will

always monitor and direct all scraping activities, with the goal of identifying and exposing use-surfaces, features, or stratigraphic breaks as the scraping proceeds. Functionally or temporally diagnostic artifacts will be opportunistically collected from backdirt as they are observed. Artifacts found in situ in scraped exposures may be point-provenienced.

Manual Excavation

Excavation units of standardized sizes (e.g., 1 by 1 m, 1 by 2 m, 2 by 2 m) will be used to excavate and evaluate most of the deposits subjected to manual excavation. These standard-sized excavation units and levels are used primarily to allow meaningful comparisons of artifact density among excavated volumes of site matrix. These units will not always be relegated to specific grid coordinates or to orientations along a north-south axis, although that approach will be the default procedure. Instead, when necessary, these units will be sized, placed, and oriented to maximize their data-recovery potential.

The standard for excavating bulk sediments in excavation units will be by 20 cm arbitrary levels, unless natural or cultural stratigraphic layers are available. If natural or cultural stratigraphic layers are thicker than 20 cm, each thick stratum will be excavated in separate 20 cm levels. Unless previously determined to be modern or recent overburden or otherwise of a redundant nature, all fill excavated from excavation units will be screened through 1/4-inch mesh hardware cloth, unless noted otherwise in the data recovery plan. All artifacts will be collected and bagged for processing and analysis. Bulk construction materials (such as milled lumber or bricks related to a feature's construction) may not be collected or may only be sampled, but their type and quantity will be noted in the excavation notes.

Nonstandard, hand-excavated trenches of varying widths and lengths may also be used to expose architectural details or as exploratory trenches in areas where mechanical excavation is not feasible or safe. Trenches may be vertically divided into levels or strata, or they may be excavated as a full-cut unit, combining the deposits from top to bottom in one bulk excavation unit. Screening of the fill will also depend on the nature of the excavated deposits as well as the intent and goal of the trenches.

Feature Excavation

Significant features known from the testing phase will be relocated, and the backfill will removed from all previously excavated areas to expose the feature. The feature cross section will be examined, and the testing notes will be updated, if necessary.

For small features (those less than 2 m in diameter), the feature boundaries as exposed by mechanical scraping or manual excavation will be used as the horizontal unit of excavation control. Half of the feature will be excavated to expose a cross section for documentation. The remaining half of the feature will then be excavated.

For larger features (those larger than 2 m in diameter), the feature will be sampled by excavating one-quarter or one-half, or by establishing one or more standardized excavation grid units within the feature boundaries for excavation. The sizes of sampled units will depend on overall feature dimensions, but targeted sample sizes will not fall below 2 percent of the overall feature area.

Manual excavation will proceed through the feature fill in arbitrary 10 cm levels unless stratigraphic layers are encountered during excavation. Natural or cultural stratigraphic layers thicker than an average of 20 cm will be excavated in separate 20 cm levels. All excavated fill will be screened through 1/8-inch mesh unless specified otherwise in the data recovery plan. All artifacts will be collected and bagged for processing and analysis. Bulk construction materials (such as milled lumber or bricks related to a feature's construction) may not be collected or may only be sampled, but their type and quantity will be noted in the excavation notes.

Site Documentation Methods

Information to be recorded for all excavation units, features, and structures will include sediment descriptions using a Munsell color chart and standard geomorphological descriptors, notes on artifact variety and frequency, evidence of disturbance, horizontal and vertical locations

and associations, excavation technique, and temporal associations. Written descriptions will be recorded on standardized forms. Plan, profile, and elevation drawings will include a scale, north arrow, and key to abbreviations and symbols. A site map will document excavation limits, architectural and other cultural features, and modern features adjacent to the excavation area.

Excavation records will include photographs of the features taken during and after their excavation. Photographs will include a metric scale, north arrow, and label board with the LA and feature number and date. Photographs will also be taken of the general site area, selected excavation units, and all features found within the units.

Archaeobotanical Sampling

This sampling procedure is primarily adapted from Toll and McBride (2000). The potential contribution of botanical analyses to this study can be maximized by attention to reasonable and appropriate sampling in the field. It is helpful to recognize a fundamental difference between floral data collected in soil samples and virtually every other artifact category. Standard field procedure now dictates collection and curation with provenience information of every sherd, bone, and lithic artifact encountered during most excavation situations; sampling of this universe may take place later in the lab. Doing the equivalent for botanical materials would mean bringing home the entire site, a ludicrous proposition. This makes every soil sample collected in the field a sampling decision. Samples not taken are generally gone forever. On the other hand, a systematic decision to sample widely and intensively to guard against such information loss can generate hundreds or even thousands of unanalyzed samples. Lacking infinite time and resources, we must try to garner maximal information from judicious sampling.

Two aspects hallmark the most effective sampling protocols: awareness of which depositional contexts are most productive of floral remains, and recognition of site areas from which subsistence data will be of most interpretive use for the research foci of the project. Both are fundamentally selection processes. Researchers who aspire to sampling without bias had better approach the job with a very big checkbook indeed. The following guidelines for sampling specific provenience categories provide some simple directives for choosing flotation sampling locations.

Excavators should concentrate on covering the most informative contexts. By coping with less-informative proveniences with minimal sampling (a small number of well-placed samples), we can maintain the option of sampling more complex and informative proveniences in greater detail, generating finer-scale information where it will be appropriate and helpful.

Prime among differentiated, potentially informative contexts are intact interior floor surfaces protected by fill and roof fall. Sampling multiple locations on interior floors contributes data for mapping cultural activities involving plant materials. This patterning informs on the organization of economic and cultural behavior at a household level. Analogous exterior surfaces, such as extramural work areas with associated cooking and storage features, are of equal interpretive interest, but tend to have very poor preservation of perishable remains, and consequently do not merit intensive sampling.

Refuse fill and roof fall, though voluminous and originating from cultural behavior, are of considerable interest, but as an entity. Except in the rare case of a burned roof falling intact on the floor below and being quickly covered by protective fill, horizontal differences in floral debris are really only a sampling problem. Sampling from contexts without good cultural affiliation (for example, disturbed areas) will be minimized.

Botanical samples from floors can be a very important source of information, especially when taken from around thermal features. However, data on other work areas that might not be as well defined is also desired. For a clearer picture of what plant materials are associated with specific work areas, we need samples from floor contents unassociated with feature concentrations. The best way to ensure adequate coverage is to take samples from alternate grids, with the idea that analysts will later be able to select floor loci that will represent major activity areas, as well as one or more controls.

A single sample will be taken from near the bottom of primary deposits in interior fea-

tures. Multiple samples will only be taken when primary deposits are clearly stratified. Samples may be taken from secondary deposits, with the understanding that they do not reflect the function of the feature itself. Single 2-liter samples will also be taken from roof fall zones, and from refuse deposits, if well linked to a later or continuing occupation of the site.

Extramural features will be sampled in the same way as features inside structures: a single sample will be taken from near the bottom of primary deposits, and multiple samples will only be obtained when primary deposits are clearly stratified. Outbuildings like root cellars and sheds are particularly important because of their association with the storage of plant foods for people and/or livestock. Floor fill will be sampled for these types of nonresidential structures, and multiple samples will be taken if warranted (for instance, if a shelf or banco is present). Corrals and extramural middens will be sampled similarly. In both cases, a single 2-liter sample will be obtained from each clearly definable cultural stratum. If the sample is large enough and was taken accurately from the provenience it is meant to represent, multiple samples from the same stratum are redundant. Archaeobotanical samples may be collected from highly specific contexts such as thermal or refuse deposits rich in organic material. It is expected that only a small number of samples may be collected during the excavation. Pollen sampling will complement or accentuate the above-described methods.

Human Remains

No human remains were discovered during the testing phase, and none are expected during data recovery. If human remains are encountered, the following process will be implemented. On all lands of the state of New Mexico and on all private lands in the state of New Mexico, state law (NMSA 18 6 11.2, 1989; and HPD Rule 4 NMAC 10.11) requires a permit for excavation of unmarked burials. Human remains will be excavated under the current annual burial permit issued to the OAS. Following the permit provisions, if human remains are discovered, the intent to use the annual permit-including a legal description of the location of the burial, the written authorization to remove the burial from the landowner, a description of the procedures to be implemented to identify and notify living relatives of the burials, certification that the law enforcement agency having jurisdiction in the area has been notified, a list of personnel supervising and conducting excavations of the human burial, and the NMCRIS LA Project/Activity Number for the permitted excavation-will be submitted in writing to the Historic Preservation Division (HPD) before excavation of the burial begins. The local law enforcement agency with jurisdiction over the area will be notified to contact the state medical investigator, who will determine if the burial is of mediolegal significance. Within 45 days of completing the permitted excavation, recommendations for the disposition of human remains and funerary objects will be made to the HPD. These recommendations will take into consideration the comments of living persons who may be related to the deceased and the wishes of the landowner. The plan will provide a proposed location for reburial or approved curatorial facilities and an inventory of funerary objects and other artifacts found in association or collected in the course of excavation. The HPD, after consulting with the State Office of Indian Affairs, will determine the appropriate disposition of the human remains and associated funerary objects. If a final report cannot be completed with a year of the completion of fieldwork, an interim report will be submitted along with an estimated completion date for a final report. Following notification and concurrence by the State Police, the medical examiner, and the HPD, the following procedures will be applied to the finding of human bones in any excavations at the Capitol Parking Structure.

Isolated human bones. When an isolated and disarticulated human bone or bones are recognized in context and we have clearance to proceed from the applicable agencies, the element(s) will be located vertically and horizontally on a detailed plan map and photographed. The plan will include a point plot number and sufficient detail to determine the orientation, possible associations, and whether the interment was natural or intended. The excavator will pay exceptional attention to recording observations that may be pertinent to interpreting how the element came to rest in this location. Any evidence of rodent, insect, root, carnivore, or other types of distur-

bance will be recorded in detail. If large numbers (10 or more) of disarticulated or partially articulated human bones are found, the excavation will stop until personnel trained in human osteology can aid in the excavation. If human bones are found in the screen, excavation in that unit will be conducted by trowel until it is determined that it is indeed an isolated incident.

Human burials. As soon as a burial is suspected and is sufficiently exposed, calls to the appropriate agency officials will be initiated. Once these officials have concurred with the excavation, the following procedures will be followed.

To the extent possible, the burial pit will be defined by clearing the area of the pit and sufficient working space to a uniform level as near the point of origin of the pit as possible. During this clearing the excavator will observe and record any information pertinent to the origin of the pit with respect to other features and surfaces at the site. Grid corners or other datums for use in locating the burial in three-dimensional space will be established. Once an outline has been defined, the pit will be photographed.

Once the pit is defined, a line will be established though the center of the long axis, and half of the pit will be excavated. Fill will be carefully removed with tools that will not damage the bone. Broad-tipped bamboo and wooden tools are preferred along with fine-tipped metal tools. Pointed wooden tools leave marks that are more difficult to distinguish from old marks than do metal tools, which leave a black or metal signature. To the extent possible, bones will be left in place, excavating only enough to expose the outline of the element. A profile along the pit axis will be drawn. This may have to be in stages, progressing as the entire burial is exposed and layers of elements are removed. Pollen and flotation samples will be taken from near the head and in the stomach area.

Once the profile is recorded, the other half of the pit will be excavated, again exposing the bones only to the extent necessary for recording the burial. When the burial is adequately exposed, digital and black-on-white photographs will be taken. These photos will record the burial from a number of angles, including directly above to help clarify the field drawings. A detailed plan of the burial, burial goods, areas of disturbance, and aspects of the pit will be drawn, and when possible a print of the digital photograph will be extensively annotated.

Forms completed concerning the burial include the usual feature form to detail the attributes of the burial pit, fill, and other information in the same format at other pit excavations. The OAS burial form, which is completed for every burial, incorporates the following information: project, site, recorder, and other tracking information; detailed provenience information; details concerning the grave and/or feature where the burial was found (relationship to primary feature, placement in the feature, soil matrix the feature and/or grave is excavated into; pit description (dimensions, construction, sealing or plugging, pit fill description); characteristics of the burial (whether is primary, secondary, etc., details concerning the body position and orientation of the individual); details concerning the position of each major element or part (e.g., left leg and foot); estimates of the age and sex of the individual; comments concerning the preservation of the bone and any disturbance noted during the excavation; a list of all material recovered from the burial excavation both as point plots and screening; the size of screen used and how much fill was screened through that size; and a list of all plans, plots, photographs, and other documentation. Another set of forms, the human field inventory and disturbance, lists each bone or type of bone (e.g., right ribs) and records the presence, type of disturbance, and location of disturbance.

During the recording process, bones will be removed carefully without excessive cleaning and wrapped in acid-free tissue. Related elements, e.g., the left arm bones, will be placed in bundles, especially when fragmentary, to aid in identification of small fragments. These will be placed in an individual box containing only the burial and transported to locked storage at the OAS.

Backfilling

At the request of Architectural Research Consultants, Inc., and the Property Control Division of the General Services Department of the State of New Mexico, LA 158037 will be backfilled and compacted to levels sufficient to allow

parking by state workers at the Bataan Memorial and Capitol Buildings prior to construction of the Capitol Parking Structure.

Personnel and Schedule

Fieldwork is anticipated to commence by the beginning of March 2008 and last through approximately May 2008. A preliminary report will be submitted to the HPD and the New Mexico Cultural Properties Review Committee before the completion of a final project report to facilitate timely compliance review before construction of the Capitol Parking Structure. A courtesy review copy of the preliminary report will also be submitted to the City of Santa Fe Archaeological Review Committee.

The data recovery plan described in this document will be implemented by the Office of Archaeological Studies. Stephen Post will serve as the project's principal investigator. Matthew Barbour will serve as the supervisory archaeologist and will direct the daily excavation proceedings, laboratory procedures, and report production. Curriculum vitae for these project staff are on file with the HPD.

OAS operational archaeologists will serve as crew chiefs, and other OAS operational and basic archaeologists and laborers will fill the roles of crew members. Laboratory and report-production tasks are anticipated to proceed through the rest of 2008. Additional work in the Capitol Parking Structure, if necessary, may prolong this time frame.

Archival and ethnohistoric studies will be directed and conducted by either an experienced OAS staff member or a contracted specialist. The personnel involved in direct charge of this work will be qualified historians as listed in the *SHPO Directory of Qualified Supervisory Personnel*.

When brought in from the field, the FS logs and bags will be compared, and the artifacts will be washed or cleaned, sorted, and catalogued. Artifacts and samples will be temporarily stored at the OAS laboratory during analysis and in preparation for permanent curation.

If over 100,000 artifacts are collected from the field contexts, analysis of material culture may be sampled within specific artifact categories, such as Euroamerican artifacts and fauna. In these cases, the sample will never be less than 20 percent of the total artifact count of the specific category. Laboratory analysis will be conducted by the staff of the OAS and by specialized professional consultants, where necessary. Analysis procedures will follow the standards established by the OAS, many of which have been developed specifically for historic sites in the Northern Rio Grande area. The following discussions are primarily adapted from Moore (2000).

Ceramic Analysis

Pueblo-made ceramics recovered by the excavations will be analyzed at the OAS laboratory under the direction of C. Dean Wilson. Both historic and lesser amounts of prehistoric Native American-made pottery may be recovered, in addition to a range of Euroamerican ceramics. Euroamerican ceramics will be analyzed as part of the historic artifact analysis.

Detailed and systematic examination of various attributes is needed to fully determine the age and nature of the deposits and features that may be exposed by the excavations. Ceramic studies may contribute to these studies by using distributions of ceramic types and attribute classes from dated contexts to examine patterns related to ethnic affiliation, place of origin, form, and use of ceramic vessels. In order to examine these issues, it is necessary to record a variety of data in the form of both attribute classes and ceramic type categories. These technological and stylistic attributes apply to pottery from all periods.

Attribute categories used in this study are similar to those employed in recent OAS projects in the Northern Rio Grande (Wilson 2004). All sherds will be examined and recorded for temper type, paint type, surface manipulation, modification, and vessel form, and the results will be entered into a computerized data base for analysis and interpretation.

Traditional typologies will be used to classify sherds where possible. Examples of known typologies for Ancestral Pueblo pottery that will be employed include the Rio Grande, Jemez, Pajarito, Galisteo, and Pecos series (as defined by Habicht-Mauche 1993) for matte-paint pottery. For Ancestral Pueblo and early historic Pueblo glaze-paint pottery, the Rio Grande Glaze ware series as defined by Mera (1940) and refined by Warren (1979b) will be employed. For the late Ancestral Pueblo and historic Pueblo matte-paint pottery traditions, the Tewa series as defined by Harlow (1973) and revisited by McKenna and Miles (1991) will be used. In addition, recent efforts by OAS analysts will be incorporated into both prehistoric- and historic pottery-based dating (Wilson 2000).

Other studies planned for data recovery involve more detailed characterizations of selected subsamples of sherds. Such studies will include analysis of refired paste color, petrographic characterizations, design style, and construction methods. Studies of the distributions of these descriptive attributes will be used to examine various issues discussed below.

Trends that reflect chronology and economic patterns can also be examined using ceramic type categories. Ceramic types, as used here, refers to groupings identified by various combinations of paste and surface characteristics with known temporal, spatial, and functional significance. Sherds are initially assigned to specific traditions based on probable region of origin as indicated by paste and temper. They are then placed in a ware group on the basis of general surface manipulation and form. Finally they are assigned to temporally distinctive types previously defined within various tradition and ware groups.

While a number of historic Tewa ceramic types have been formally defined and described (Batkin 1987; Frank and Harlow 1990; Harlow

1973; Mera 1939), most of these type definitions are based on whole vessels and tend to emphasize decorated types. Historic Tewa decorated types are often distinguished from each other by characteristics such as overall design field or shape that are only observable in complete vessels. Such distinctions are of limited use in studies of pottery from archaeological assemblages, which tend to be dominated by plain ware sherds. Thus, this analysis will focus on the definition and use of sherd-based categories more suitable for sherd collections.

Sherd-based definitions of historic Tewa types have been used to examine historic archaeological assemblages (Dick 1968; Lang 1997; Snow 1982). In addition, a number of descriptive categories have been proposed for sherds that exhibit ranges of characteristics that differ from those used to define types from whole vessels. These categories are defined by a range of characteristics that may be ultimately connected to but are not necessarily equivalent to types previously defined for whole vessels. The degree of correlation between vessel and sherd defined categories varies for sherds from vessels of the same type and depends on how much stylistic or decorative information is present. For example, unpainted sherds from a Powhoge Polychrome vessel would be placed into an unpainted historic slipped category, while sherds exhibiting some paint but without distinct decorations would be classified as "Tewa" Black-on-cream undifferentiated. In such cases, the assignment of sherds to Powhoge Polychrome would be limited to examples with distinct design styles indicative of that type. Still, a broken vessel of a specific pottery type should produce a recognizable pattern of sherds assigned to various formal and informal types. Information on this type of patterning may be derived from looking at how types are assigned to sherds that are eventually reconstructed into whole or partial vessels.

Most informal types reflect a range of characteristics indicative of sherds derived from vessels of previously defined types or groups of types. These characteristics are often self-evident in the type name. They are not described in detail here because of the preliminary nature of this study and the relatively small number of sherds examined. The ceramic report produced from this study will include detailed descriptions of all sherd-based historic types recognized during the project, as well as illustrations and discussions of combinations of characteristics observed for each type. These descriptions will be presented in a manner that should serve as an important source of information for future analysis of historic Northern Rio Grande pottery.

Examination of very basic ceramic patterns may be most efficiently served by creating a small number of ceramic ware groups by lumping types that share characteristics. Such groups include decorated "Tewa" polychrome, red-slipped utility, plain utility, black utility, micaceous utility, and a nonlocal group. The use of these basic, broad categories will permit determination of coarse-grained patterning in ceramic assemblages, as opposed to the more basic patterning available from type distributions.

Chipped Stone Analysis

Chipped stone identification and analysis will be conducted by OAS staff. Chipped stone artifacts will be examined using a standardized analysis format (OAS 1994a). This analytic format includes a series of mandatory attributes that describe material, artifact type and condition, cortex, striking platforms, and dimensions. In addition, several optional attributes have been developed that are useful for examining specific questions. This analysis will include both mandatory and optional attributes. While originally developed for prehistoric lithic assemblages, it has been adapted to include the range of morphological and functional variability representative of Spanish Colonial assemblages.

The primary areas our analysis format explores are material selection, reduction technology, and tool use. These topics provide information about ties to other regions, mobility patterns, and site function. While material selection studies cannot reveal *how* materials were obtained, they can usually provide some indication of *where* they were procured. A study of mobility patterns is not integral to this project, but our analysis of the chipped stone assemblages will provide baseline data useful for evaluating information from other sites. By studying the reduction strategy employed at a site, it is possible to compare how different cultural groups approached the problem of producing

usable chipped stone tools from raw materials. The types of tools in an assemblage can be used to help assign a function and to aid in assessing the range of activities that occurred at a site. Chipped stone tools provide temporal data in some cases, but unfortunately they are usually less time-sensitive than other artifact classes like pottery and wood.

Chipped stone artifacts will be examined using a binocular microscope to aid in defining morphology and material type, examine platforms, and determine whether it was used as a tool. The level of magnification will vary between 20- and 100-power, with higher magnification used for wear pattern analysis and identification of platform modifications. Utilized and modified edge angles will be measured with a goniometer; other dimensions will be measured with a sliding caliper. Analytic results will be entered into a computerized data base for analysis and comparison with other data bases on file at the OAS.

Attributes that will be recorded for all flakes, angular debris, cores, and tools include material type, material quality, artifact morphology, artifact function, amount of surface covered by cortex, portion, evidence of thermal alteration, edge damage, and dimensions. Other attributes are aimed specifically at examining the reduction process and can only be obtained from flakes. They include platform type, platform width, evidence of platform lipping, presence or absence of opposing dorsal scars, and distal termination type.

Ground Stone Analysis

Ground stone tools may be recovered from contexts dating to the late nineteenth century. It is expected that ground stone tools will help us learn more about frontier acculturation. Ground stone identification and analysis will be conducted by OAS staff.

Ground stone artifacts will be examined using a standardized methodology (OAS 1994b), which was designed to provide data on material selection, manufacturing technology, and use. Artifacts will be examined macroscopically, and results will be entered into a computerized data base for analysis and interpretation. Several attributes will be recorded for each ground stone artifact, while others will only be recorded for certain tool types. Attributes that will be recorded for all ground stone artifacts include material type, material texture and quality, function, portion, preform morphology, production input, plan view outline, ground surface texture and sharpening, shaping, number of uses, wear patterns, evidence of heating, presence of residues, and dimensions. Specialized attributes that will be recorded in this assemblage include information on mano cross-section form and ground-surface cross section.

By examining function(s) it is possible to define the range of activities in which ground stone tools were used. Because these tools are usually large and durable, they may undergo a number of different uses during their lifetime, even after being broken. Several attributes are designed to provide information on the life history of ground stone tools, including dimensions, evidence of heating, portion, ground-surface sharpening, wear patterns, alterations, and the presence of adhesions. These measures can help identify postmanufacturing changes in artifact shape and function, and describe the value of an assemblage by identifying the amount of wear or use. Such attributes as material type, material texture and quality, production input, preform morphology, plan view outline form, and texture provide information on raw material choice and the cost of producing various tools. Mano cross-section form and ground surface cross section are specialized measures aimed at describing aspects of form for manos and metates, because as these tools wear they undergo regular changes in morphology that can be used as relative measures of age.

Historic Artifact Analysis

Euroamerican artifacts that are recovered will be examined using a standardized analysis format (OAS 1994c). The OAS analysis format and procedures have been developed over the last 10 years and incorporate the range of variability found in sites dating from the eighteenth to twentieth centuries throughout New Mexico. The detailed recording allows for direct comparisons with assemblages from contemporary sites from other parts of New Mexico and throughout the greater Southwest. Analytic results will be entered into a computerized data base for analy-

sis and comparison with other data bases on file at the OAS.

The main emphasis will be the identification of artifact function. One of the major benefits of this type of analysis is that "the various functional categories reflect a wide range of human activities, allowing insight into the behavioral context in which the artifacts were used, maintained, and discarded" (Hannaford and Oakes 1983:70). It also avoids some of the pitfalls of an analytic framework that focuses on categorizing artifacts by material type. Material-based analyses frequently include attributes that are appropriate for only some of the functional categories that might be included in a single material class. For instance, variables that are often chosen for analysis of glass artifacts are usually appropriate for glass containers, but may be inappropriate for flat glass, decorative glass, or items like light bulbs.

This analytic framework was designed to be flexible, which hopefully enables it to avoid these and other problems. The function of each artifact is described by a hierarchical series of attributes that classifies it by functional category, type, and specific function. These attributes are closely related and provide a chain of variables that will specify the exact function of an artifact, if known.

Ten functional categories will be used in this analysis: economy/production, food, indulgences, domestic, furnishings, construction/ maintenance, personal effects, entertainment/ leisure, communication, and unassignable. Each category encompasses a series of types and includes classes of items whose specific functions may be different but are related. An example is a pickle jar and a meat tin, both of which would be included in the food category, but which are made from different materials and had different specific functions.

The exact use to which an artifact was put will be recorded as a specific function within a type. In essence, this attribute represents a laundry list of different kinds of artifacts that may be familiar to most analysts and is the lowest level of the identification hierarchy. Other variables are recorded to amplify the hierarchy of functional variables and provide a more detailed description of each artifact that warranted such treatment. Included in this array of attributes are those that provide information on material type, dating, manufacturer, and what part(s) are represented. Chronological information is available from a variety of attributes, as are data on manufacture and physical descriptions.

Chronological information is available from a variety of descriptive and manufacturing attributes, especially from the latter. If the array of available variables provides enough information to assign beginning and ending dates to an artifact, it is recorded in the date attribute. Manufacturer is the name of the company that made an artifact, when known. This type of information can be critical in assigning a specific date to an artifact, because dates for the opening and demise of most manufacturing companies are available. A related attribute is the brand name associated with a product. Many brand names also have known temporal spans. At times, the manufacturer or brand name can be determined from the labeling/lettering on an artifact, which was used to advertise the brand name or describe its contents or use.

The technique used to manufacture an artifact will be recorded, when it can be determined. Because manufacturing techniques have changed through time, this attribute can provide a relative idea of when an artifact was made. A related attribute is seams, which records the way in which sections of an artifact were joined during manufacture. Like manufacturing techniques, the types of seams used to construct an artifact are often temporally sensitive. The type of finish/seal will be recorded to describe the shape of the opening in a container and the means of sealing it. Many finishes and seal types have known temporal spans of limited duration. Related to this attribute is opening/closure, which records the method of retaining or extracting the contents of a container.

In some instances, attributes such as color, ware, and dimensions can provide information on artifact dating. Thus, the current color of an artifact will be recorded if of diagnostic value. A good example of where this attribute applies is glass, where the various colors present at a site can be used to provide some idea of age. Ware refers to ceramic artifacts and categorizes the specific type of pottery represented, when known. Because temporal information exists for most major ware types, this attribute can provide

critical dating information. Dimensions are also of chronologic value, especially when examining artifacts like nails or window glass, where lengths or thicknesses vary through time.

A few attributes will be used to provide information on the manufacturing process. In some instances these attributes also have descriptive value and can be used to verify functional information. Material records the material(s) from which an artifact was made. Paste describes the texture of clay used to manufacture ceramic objects and is differentiated by porosity, hardness, vitrification, and opacity. Decoration describes the technique used to decorate an artifact, including pottery. A simple description of the decoration on an artifact is recorded as design.

In addition to most of the attributes already discussed, several others will be used to provide a more comprehensive description of each artifact. Fragment/part describes the section of artifact represented. Artifacts or fragments of artifacts within a single excavation unit whose functions and descriptions are identical will be recorded together, and the number of specimens present will be listed under count.

Cultural and environmental changes to an artifact will also be recorded. Reuse describes evidence of a secondary function, and any physical modifications associated with that use will be described as condition/modification. If environmental conditions have had any effect on the surface of an artifact, it will be recorded as aging.

Other variables will be used to describe the appearance of an artifact. Shape describes physical contours and will generally only be recorded if an artifact is whole. Several different measurements will be taken to complete descriptions including volume, length/height, width/diameter, thickness, and weight. Measurements will be taken using industry standards, where appropriate. The entire range of measurements are rarely applicable to a single artifact, and only those that are deemed appropriate will be taken.

Faunal Remains Analysis

Faunal remains will be analyzed at the OAS laboratory under the direction of Nancy J. Akins. Specimens from proveniences chosen for analysis will be identified using the OAS comparative collection, supplemented by that at the Museum of Southwest Biology when necessary. Recording will follow an established OAS computer-coded format that identifies the animal and body part represented, how and if the animal and part was processed for consumption or other use, and how taphonomic and environmental conditions have affected the specimen. Each data line will be assigned a lot number that identifies a specimen or group of specimens that fit the description recorded in that line. Lot numbers also allow for retrieving an individual specimen if questions arise concerning coding or for additional study. A count will also be included to identify how many specimens are described in a data line.

Taxonomic identifications will be made as specific as possible. When an identification is less than certain, this will be indicated in the certainty variable. Specimens that cannot be identified to species, family, or order will be assigned to a range of indeterminate categories based on the size of the animal and whether it is a mammal, bird, or other animal, or cannot be determined. Unidentifiable fragments often constitute the bulk of a faunal assemblage. By identifying these as precisely as possible, information from the identified taxa is supplemented.

Each bone (specimen) will be counted only once, even when broken into a number of pieces during excavation. If the break occurred prior to excavation, the pieces will be counted separately and their articulation noted in a variable that identifies conjoinable pieces, parts that were articulated when found, and pieces that appear to be from the same individual. Animal skeletons will be considered single specimens so as not to inflate the counts for accidentally and intentionally buried taxa.

The skeletal element will be identified then described by side, age, and portion recovered. Side will be recorded for the element itself or for the portion recovered when it is axial, such as the left transverse process of a lumbar vertebra. Age will be recorded at a general level: fetal or neonate, immature, young adult, and mature. Further refinements based on dental eruption or wear will be noted as comments. The criteria used for assigning an age will also be recorded. This will generally be based on size, epiphysis closure, or texture of the bone. The portion of the

skeletal element represented in a particular specimen will be recorded in detail to allow determination of how many individuals are present in an assemblage and to investigate aspects of consumer selection and preservation.

Completeness refers to how much of each skeletal element is represented by a specimen. It will be used in conjunction with portion to determine the number of individuals present. It will also provide information on whether a species is intrusive, and will inform on processing, environmental deterioration, animal activity, and thermal fragmentation.

Taphonomy is the study of preservation processes and how they affect the information obtained by identifying some of the nonhuman processes that affect the condition or frequencies found in an assemblage (Lyman 1994:1). Environmental alteration includes degree of pitting or corrosion from soil conditions, sun bleaching from extended exposure, checking or exfoliation from exposure, root etching from the acids excreted by roots, and polish or rounding from sediment movement, when applicable. Animal alteration will be recorded by source or probable source and where it occurs.

Burning, when it occurs after burial, is also a taphonomic process. Burning can occur as part of the cooking process, part of the disposal process, when bone is used as fuel, or after it is buried. Here, the color, location, and presence of crackling or exfoliation will be recorded. Burn color is a gauge of burn intensity. A light tan color or scorch reflects superficial burning, while bone becomes charred or blackened as the collagen is carbonized. When the carbon is completely oxidized, it becomes white, or calcined (Lyman 1994:385, 388). Burns can be gradated over a specimen, reflecting the thickness of the flesh covering portions of the bone when burned. Dry burned bone is light on the exterior and black at the core or has been burned from the interior. Graded burns can indicate roasting. Completely charred or calcined bone and dry burns do not occur as part of the cooking process. Uniform degrees of burning are possible only after the flesh has been removed and generally indicate a disposal practice (Buikstra and Swegle 1989:256).

Evidence of butchering will be recorded as various orientations of cuts, grooves, chops, abrasions, saw cuts, scrapes, peels, and intentional breaks. This type of evidence is much less ambiguous in historic assemblages where metal knives, axes, and cleavers leave more distinct marks than stone tools. The location of butchering will also be recorded. Additional detail will be obtained by indicating the exact location on diagrams of the body parts.

Fauna recovered from historic sites is typically so fragmented that few attempts have been made to collect measurement data. Yet this information has the potential to differentiate varieties of sheep and goat, perhaps distinguish beef from draft cattle, and differentiate species of equids, along with the social and economic consequences thereof. Because this data has such potential, all possible measurements will be taken on domestic fauna. Measurements will be taken following von den Driesch (1976), who provides a comprehensive list of measurements for virtually every element. While this project may not provide enough data to confidently answer questions concerning the varieties represented, it may contribute to a useful data base for comparisons with earlier and later sites.

Human remains Analysis

Human remains will also be analyzed by Nancy J. Akins. The human analysis will follow the procedures set out in *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker 1994). This comprehensive system focuses on the need to gain the maximum amount of comparable information by recording the same attributes using the same standards. Documentation of how these should be recorded includes the following information:

1. A coding procedure for each element that makes up a relatively complete skeleton is provided. Diagrams of skeletons and anatomical parts allow for the location of any observations concerning these parts. Another form codes commingled or incomplete remains.
2. Adult sex is determined by examining aspects of the pelvis and cranium. Age changes are documented on the pubic symphysis using two sets of standards: on the auricular surface of the ilium, and through cranial suture closure.
3. For immature remains, the age at death is determined by scoring epiphyseal union, union

of primary ossification centers, and measurements of elements.
4. Recording of dental information includes an inventory, pathologies, and cultural modifications. Each tooth is coded and visually indicated for presence and whether it is in place, unobservable, or damaged, congenitally absent, or lost premortem or postmortem. Tooth development is assessed, occlusal surface wear is scored, caries are located and described, abscesses are located, and dental hypoplasias and opacities are described and located with respect to the cemento enamel junction. Any premortem modifications are described and located.
5. The secondary dentition is measured and dental morphology scored for a number of traits.
6. Measurements are recorded for the cranium (n = 35), clavicle, scapula, humerus, radius, ulna, sacrum, innominate, femur, tibia, fibula, and calcaneus (n = 46).
7. Nonmetric traits are recorded for the cranium (n = 21), atlas vertebra, seventh cervical vertebra, and humerus.
8. Postmortem changes or taphonomy are recorded when appropriate. These include color, surface changes, rodent and carnivore damage, and cultural modification.
9. The paleopathology section groups observations into nine categories: abnormalities of shape, abnormalities of size, bone loss, abnormal bone formation, fractures and dislocations, porotic hyperostosis/cribra orbitalia, vertebral pathology, arthritis, and miscellaneous conditions. The element, location, and other pertinent information is recorded under each category.
10. Cultural modifications such as trepanation and artificial cranial deformation are recorded on another set of forms.

Buikstra and Ubelaker (1994:174) recommend curating the following samples for future analysis on burials that will be repatriated: the middle portion of a femur midshaft (at least 100 g) that can be used for radiocarbon dating; trace element analysis (diet); stable isotope ratios (climate and diet); strontium (population movement); bone geometry (activity patterns); histomorphometry (age and health); aspartic acid analysis (age and health); several teeth (the upper central incisor, lower canines and premolars, and lower second molar) for histomorphometric analysis; cementum annulation (root); aspartic acid (dentin); isotope studies (enamel); future studies of linear hypoplasias and enamel microwear patterning; five grams of trabecular bone for DNA extraction; the middle third of a clavicle and rib six for age at death, health studies, and morphological age assessments; and finally, two sections of the right femur and one section each of the humerus or CT scans of both to assess the level and type of behavior. No samples will be collected without the express permission of the landowner.

Archaeobotanical Analysis

Macrobotanical studies conducted by the OAS under the direction of Mollie Toll will include flotation analysis of soil samples, species identification, morphometric measurement of macrobotanical specimens (where appropriate), and species identification of wood specimens from both flotation and macrobotanical samples. Flotation is a widely used technique for the separation of floral materials from the soil matrix. It takes advantage of the simple principle that organic materials (and particularly those that are nonviable or carbonized) tend to be less dense than water and will float or hang in suspension in a water solution. Each soil sample is immersed in a bucket of water. After a short interval allows heavier sand particles to settle out, the solution is poured through a screen lined with "chiffon" fabric (approximately 0.35 mm mesh). The floating and suspended materials are dried indoors on screen trays, then separated by particle size using nested geological screens (4.0, 2.0, 1.0, and 0.5 mm mesh) before sorting under a binocular microscope at 7- to 45-power magnification.

This basic method was used as long ago as 1936 but did not become widely used for recovery of subsistence data until the 1970s. Seed attributes such as charring, color, and aspects of damage or deterioration are recorded to help determine cultural affiliation versus postoccupational contamination. Relative abundance of insect parts, bones, rodent and insect feces, and roots helps to isolate sources of biological disturbance in the ethnobotanical record.

All macrobotanical remains collected during excavation will be examined individually, identified, repackaged, and catalogued.

Condition (carbonization, deflation, swelling, erosion, damage) will be noted as clues to cultural alteration, or modification of original size dimensions. When less than half of an item is present, it will be counted as a fragment; more intact specimens will be measured as well as counted. Corn remains will be treated in greater detail. Width and thickness of kernels, cob length and mid-cob diameter, number of kernel rows, and several cupule dimensions will be measured. In addition, the following attributes will be noted: over-all cob shape, configuration of rows, presence of irregular or undeveloped rows, and post-discard effects.

Pollen samples selected for analysis will complement or accentuate the above-described strategies. Analysis will be conducted by a contracted professional palynologist experienced with prehistoric and historic sites in New Mexico, and particularly, New World domesticates. Pollen analysis methods are not presented here, because they may vary depending on the analyst. The full range of methods that may be applicable to the identification of New and Old World domesticate pollen will be explored in consultation with contract specialists and specialists that are on the OAS staff.

Chronometric Dating

Chronometric samples may be collected and used to define the occupation sequence, if other means fail to provide sufficient data. Absolute dating methods that may be used in this project include dendrochronology, archaeomagnetism, and radiocarbon assays, as well as possibly photon-stimulated luminescence (Berger et al. 2004a, 2004b). Other relative dating methods that will be used, particularly ceramic stylistic and technological variation and historic artifact manufacture dates, are discussed in the appropriate analytical sections.

Dendrochronology produces extremely precise and accurate dates when appropriate samples are available. Ideal samples should have 15 to 20 years of growth rings, a sensitivity to climate variation that allows the sample to be matched with the regional chronology of climatic variation, qualities of outer surface that allow the outer ring to be interpreted as the death year of the tree, and an archaeological context that supports a linkage between tree death and the cultural behavior that is the target event of the dating effort. Tree ring dating is most reliable when multiple samples are collected from structural remains where timbers were cut to length. Although construction timber reuse and stockpiling can cause inaccuracies (Graves 1983), patterns of dates from multiple samples usually reveal the presence of remodeling or reuse of wood. Although wood samples from nonarchitectural contexts can be dated, samples from fuel wood in hearth contexts risk the same "old wood" problem that affects radiocarbon samples (Smiley 1985). The University of Arizona Tree-Ring Laboratory in Tucson is the preeminent laboratory for this method, and they will be retained if dendrochronological samples are recovered.

Archaeomagnetism does not have either the potential precision or accuracy of tree ring dating, but it does have other advantages. Heating allows the field orientations of magnetic particles in earth or rock to become reoriented to the prevailing geomagnetic field when the particles cool (Sternberg 1990; Wolfman 1990). Because the geomagnetic field is constantly changing, features that are burned and cool will retain a distinctive magnetic orientation that is determined by the date of the cooling. A similar circumstance occurs in slack-water alluvial settings, wherein remnant magnetization is preserved in the sediment as a result of biogenic synthesis of magnetic minerals in high pH, anoxic conditions (Ellis and Brown 1998). Whereas tree ring dating works best at recording the dates of construction events, archaeomagnetic dates apply to the final use of burned or puddled features, and this procedure is one of the only dating techniques that can elucidate abandonment events.

Archaeomagnetic samples are collected from burned cultural features or puddled alluvial contexts, the orientation of the sample is measured in the laboratory, and the geomagnetic pole as recorded at the feature is compared with the regional pattern of polar movement through time. Problems with archaeomagnetism stem from both measurement factors and interpretation factors, both of which can affect the precision and exclusivity of date interpretations. The precision of a given result is determined by the coherence of the orientations of the individual speci-

mens (usually eight) that make up the sample. Variables affecting coherence include the type, size, and density of magnetic minerals in the earth, the temperature of burning, and any sources of postdepositional disturbance of the feature. Even a very coherent result may have imprecise or multiple-date interpretations based on the intersection of the result's oval of confidence with the polar curve for the region. A time of particularly slow polar movement can result in a broad date range, or a region of the pole that is transected by several segments of the polar curve will result in multiple possible date ranges. When an archaeomagnetic sample results in multiple date ranges, independent dating evidence will be required to determine which of the possible date ranges is correct. The greatest advantage of this technique is that the sampled material is usually unambiguously related to the component being dated, but potential ambiguity of the technique requires that it be used in conjunction with other sources of chronology. The OAS Archaeomagnetic Dating Laboratory, directed by Eric Blinman, will be used if appropriate contexts are encountered.

Like the first two methods, radiocarbon dating has limitations, but it has the advantage that carbon is one of the most abundant sample materials in archaeological contexts (Taylor 2000). Plants incorporate carbon into their tissues through photosynthesis, drawing on the pool of carbon in the atmosphere. Radioactive isotopes of carbon produce cosmic radiation in the upper atmosphere, resulting in a relatively constant proportion of carbon 14 in the atmospheric pool. When plant tissue is no longer actively incorporating carbon, the amount of radioactive carbon declines at a rate consistent with the relatively short half life of the isotope. The measured amount of radioactive carbon in a sample, the expected amount given the assumed atmospheric pool concentration, and the half life value for the isotope can be used to calculate a radiocarbon age for the sample. Precision of radiocarbon age estimates is determined by the measurement error associated with determining the radioactive isotope contents. However, the assumption of a constant value for the carbon 14 pool concentration has been shown to be inaccurate, and the radiocarbon age of a sample can only be translated into a calendric age estimate by comparison with carefully derived calibration curves (Stuiver and Reimer 1993). These curves reflect fluctuating pool values, increasing dating accuracy but affecting both precision and exclusivity of radiocarbon date interpretations. A single precise date expressed in radiocarbon years can yield an imprecise calendar date or multiple possible calendar date ranges.

Independent of the technical aspects of dating, radiocarbon samples are not unambiguously associated with cultural contexts. Although unburned organic materials deteriorate in most archaeological sites, charcoal is inert, and once it is produced, it is only subject to physical damage. Most charcoal results from heating and cooking fuel, but it can also result from the burning of structures and artifacts. Individual pieces of charcoal rarely carry any qualities that can be unambiguously related to a particular cultural event; therefore, the integrity of potential samples is dependent on feature contexts. If samples are collected from potentially disturbed contexts, then the resulting dates can only be interpreted in relation to other independent dates. Other problems with radiocarbon dating are the "old wood" issue previously mentioned for dendrochronology and cross section effects. Long dead (dry) wood tends to be harvested for fuel, and on Southwestern landscapes, standing dead trees may be sources of fuel for centuries after their death (Smiley 1985). In addition, slow growing species such as piñon and juniper can incorporate centuries of growth into small branches (cross section effect). These qualities can result in erroneously early radiocarbon dates, even though the sampled material is unambiguously associated with a particular cultural feature and behavior. To lessen the potential risks of these problems, the charcoal selected for dating can be sorted by species and plant part. Small twigs or branches contribute less to cross section effects because they incorporate fewer years of growth and persist for shorter periods on standing dead trees. Annual plants and perennial shrubs are better material for radiocarbon dating because they incorporate carbon over smaller numbers of years and are not likely to survive on the landscape a long time after dying. Care in collecting, selecting, and characterizing radiocarbon samples will increase their relevance to particular cultural contexts, but the other limitations of the

technique and date interpretation will constrain use and interpretation in some contexts. The OAS uses Beta-Analytic, Inc., of Coral Gables, Florida, for all radiocarbon dating analyses.

As previously noted, an experimental dating technique, photon-stimulated luminescence, has recently been used on archaeological sediments (Berger et al. 2004a, 2004b). This process uses photon-stimulated luminescence to derive burial-age estimates of sedimentary particles and strata. "The accuracy of such luminescence dating of waterlain sediments depends critically upon the effectiveness of daylight exposure of individual mineral grains, [which] zeros the light-sensitive clock" (Berger et al. 2004b:3). A polymineral regenerative-dose luminescence method, in conjunction with statistical pooling of the dose measurements, "can generate precision values of 20-100 years for samples <1000 years old" (Berger et al. 2004b:4). If appropriate sample-recovery settings are encountered, sediment samples will be collected and retained for possible dating analysis through this experimental method (conducted by the Desert Research Institute in Reno, Nevada). One primary criterion for the use of this approach would be the potential for both complementary radiocarbon and archaeomagnetic samples to be recovered from the same strata. Data from those types of chronometric studies would be necessary to allow adequate evaluation of the photon-stimulated luminescence results.

Sediment Analysis

Sediment analysis will be conducted by either a contracted professional geomorphologist or experienced OAS staff. The color of each sediment sample will be determined using a Munsell soil color chart. Sample volumes will be recorded prior to processing. Particle-size analysis will use a sieve stack ranging from 2 mm to 75 ?m for materials larger than 75 ?m, and the sedimentation-hydrometer method for particles smaller than 75 ?m (Teutonico 1988). Cultural inclusions (charcoal, coal/cinders, artifacts, faunal remains, etc.) will be segregated from the sediment samples, and the counts or weights of each class of material will be quantified for volumetric comparisons among the sediment samples.

Research Results and Artifact Curation

A report on the data recovery program will be published by the OAS in the Archaeology Notes series. This report will describe the site excavations, report the analysis results, and present interpretive summaries. It will include photographs, site and feature maps, and data summaries. A popular report will also be produced. Field maps and notes, analytical data sheets, and photographs will be deposited with the Archeological Records Management Section of the New Mexico Historic Preservation Division. Artifacts will be curated at the Archaeological Research Collection, Museum of New Mexico.

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