NMCRIS Activity No. 150798

Museum of New Mexico
Office of Archaeological Studies

Archaeological Monitoring Report for the Excavation of Four Bore Pits Along Jaguar Drive, Santa Fe, New Mexico by High 5 Networks

Karen Wening

Principal Investigator
Eric Blinman

Final report approved by ARC on January 10, 2023,
and NM State Historic Preservation Office on January 11, 2023.

Archaeology Notes 518
2022

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.: 150798	2a. Lead (Sponsoring) Agency: High 5 Networks, LLC	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.:

4. Title of Report: Archaeological Monitoring Report for the Excavation of Four Bore Pits Along Jaguar Drive, Santa Fe, New Mexico, by High 5 Networks, LLC

5. Type of Report
☒ **Negative** ☐ **Positive**

6. Investigation Type
☐ Research Design ☐ Survey/Inventory ☐ Test Excavation ☐ Excavation ☐ Collections/Non-Field Study
☐ Overview/Lit Review ☒ Monitoring ☐ Ethnographic study ☐ Site specific visit ☐ Other

7. Description of Undertaking (what does the project entail?):
Mechanical excavation of 4 bore pits for subsurface boring to install fiber optic conduit on Jaguar Drive between Governor Miles Road and the NMDOT Equipment Yard in Santa Fe, NM.

8. Dates of Investigation: September 23, 2019

9. Report Date:
November 1, 2022

10. Performing Agency/Consultant: Office of Archaeological Stu
Principal Investigator: Eric Blinman
Field Supervisor: Karen Wening
Field Personnel Names: Karen Wening

11. Performing Agency/Consultant Report No.:
Archaeology Notes 518

12.

13. Client/Customer (project proponent):
Contact: Edgar Mendez Sr., High 5, LLC
Address: 4605 Periwinkle Court NW, Albuquerque, NM
Phone: (505) 804-1415

14. Client/Customer Project No.:

15. Land Ownership Status ***(Must be indicated on project map):***

Land Owner	Acres Surveyed	Acres in APE
Private Corporation		0.001
TOTALS		**0.001**

16 Records Search(es):

Date(s) of ARMS File Review 8-17-22	**Name of Reviewer(s)** Karen Wening	
Date(s) of NR/SR File Review 8-17-22	**Name of Reviewer(s)** Karen Wening	
Date(s) of Other Agency File Review	**Name of Reviewer(s)**	**Agency**

17. Survey Data:

a. Source Graphics ☐ NAD 27 ☒ NAD 83
☐ USGS 7.5' (1:24,000) topo map ☐ Other topo map, Scale:
☒ GPS Unit Accuracy ☒<1.0m ☐ 1-10m ☐ 10-100m ☐>100m

b. USGS 7.5' Topographic Map Name | **USGS Quad Code**

Agua Fria	X24K279

c. County(ies): Santa Fe County

17. Survey Data (continued):

d. Nearest City or Town: Santa Fe

e. Legal Description:

Township (N/S)	Range (E/W)	Section	¼ ¼ ¼
16N	9E		, , .
			, , .
			, , .
			, , .
			, , .
			, , .
			, , .
			, , .
			, , .

Projected legal description? ☒ Yes ☐ No ☒ Unplatted

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):

18. Survey Field Methods:
Intensity: ☐ 100% coverage ☒ <100% coverage

Configuration: ☐ block survey units ☐ linear survey units (l x w): ☒ other survey units (specify): Monitoring

Scope: ☒ non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)

Coverage Method: ☐ systematic pedestrian coverage ☒ other method (describe) Monitoring

Survey Interval (m): **Crew Size: 1** **Fieldwork Dates:** Sep. 23, 2019

Survey Person Hours: n/a **Recording Person Hours: 8 Total Hours: 8**

Additional Narrative: Monitoring of 14 mechanically excavated bore pits for subsurface boring

Crew Size

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): Santa Fe is in a fault zone within a subdivision of the Southern Rocky Mountain physiographic zone known as the Espanola Basin, one in a chain of basins comprising the Rio Grande rift, which extends from southern Colorado to southern New Mexico. The Jaguar Drive project area slopes gently east towards the Chamisos Arroyo. Project elevation ranges from 6,477 to 6,504 ft. Soils are formed in reworked, mixed alluvial material of the Tertiary/Quaternary-period Santa Fe formation. The major soil association is Bluewing gravelly sandy loam. This soil occurs on 0- to 5-percent slopes and may coexist with Pojoaque and Fivemile soils. The project area has a semiarid climate in which precipitation can fluctuate widely. It is within an urbanized area where historical local flora and fauna are typical of Upper Sonoran grasslands. The characteristic vegetation includes piñon, juniper, prickly pear, cholla, yucca, and several species of muhly and grama grass, though most flora in the project area consist of introduced species used for landscaping. Fauna included coyote, badger, porcupine, black-tailed jackrabbit, desert cottontail, spotted ground squirrel and many species of birds. Mule deer and black bear are known to occur, but in low numbers.

20. a. Percent Ground Visibility: 100% **b. Condition of Survey Area (grazed, bladed, undisturbed, etc.):** Bladed, open land	
21. CULTURAL RESOURCE FINDINGS ☐ ☒**No, Discuss Why:** Sterile strata in all four bore pits	
22. Required Attachments (check all appropriate boxes): All of the information below is included in the attached report. ☒ **USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn** ☒ **Copy of NMCRIS Mapserver Map Check** ☐ **LA Site Forms - new sites (*with sketch map & topographic map)*** ☐ **LA Site Forms (update) - previously recorded & un-relocated sites (*first 2 pages minimum)*** ☐ **Historic Cultural Property Inventory Forms** ☐ **List and Description of isolates, if applicable** ☐**List and Description of Collections, if applicable**	**23. Other Attachments:** ☐ **Photographs and Log** ☐ **Other Attachments** ***(Describe)*:**
24. I certify the information provided above is correct and accurate and meets all applicable agency standards. **Principal Investigator/Responsible Archaeologist:** Eric Blinman **Signature:**  **Date:** Nov. 1, 2022 **Title (if not PI):**	
25. Reviewing Agency: **Reviewer's Name/Date** **Accepted ( ) Rejected ( )** **Tribal Consultation (if applicable):** ☐ **Yes** ☐**No**	**26. SHPO** **Reviewer's Name/Date:** **HPD Log #:** **SHPO File Location:** **Date sent to ARMS:**

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 150798	2. Lead (Sponsoring) Agency:	3. Lead Agency Report No.:

SURVEY RESULTS:

Sites discovered and registered: 0
Sites discovered and NOT registered: 0
Previously recorded sites revisited (*site update form required*): **0**
Previously recorded sites not relocated ***(site update form required):*** **0**
TOTAL SITES VISITED: 0
Total isolates recorded: 0 **Non-selective isolate recording? ☒**
Total structures recorded (*new and previously recorded, including acequias*): **0**

MANAGEMENT SUMMARY:

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

SURVEY LA NUMBER LOG

Sites Discovered:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

Previously recorded revisited sites:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

MONITORING LA NUMBER LOG *(site form required)*

Sites Discovered (*site form required*) **:** **Previously recorded sites** ***(Site update form required):***

LA No.	Field/Agency No.	LA No.	Field/Agency No.

Areas outside known nearby site boundaries monitored? Yes ☐, No ☐ If no explain why:

TESTING & EXCAVATION LA NUMBER LOG (*site form required*)

Tested LA number(s)	Excavated LA number(s)

Administrative Summary

On Sept. 23, 2019, High 5 Networks, LLC, installed conduit by boring for the placement of fiber optic lines on Jaguar Drive between Governor Miles Road and the New Mexico Department of Transportation equipment yard. The bore route measured 980 feet (299 m) long and involved the excavation of four bore pits on the south side of Jaguar Drive and Governor Miles Road. No sites were encountered.

OAS Project No. 41.1102
NMCRIS Activity No. 150798
NM Permit No. NM-19-027 M

Contents

1 ⇊ Introduction and Project Specifications....1

2 ⇊ Physical Environment....5

3 ⇊ Cultural Overview....9

4 ⇊ Archaeological Activities and Sites in the Project Area....17

5 ⇊ Historic Map and Aerial Photograph Information....19

6 ⇊ Field Methods and Reporting Schedule....35

7 ⇊ Stratum Descriptions....37

8 ⇊ Bore Pit Descriptions....39

References Cited....47

Appendix 1: NMCRIS Activities and Sites in the Project Area....55

Appendix 2: Project Location Information....59

Figure List

Chapter 1: Introduction and Project Specifications

Fig. 1.1. Project area map 2
Fig. 1.2. Project map showing Bore Pits 1, 2, 3, and 4 with bore run 3
Fig. 1.3. Archaeological Review District map with overlay of the project area 3

Chapter 5: Historic Map and Aerial Photograph Information

Fig. 5.1. J. J. Bowden's land grant map (1969) with overlay of the approximate project area 20
Fig. 5.2. Santa Clara quad (1892) and Santa Fe quad (1889) maps with overlay of the approximate project area 20
Fig. 5.3. Aerial photograph (1936) with overlay of the project area 21
Fig. 5.4. Aerial photograph (1948) with overlay of the project area 21
Fig. 5.5. Aerial photograph (1951) with overlay of the project area 23
Fig. 5.6. Agua Fria USGS quadrangle map (1953) with overlay of the project area 23
Fig. 5.7. Google Earth image (1996) with overlay of the project area. 24
Fig. 5.8. Google Earth image (2003) with overlay of the project area. 24
Fig. 5.9. Google Earth image (2019) with overlay of the project area. 25
Fig. 5.10. Advertisements for plane rides and flying lessons at Byrne Airport 28
Fig. 5.11. Announcement for the dedication of the first municipal airport (SFNM Sept. 23, 1939) 29
Fig. 5.12. Announcement for the opening of the completed airport (SFNM Sept. 23, 1939) 30
Fig. 5.13. USGS Agua Fria quads (1969 and 1979) showing presence of runways until, at least, 1969 32
Fig. 5.14. Aerial photo (1967) with portion of Boyd Field, then abandoned 33

Chapter 7: Bore Pit Descriptions

Fig. 8.1. Bore Pit 1 location shot 40
Fig. 8.2. Bore Pit 1, north face profile 40
Fig. 8.3. Bore Pit 2 location shot 41
Fig. 8.4. Bore Pit 2, south face profile 41
Fig. 8.5. Bore Pit 3 location shot 42
Fig. 8.6. Bore Pit 3, south face profile 42
Fig. 8.7. Bore Pit 4 location shot 43
Fig. 8.8. Bore Pit 4, east face profile 43
Fig. 8.9. Google Earth image with overlay of 1952 airport runway 44

Appendix 1: NMCRIS Activities and Sites in the Project Area

Fig. A1.1. NMCRIS activities within 500 m of the project area 56
Fig. A1.2. NMCRIS archaeological sites within 500 m of the project area 56

Table List

Chapter 1: Introduction and Project Specifications

Table 1.1. Bore pit inventory 4

Appendix 1: NMCRIS Activities and Sites in the Project Area

Table A1.1. NMCRIS activities within 500 m of the project area 57
Table A1.2. NMCRIS archaeological sites in the project vicinity 58

1 ⇓ Introduction and Project Specifications

On Sept. 23, 2019, High 5 Networks, LLC, installed conduit by boring for the placement of fiber optic lines along the east end of Jaguar Drive in Santa Fe (Fig. 1.1). The subsurface bore route was 980 feet (299 m) long and required the excavation of four new bore pits on Jaguar Drive (Fig. 1.2; Table 1.1). The project was located within the Suburban Archaeological Review District of the City of Santa Fe (Fig. 1.3). As stipulated in the City of Santa Fe Ordinance 14-3.13B(4)(b), archaeological clearance is required for new construction of utility mains longer than 550 ft (167.6 m) in the Suburban Archaeological Review District. To comply with this ordinance, High 5 Networks, LLC, requested that the Office of Archaeological Studies (OAS) prepare an archaeological monitoring plan for the project. The plan was reviewed and approved at the Aug. 1, 2019 meeting of the City of Santa Fe Archaeological Review Committee (ARC). OAS requested that the monitoring provision of our New Mexico General Archaeological Investigation Permit NM-19-027-M be activated following acceptance of the monitoring plan by the City of Santa Fe Historic Preservation Division (SFHPD). Conduit installation proceeded after the New Mexico Historic Preservation Division (NMHPD) concurred with ARC approval of the monitoring plan. City of Santa Fe lands are a subdivision of the State of New Mexico for cultural resources purposes and NMAC 4.10.17 Standards for Monitoring were applied to the project.

Project Specifications

All conduit was installed by boring on the south side of Jaguar Drive. Four new bore pits were required for the bore (see Fig. 1.2). Bore Pits 2 and 3 were on the south side of Jaguar Drive across from the New Mexico Law Enforcement Academy. Bore Pit 1 was located at the southwest corner of Jaguar Drive and Cerrillos Road. Bore Pit 4 was at the southeast corner of Jaguar Drive and Cerrillos Road, where Governor Miles Road begins. The bore length measured 980 ft (299 m) and reached a target depth of 3 ft (0.91 m) bgs. The horizontal area of the bore pits ranged from 1.0–2.5 sq m. Depth ranged from 0.80–1.08 m bgs. Extensive potholing was required for Bore Pit 4, due to existing fiber optic and power utility lines.

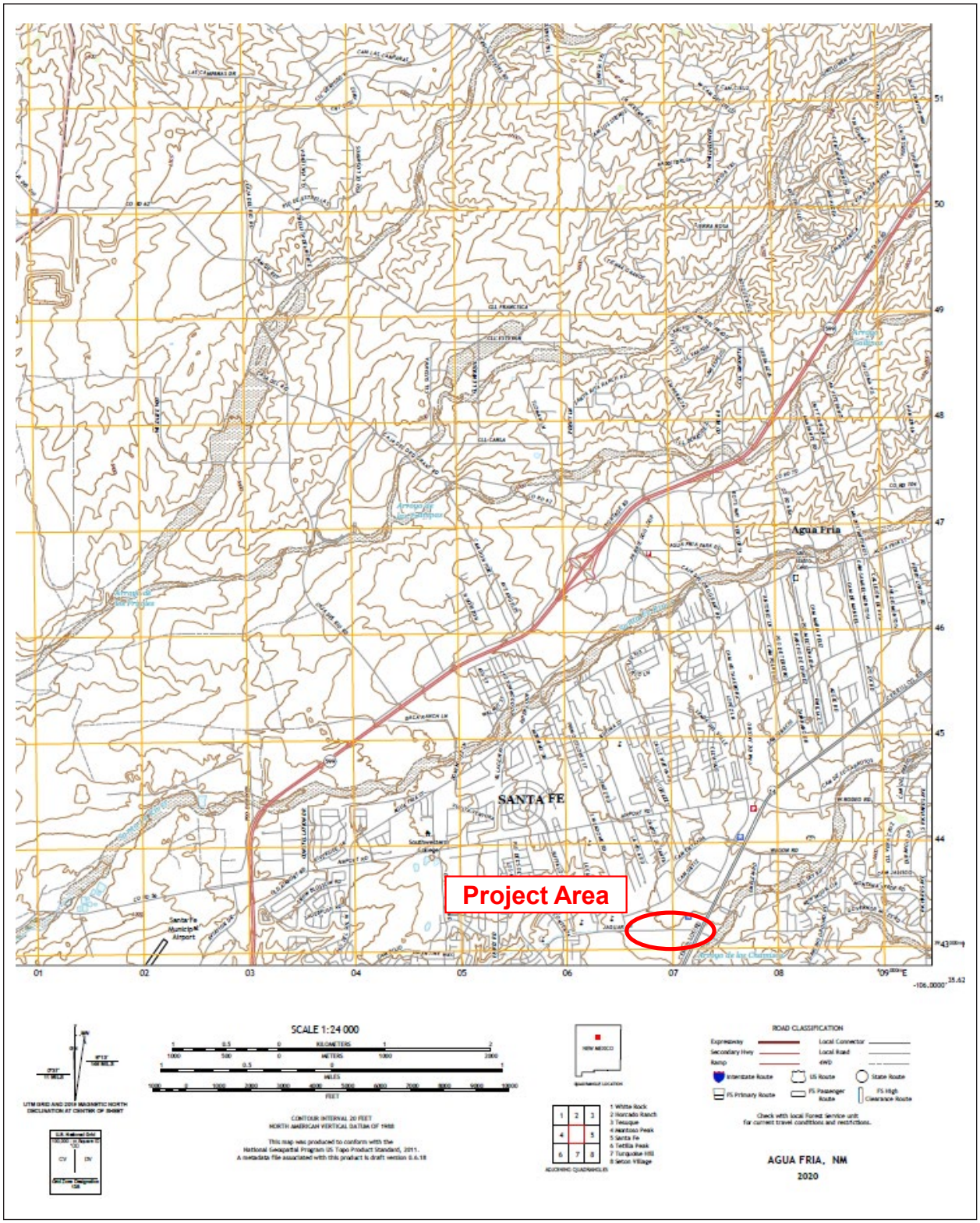


Figure 1.1. Project area map.

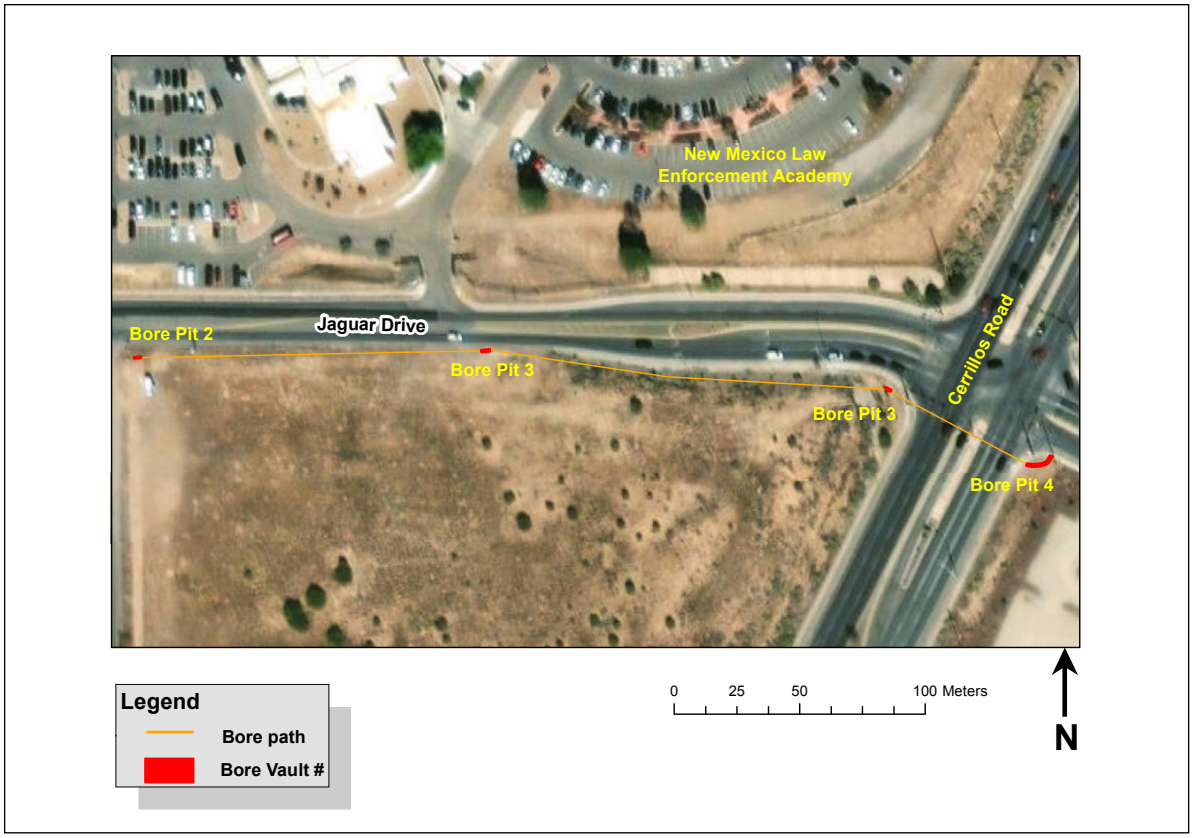


Figure 1.2. Project map showing Bore Pits 1, 2, 3, and 4 with bore run.

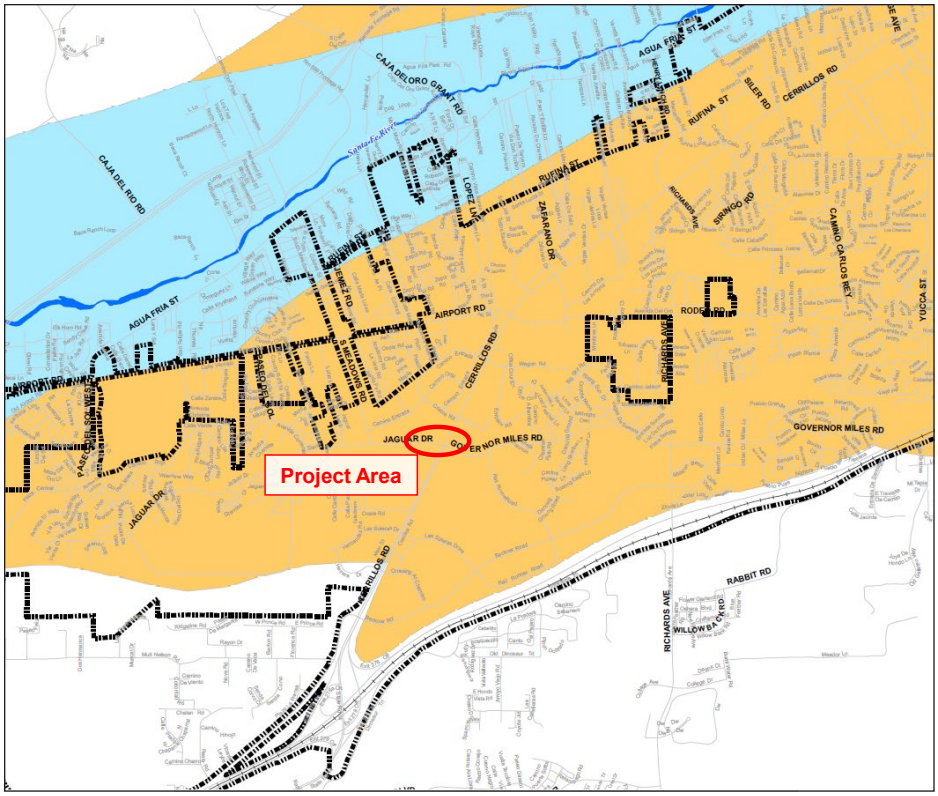


Figure 1.3. Archaeological Review District map with overlay of the project area.

Table 1.1. Jaguar Drive project, bore pit inventory.

Bore Pit	Length (m)	Width (m)	Depth (m bgs)	Horizontal area (sq m)	Strata	Stratum Status
1	1.90	0.50	0.80	1.0	1	redeposited
2	2.15	0.50	0.90	1.0	1, 2, 3	1 redeposited; 2 and 3 intact
3	2.85	0.50	1.08	1.5	1, 2, 3, 4	1, 2, and 3 redeposited; 4 intact
4	7.00	0.45	0.80	2.5	1	redeposited
Total horizontal area (sq m)				**6.0**		

2 ⸸ Physical Environment

Numerous recent archaeological projects in the Santa Fe area have provided information on the history and environment of the area. Environmental and cultural history for this report have been adapted from Maxwell and Post 1992, Lentz 2005, Wenker 2005, Hannaford 2007, and Lakatos 2011.

Environment

Local topography alternates among nearly level plains, rolling terraces, and steep, rocky slopes. The main drainage is the Santa Fe River. A major tributary, Arroyo de los Chamisos, is immediately south of the project area, as is Arroyo Hondo. These tributaries are intermittent and do not support much of a riparian zone in the vicinity of the project area, although the tributaries are more heavily vegetated downstream and much further upstream.

Geology

Santa Fe is in a fault-zone feature within the structural subdivision of the Southern Rocky Mountain physiographic zone known as the Española Basin. The Española Basin is one of a chain of six or seven basins comprising the Rio Grande Rift, which extends from southern Colorado to southern New Mexico (Kelley 1979:281). This basin, considered an extension of the Southern Rocky Mountain Province (Fenneman 1931), is surrounded by uplands of alternating mountain ranges and uplifted plateaus. The Rio Grande flows along the long axis of the feature (Kelley 1979:281).

The northern boundary of the Española Basin is composed of the eroded edge of the Taos Plateau. The Sangre de Cristo Mountains form the eastern edge, and the southern boundary is marked by the Cerrillos Hills and the northern edge of the Galisteo Basin. The La Bajada fault escarpment and the Cerros del Rio volcanic hills denote the basin's southwestern periphery. The Española Basin is bounded to the west by the Jemez Volcanic Field. The Brazos and Tusas mountains form the northwestern boundary. Elevations along the Rio Grande through the basin vary from 6,053 ft (1,845 m) in the north to 5,301 ft (1,616 m) in the south. Altitudes in the surrounding mountains reach 13,103 ft (3,994 m) in the Sangre de Cristo Mountains, 11,555 ft (3,522 m) in the Jemez Mountains, and 8,605 ft (2,623 m) in the Brazos and Tusas mountains (Kelley 1979:281).

The Rio Grande Rift was established during the late Oligocene epoch (ca. 30 million years BP) when a cycle of downwarping and extensional faulting succeeded a period of regional uplift (Kelley 1979:281). As the subsidence of the Española Basin proceeded through the Miocene and Pliocene epochs (ca. 3 million to 25 million years ago), erosion from the Nacimiento, Jemez, and Brazos uplifts to the north and northwest, and from the Laramide and Sangre de Cristo uplifts to the east and northeast, provided most of the sediments for what is known as the Santa Fe Group, the prominent geologic unit within the Española Basin (Folks 1975). Formations within the Santa Fe Group, such as the Tesuque Formation, consist of deep deposits (more than 1 km thick) of poorly consolidated sands, gravels and conglomerates, mudstones, siltstones, and volcanic ash beds (Folks 1975; Lucas 1984).

Alluvial deposits of ancient and modern gravels are found in arroyos and on adjacent terraces. Tertiary volcanic deposits, Cenozoic sediments, and Precambrian rock are exposed in surrounding areas. When combined with these alluvial deposits, they provide most of the materials needed for flaked stone artifact production. Chert is available in the Ancha Formation (Kelley 1979:11–12). Sandstone, siltstone, andesite,

basalt, and silicified wood occur in other nearby formations. The most commonly used chert in the study area outcrops in the Madera limestone formation and occurs in local gravel deposits. Small amounts of obsidian are found scattered along the basalt-capped mesas to the west of Santa Fe (Kelley 1979:12). A detailed soil map shows that the project area is dominated by the Bluewing Series (Folks 1975:15–16), which mostly consists of level to gently sloping terrace soils of gravelly, sandy loam. The project area is located at an elevation of 6,990 ft (2,130.5 m).

Climate

Santa Fe has a semi-arid climate. Latitude and altitude are the two basic determinants of temperature; however, altitude is the more powerful variable in New Mexico. In general, mean temperatures decline faster with increased elevation than with increased latitude. Cold air drainage is a common and well known feature of New Mexico valleys. Narrow valleys create their own temperature regimes by channeling air flow: the usual patterns are warm up-valley winds during the day and cool down-valley winds at night. In contrast, shifts in temperature over broad valley floors are influenced by the local relief (Tuan et al. 1973).

The Santa Fe weather station is at an elevation of 7,201 ft (2,195 m). The mean annual temperature reported by the station is between 48.6°C and 49.3°C (Gabin and Lesperance 1977). Climatological data further indicate that the study area conforms to the general temperature regime of New Mexico; that is, hot summers and relatively cool winters.

The average frost-free period (growing season) in Santa Fe lasts 164 days. The earliest and latest recorded frosts occurred on Sept. 12, 1898, and May 31, 1877, respectively (Reynolds 1956:251). Although a frost-free season of 130 days is sufficiently long to allow for the growing of most indigenous varieties of maize through dry farming (Schoenwetter and Dittert 1968; Hack 1942), the unpredictability of late spring and early fall frosts creates agricultural risk.

Precipitation in the Santa Fe area can fluctuate widely. A maximum of 630 mm of precipitation was recorded in Santa Fe in 1855, compared to a minimum of 128 mm in 1917 (Reynolds 1956). The amount of precipitation is even more variable for any given month in successive years. Late summer is the wettest season in the annual cycle of the Santa Fe area, whereas June is one of the driest months. Precipitation records from Santa Fe indicate that more than 45 percent of the mean annual precipitation falls between July and September (Gabin and Lesperance 1977). Although October is drier than September, it is the fourth wettest month of the annual cycle. Significant precipitation (7.6 percent of the annual total) falls in Santa Fe in October. Late summer and fall moisture are derived from the Gulf of Mexico, when air masses from the region push inland, bringing economically important monsoons (Tuan et al. 1973:20). Summer rains tend to be violent and localized, saturating the ground surface during the beginning of a storm and resulting in the loss of moisture through runoff.

Flora

Local flora and fauna are typical of Upper Sonoran grasslands. Piñon-juniper grasslands, which support a variety of plant and animal species, are the most common habitat. Characteristic vegetation includes piñon, juniper, prickly pear, cholla, yucca, and several species of muhly and grama grass (Pilz 1984). The piñon-juniper community thins as it descends from the Sangre de Cristo foothills and grades into short-grass plains midway between the foothills and the Santa Fe River (Kelley 1979:12). Open valleys contain grama grass, muhly, Indian ricegrass, galleta grass, soapweed yucca, one-seed juniper, Colorado piñon, occasional Gambel's oak, and small stands of mountain mahogany. Arroyo bottoms contain various shrubs, including four-wing saltbush, Apache plume, rabbitbrush, big sagebrush, and wolfberry. The riparian/wetlands habitat is found only along perennial streams, such as the Rio Pojoaque and the Rio Tesuque. Modern vegetation includes willow, cottonwood, salt cedar, rushes, and sedges (Pilz 1984). In the wider valley bottoms, ditch irrigation is practiced.

Fauna

Fauna native to the project area includes coyotes, badgers, porcupines, black-tailed jackrabbits, desert cottontails, spotted ground squirrels, prairie dogs, and many species of birds. Mule deer and black bears are known to occur in low numbers (Pilz 1984). Use of the area by elk and black and grizzly bears may have been more common prior to the turn of the century (Carroll 1984:2). Plains animals, such as buffalo and pronghorn antelope, may have also been present or nearby.

3 ⸸ Cultural Overview

Human occupation of New Mexico began, at least, during the Paleoindian period and remained continuous through the arrival of European colonists, an event that marks the transition between the prehistoric and historic periods.

Prehistoric Period (9500 BC–1600 AD)

The record of prehistoric occupation starts with the Paleoindian period, which transitions to the Archaic period as the glacial environment transitions to postglacial. No Paleoindian sites have been defined in the immediate Santa Fe area but ice age fauna, radiocarbon dates appropriate for Paleoindian landscape surfaces, and the discovery of Clovis points in the greater region suggest early components eventually will be found. The record of Archaic occupation in the Santa Fe area is better known (Post 2010) but these sites are sparse and are not expected to be located within the project area. Population density (and archaeological evidence) in the area increased with the adoption of agriculture and a formative way of life. The archaeological record falls within the framework defined by Wendorf and Reed (1955).

Developmental Period (AD 600–1200)

Developmental sites in the northern Rio Grande are comparable to the late Basketmaker III and Pueblo I periods of the Pecos classification. A growing number of Developmental sites have been recorded in the Rio Grande Valley. These 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. Most of the documented early Developmental sites are in the Albuquerque and Santa Fe areas (Frisbie 1967; Reinhart 1967; Peckham 1984). The settlement of the Rio Grande drainage is typically attributed to immigration from the southern areas (Bullard 1962; Jenkins and Schroeder 1974), the Four Corners/San Juan area (Judge 1991; Stuart and Gauthier 1988:49; Lekson and Cameron 1995:185), or the Mesa Verde area (Ortman 2009), although direct evidence of this final theory remains meager. Archaeological sites with Developmental components in the Santa Fe area include:

LA 1 (Pindi Pueblo): Pindi Pueblo is in the Agua Fria area of south Santa Fe. Although primarily a Coalition period site, the site has an ephemeral Developmental period component represented by a single jacal room and a pithouse (Stubbs and Stallings 1953:225). Kwahe'e Black-on-white ceramics were recovered here and a tree-ring date of 1218+vv was recovered below the jacal structure (Robinson et al. 1972:38).

LA 618: This pithouse site with extramural features is located on East Palace Avenue, behind the old Fischer brewery, and dates to the late Developmental period (Elliott 1988:17). Other Developmental sites near downtown Santa Fe include the KP Site (LA 46300).

LA 46300 (KP Site): This site is near the project area, at the top of a ridge along the north side of the Santa Fe River valley, near Fort Marcy. Here, a single, trash-filled burned structure was tested (Wiseman 1989). Pottery types recovered here during testing included Red Mesa Black-on-white, Kwahe'e Black-on-white, "Chaco II" Black-on-white (a Red Mesa, Rio Grande variety?), 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. Obsidian dominated the chipped stone assemblage, although local chert types, particularly red jasper, were also found. Eleven tree-ring dates and two radiocarbon dates indicate that the occupation of the structure occurred in the mid- to late 1000s and that the accumulation of fill occurred in the early 1100s. Tree-ring dates of AD 1116, AD 1117, and AD 1120 are associated with the Kwahe'e Black-on-white pottery. A wide variety of plant remains were recovered; these included corn, squash, and beeweed. Faunal remains consisted of deer, antelope, and cottontail (Wiseman 1989:139). Not far from the KP Site, Mariah Associates recorded evidence of a Pueblo II (middle Developmental) village near Fort Marcy Hill (Acklen et al. 1994).

LA 1051 (Ogapogeh, Pueblo de Santa Fe): Several pits from the early Developmental period were exposed in downtown Santa Fe. These pits contained cultigens radiocarbon dated between AD 350 and AD 650. These may represent some of the earliest domesticated *Zea mays* and squash plants in the northern Rio Grande (Lentz 2011:35–39).

Coalition Period (AD 1200–1325)

The Coalition period in the northern Rio Grande is marked by substantial increases in the number and size of habitation sites coincident with population coalescence and expansion into previously unoccupied areas. This includes a shift from mineral pigment to organic paint (primarily Santa Fe Black-on-white) in decorated pottery. The early Coalition period is distinguished by an increase in the number of village sites, which suggests an overall increase in population, and the replacement of semi-subterranean structures with surface dwellings consisting of rectangular rooms arranged in small roomblocks. Although above-ground pueblos are present, pit structure architecture continued into the early phases of this period. Rectangular kivas, which are incorporated into roomblocks, coexist with subterranean circular structures (Cordell 1979:44). Frisbie (1967) notes the shift away from less optimal upland settings and a return to the permanent water and arable land adjacent to major drainages.

In the northern Rio Grande, the Coalition period is characterized by two interdependent trends in population and settlement reflected in population growth. Whether growth was due to immigration or indigenous population expansion is not fully understood. 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 during the Coalition period (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 Records Information System [NMCRIS], Archaeological Management Section, Historic Preservation Division). Representative sites of the Coalition period include LA 4632, LA 12700, and Otowi, or Potsuwii, (LA 169). Artifacts used to identify early Coalition sites include slab metates, side-notched projectile points, Santa Fe Black-on-white ceramics, and a variety of indented corrugated gray wares (Lang and Scheick 1989:5). Anschuetz and Scheick (1999) identified four significant Coalition habitation settlement clusters in the Santa Fe Basin: (1) the Santa Fe downtown area at the contact between the Sangre de Cristo Mountains foothills and the lower piedmont; (2) the Rio Santa Fe Valley near present-day Agua Fria; (3) the Arroyo Hondo locale at the southern limits of the contact between the mountain foothills and the lower piedmont; and (4) the lower Rio Santa Fe Canyon in the Bocas de Centau locale upstream of La Bajada Mesa escarpment. Each of these clusters is near a sizable spring (Anschuetz and Scheick 1999). A Coalition pit structure, LA 143460, was recorded in downtown Santa Fe at the Federal Courthouse building. This structure, probably contemporaneous with the Coalition component at nearby LA 1051, yielded problematic chronometric dates (Scheick 2005:238). Overall, though, this site appears to have been occupied around the eleventh century and is probably part of Ogapogeh village.

Coalition populations made extensive use of an extremely broad range of environmental settings, including a variety of resource extraction and processing activity locations, agricultural fields and features, and small dwellings in the areas of large villages close to major drainages. One Coalition component made up of LA 608 and LA 609 was investigated under Fort Marcy Hill and the Cross of the Martyrs (Acklen et

al. 1994). Near Pindi Pueblo, the Agua Fria Schoolhouse site had a significant Coalition period component dating between AD 1175 and AD 1325 (Lang and Scheick 1989). Another significant Coalition component, dating between AD 1175 and AD 1275, was investigated at Ogapogeh, or Pueblo de Santa Fe (LA 1051), at the current location of the Santa Fe Convention Center (Lentz 2011). Substantial evidence of ceremonial closures and ritual activities was found at the structures and features at LA 1051. LA 1051 was abandoned by Coalition populations in the late thirteenth century (Lentz 2011:39–110).

Classic Period (AD 1325–1600)

The Classic period postdates the abandonment of the San Juan Basin by sedentary agriculturalists. This is characterized as a time when regional populations may have reached their maximum size and large communities with multiple plaza and roomblock complexes were established (Wendorf and Reed 1955:13). The Classic period in the northern Rio Grande coincided with the appearance of locally manufactured red-slipped and glaze-decorated ceramics in the vicinity of Santa Fe, Albuquerque, Galisteo, and the Salinas area after 1315, and biscuit wares on the Pajarito Plateau, the Tewa Basin, and the Chama areas slightly later (Mera 1939; Warren 1979). Sites of the Classic period are characterized by bimodal distribution: large communities associated with agriculturally focused smaller structures (fieldhouses) on one hand and seasonally occupied farmsteads on the other. This contrasts with the preceding Coalition period, during which a greater range of site types characterized the settlement pattern and the population had not yet aggregated into large communities.

The first glaze-painted pottery—White Mountain Redware—was created in the Acoma and Zuni areas. Types include Wingate Black-on-red (AD 1050–1200), Puerco Black-on-red (AD 1000–1200), and St. John's Polychrome (AD 1175–1300). Rio Grande copies of the Zuni area Nutria phase polychromes began with the introduction of Los Padillas around AD 1300. Investigations of the large biscuit ware pueblo sites on the Pajarito Plateau include initial studies by Adolph Bandelier (1882), Hewett (1953), and Steen (1977).

In the Santa Fe area, the Galisteo Basin saw the evolution of some of the Southwest's most spectacular ruins. Many of these large pueblos were tested or excavated by Nels C. Nelson in the early twentieth century (Nelson 1914, 1916). Possibly the first stratigraphic excavation in the United States was executed by Nelson on the roomblocks and midden of San Cristobal Pueblo (LA 80). Large sites in the Galisteo Basin—such as Galisteo Pueblo, San Lazaro Pueblo, San Cristobal Pueblo, San Marcos Pueblo, and Pueblo Blanco—are summarized by Smiley, Stubbs, and Bannister (1953). The School of American Research conducted extensive research at Arroyo Hondo (Lang 1977). Most of the Classic period sites in the Galisteo Basin were established in the early 1300s and lasted only a short time. By the late 1400s, the area appears to have experienced a substantial population decline. This has been attributed to environmental instability.

The late phase of the Classic period is bracketed by the expedition of Francisco Vázquez de Coronado in 1540 and the founding of Santa Fe in 1605 or 1610 (Chavez 1979; Snow 1999). This time is also characterized by population decline. Many farmsteads and fields were abandoned following droughts in the 1400s and early 1500s. Population centers shifted to areas along the major river valleys. In the Santa Fe area, few pueblos remained occupied even into the 1500s. Pindi had been abandoned relatively early, in 1349 (Stubbs and Stallings 1953), and Arroyo Hondo and Agua Fria Schoolhouse were abandoned by 1425 (Lang and Scheick 1989). Cieneguilla was abandoned in the late 1400s or early 1500s; though some researchers believe Cieneguilla was reoccupied, possibly until 1680 (Schroeder 1979; Elliott 1988). At approximately 500 rooms, Cieneguilla was the largest pueblo in the area at that time. Classic phase pit structures and features dating between 1365 and 1435 were encountered at Ogapogeh, Pueblo de Santa Fe (LA 1051), in downtown Santa Fe. This site appears to have functioned as a centrally located integrative center for the surrounding Classic period villages (Lentz 2011). Abandoned in 1435, its Classic period population may have relocated to the Tano Basin.

Following the first Spanish expeditions in the mid- to late sixteenth century, indigenous groups underwent multiple changes in lifestyle, social organization, and religion. The introduction of new crops and livestock contributed to major changes in subsistence, as did the mission programs, which introduced unfamiliar ideologies

and new European-style industries. Incursions by Plains groups had already caused the abandonment of many pueblos and the constriction of the region occupied by the Pueblo Indians (Chavez 1979; Schroeder 1979). Exposure to new diseases, to which the Pueblo groups had no natural defense; intermarriage; casualties during and after the 1680 Pueblo Revolt; and the abandonment of traditional lifestyles contributed to a significant decrease in Pueblo populations over the next few centuries (Dozier 1970; Eggan 1979; Simmons 1979).

Historic Period (AD 1540–Present)

Although the impact of the European colonization of the Americas was probably felt in New Mexico in advance of the presence of Europeans, and although sixteenth century exploration resulted in the first historic records of the region, the initiation of the historic period is most conveniently placed at the initiation of permanent settlement at the beginning of the seventeenth century.

Spanish Contact, the Pueblo Revolt, and Reconquest (AD 1540–1692)

The first European contact with the northern Rio Grande Valley occurred in the late winter or early spring of 1541, when a foraging party made up of Francisco Vázquez de Coronado's men set up camp near Ohkay Owingeh (formerly San Juan Pueblo). Having heard of Coronado's earlier plundering further south, the occupants hastily abandoned their homes. The Spaniards looted the deserted villages. After scouting and ransacking several more pueblos—including Zuni, Hopi, and Acoma—in a futile attempt to find gold, Coronado returned to New Spain. Two friars left behind were promptly martyred. In another instance, at Puaray, near Bernalillo, several unfortunate clergymen left behind by the 1581 expedition of Francisco "Chamuscado" Sánchez, suffered similar fates (Hammond and Rey 1953; Eggan 1979; Simmons 1979:178). In 1591, Ohkay Owingeh was visited again, this time by the Gaspar Castaño de Sosa expedition. Sosa erected a cross at the pueblo, received obedience to the king of Spain, and appointed a Tewa governor, a mayor, and other administrators (Schroeder and Matson 1965).

With the goals of missionization, territorial expansion, and the acquisition of mineral wealth, the colonizing expedition of Juan de Oñate arrived at Ohkay Owingeh on July 11, 1598. Oñate proclaimed Ohkay Owingeh the capital of the province. During the winter of 1600 and 1601, the Spaniards moved across the river to a partly abandoned 400 room pueblo roomblock, which they renamed San Gabriel de los Caballeros (Ellis 1989). The first Catholic mission church, San Miguel, was built at the southern end of the village (Stubbs and Ellis 1955; Ellis 1989). Soon, New Mexico was divided into seven missionary districts. A Spanish magistrate was appointed for each pueblo, and all the pueblos were subsumed under Oñate's leadership (Spicer 1962:156; Ellis 1989; Lentz and Goodman 1992).

In December 1598, Oñate's nephew, Juan de Zaldívar, rode to Acoma Pueblo for the purpose of trading for food and other goods. Threatened by reports of the Spaniards' potentially warlike intentions—and antagonized by the soldiers' attitudes toward Pueblo women—the Acomas attacked the group, killing 12, including Juan de Zaldívar himself. In January 1599, under Oñate's order, a Spanish expedition led by Juan's brother, Vicente, retaliated against the Acomas by siege and cannonade. Most of the village was burned, more than 600 people were killed, and approximately 500 others were imprisoned. Prisoners of war were forced into slavery, and the Spaniards amputated the right feet of 20 Acoma men over the age of 25. The survivors of the Acoma massacre were able to rebuild the community by 1620 (Garcia-Matson 1979; Goodman 2010:19–20). The Spanish colony at San Gabriel de los Caballeros did not survive the first decade of the seventeenth century and Oñate returned to Mexico in disgrace.

Over the next 20 years, churches were built in all the area's pueblos and Native American secular and church officers were established in each village. These officers included governors (*gobernadores*), magistrates or mayors (*alcaldes*), tax collectors (*fiscales*), and other pueblo officials. During the 1620s, the villages remained peaceful and the number of conversions to the Catholic Church increased. By 1630, 50 Franciscan missionaries were working in 25 missions and a Catholic school operated in each (Spicer 1962; Noble 1989; Hordes 1990; Lentz 2004).

In 1609, Oñate's successor, Pedro de Peralta, received orders from the Viceroy of New Spain to relocate the capital of New Mexico to a piece of land near the Santa Fe River, at the foothills of the Sangre de Cristo Mountains. It was intended that the town be planned along the lines of *Las Ordenanzas de 1573*, a compilation of royal laws issued by King Philip II of Spain containing precise guidelines on how a Spanish colonial town should be laid out in the New World. Peralta may not have scrupulously adhered to these specifications.

The founding of La Villa Real de la Santa Fe de San Francisco de Asís, or Santa Fe, included the construction of irrigation ditches (*acequias*), fields, and domestic and administrative buildings. The small plaza focused, fortified town had, at its center, the *casas reales*, which included a constellation of government offices, a military post, and governor's quarters. The final configuration of the casas reales is known today as the Palace of the Governors. East of the plaza, facing west, was an adobe church, Our Lady of the Assumption. South of the plaza, across the river, was the *barrio de Analco*, which was made up of the residences of the Mexican Indians who had accompanied the colonizing missions and of other Indians of mixed tribal derivations (*genízaros*). The Chapel of San Miguel served the spiritual needs of this community (Stubbs and Ellis 1955; Hordes 1990; Snow 1999).

In the seventeenth century, Santa Fe likely resembled a typical town on the northern frontier of the vast Spanish empire. Despite its isolation, the town was provisioned once or twice a year with merchandise hauled 1,600 miles along the Camino Real from Mexico City. What could not be obtained from Spanish sources was grown or built. Farming and ranching were the main industries here, and Pueblo craftsmen were often recruited to build churches and homes; supply vegetables, meat and firewood; and provide local imitations of European ceramics for storage and dinnerware (Noble 2008; Lentz 2011). Throughout the 1600s—and as late as 1715—Santa Fe and its surrounding settlements were frequently attacked by marauding Native groups. During this period, settlers built defensive towers (*torreones*) and guard posts (like *la garita* in northeastern Santa Fe). Settlers also sought refuge in fortified communities like Agua Fría, La Ciénega and Chimayó (Lentz 2011:31).

Pueblo Revolt of 1680: In 1676, 47 Pueblo religious leaders were jailed and flogged in Santa Fe for their adherence to traditional Pueblo beliefs. Among them was the Ohkay Owingeh (San Juan Pueblo) moiety chief Popé, under whose leadership the Pueblo Revolt of 1680 was planned and carried out. Nearly all of the pueblos participated—including Hopi, Zuni, and Pecos. Only the southern Tiwa pueblos and the Piros did not. Twenty-one Franciscan friars in the territory were killed, along with 400 Spaniards.

In August 1680, Santa Fe became the site of a well planned siege by an alliance of Pueblo forces. On Aug. 18, 1680, a fierce battle raged on the plaza, on either side of a critical irrigation ditch (*la acequia madre*) directly in front of the Palace of the Governors (Lentz 2004:70). After the insurgents cut off the water supply, Governor Antonio de Otermín surrendered. On Aug. 21, 1690, the Spaniards were allowed to evacuate the city without further resistance (Hackett and Shelby 1942; Noble 1989; Hordes 1990).

The Pueblos held firm to their independence for 12 years. In the winter of 1681–1682, an attempted reconquest by Otermín was turned back only after Otermín managed to sack and burn most of the pueblos south of Cochiti before returning to Mexico.

Taking advantage of inter-Pueblo factionalism, a definitive *reconquista* was initiated in 1692 by Diego de Vargas. Far from the "bloodless" victory that many accounts suggest, a coalition of Pueblo fighters was besieged, starved, and eventually slaughtered on Black Mesa and 70 Pueblo leaders were executed (Twitchell 1925; Hackett and Shelby 1942; Dozier 1970; Simmons 1979).

Reconquest: After Diego de Vargas regained control of the province in 1692, the Spanish government granted free title to tracts of land in an attempt to encourage the resettlement of the New Mexico province. By 1696, Northern New Mexico had been reoccupied, with a number of Hispanic colonists setting up homes on approximately 140 land grants. The pueblos had been granted their own "leagues," which were frequently encroached upon by Spanish colonists and, later, by Anglo-American settlers (Noble 1989; Hordes 1990).

Soon after 1698, Hispanic pioneers, like Sebastián Martín Serrano and his family, settled north of Santa

Fe, along the upper Rio Grande. Taos became the northern frontier of the Spanish settlement. Life there was difficult and dangerous with frequent raids by the Navajo, Ute, Apache, and Comanche tribes and droughts, storms, and epidemics. By 1747, many of the northern frontier settlements had been abandoned due to frequent attacks by Utes. Settlements such as Los Luceros were not reoccupied until 1750 and even then, guards had to be assigned to the residents (Lentz 2011).

One of many Spanish settlers to occupy the northern Rio Grande was Ignacio Roybal y Torrado, who, in 1793, settled on the Pojoaque Pueblo land grant at Jacona. He began building an irrigation ditch, the *acequia larga de Jacona*, which encroached on the San Ildefonso Pueblo League to the west. This intrusion of indigenous lands is one of the longest standing water-rights cases in US history (Hall 1987).

In 1695, the second villa decreed by the Spanish government was established 2 miles east of present day Española. Founded by Diego de Vargas, it was named La Villa Nueva de Santa Cruz de la Cañada. Albuquerque became the third villa in 1706 (Twitchell 1925; Pearce 1965; Hordes 1990; Snow 1999).

Mexican Period (1821–1846)

With the signing of the Treaty of Córdoba on Aug. 24, 1821, Mexico secured its independence from Spain and New Mexico became part of the Mexican nation. New Mexico remained one of the "internal provinces" attached to the Comandancia de Chihuahua, where the area joined Chihuahua and Durango to form the Internal State of the North. On Jan. 31, 1824, the Internal State was dissolved and New Mexico reverted back to Mexican territory. The Treaty of Córdoba decreed that all Indians residing in New Mexico would be granted full Mexican citizenship and the *encomienda* system, a program of indentured servitude, was abolished. The concept of genízaros—displaced Native Americans who had lost their tribal identity through capture—was suspended.

Perhaps more importantly, the brief Mexican period saw the opening of the Santa Fe Trail. The subsequent expansion of trade networks brought new settlers and goods to the area. The Santa Fe Trail was the first American pathway to the west and the only route that entered another country (Simmons 1988; National Park Service 1990; Lentz 2004). In the early fall of 1821, William Becknell set out from Franklin, Missouri, carrying a small load of goods to trade with the Native Americans of the Rocky Mountains. He made his way across Raton Pass where he was met by Mexican troops. Instead of being taken prisoner for entering the territory illegally, he was escorted to Santa Fe to dispose of his goods. Trade became centered in Santa Fe and goods overflowed into the Mexican provinces, where many merchants found lucrative markets. Josiah Gregg brought the first printing press to New Mexico in 1834, selling it to Ramon Abreu in Santa Fe, where it was used to print the territory's first newspaper. Trade with Santa Fe brought Mexican silver coins, furs, wool, and raw materials to the north.

It is not known if conditions in Santa Fe improved under Mexican rule. However, the opening of free trade routes with US industrial centers provided an economic boost to the area. Several civic projects were undertaken to beautify the town. The Mexican period ended abruptly with the annexation of New Mexico by the United States, an event that went largely unnoticed by most of the population outside of Santa Fe (Simmons 1988; Elliott 1988; Hordes 1990; Snow 1999; Lentz 2004, 2011).

The short lived Mexican period ended when General Stephen Kearny accepted the surrender of Governor Juan Bautista Vigil y Alaríd on Aug. 18, 1846, and the American flag was run up over the Palace of the Governors. Through the Treaty of Guadalupe Hidalgo, enacted Feb. 2, 1848, the Mexican War ended and US dominion was established in New Mexico.

American Territorial Period (1846–1912)

In 1850, New Mexico was made an official territory of the United States. Under Territorial US law, Pueblo Indians were afforded the same rights as all US citizens. In Santa Fe, the US military made plans for Fort Marcy and began erecting earthen embankments at the top of what is now known as Fort Marcy Hill. Constructed in preparation for any local resistance to the American presence, the fort was never oc-

cupied, though it appears to have been placed at that location to enforce US hegemony over the former Mexican province. The complex of barracks, buildings, and corrals constructed just north of the plaza became known as Fort Marcy. The fort was officially decommissioned in 1895, but it was used intermittently by the military and later served as a hospital. In 1906, Fort Marcy Hospital became Santa Fe High School (Lentz and Barbour 2011).

During the American Civil War, the Army of the Confederacy fought to gain control of the Santa Fe Trail in Northern New Mexico. The Confederacy's strategy was to take over the proposed Southern Pacific Railroad route near the Mexican border. Uniting the Confederacy via transportation routes to the ports and gold mines of California would have bolstered the economy of the southern states and given the Confederate Army military and political power over most of the country. The Confederates also planned to annex a portion of Mexico. The acquisition of such a vast territory would have added to the South's slave based economy and, if the plan had been successful, would have stretched the Confederacy as far as the Pacific coast (Lentz and Barbour 2011).

In February and early March 1862, the Confederate Army, under the command of Brigadier General Henry Sibley, successfully defeated Union troops at Valverde, New Mexico. The Confederate Army also briefly controlled a portion of New Mexico along the Rio Grande from El Paso to Santa Fe and occupied Fort Marcy. Sibley also planned to capture Fort Union, east of Santa Fe. In its role as the protector of the Santa Fe Trail, Fort Union served as the headquarters and supply depot of the Department of New Mexico and played a key role in maintaining control over the territory.

The Battle of Glorieta, which took place along the Santa Fe Trail in Glorieta Pass, resulted in the Union Army taking control of New Mexico (Swanson 1988). During the decisive battle, both armies formed at the opposing ends of Glorieta Pass. On the morning of March 28, 1862, both sides advanced simultaneously and a pitched battle was fought in the woods at Pigeon's Ranch, near Pecos. Although the battle itself was a Confederate victory, Sibley conceded defeat after receiving word that a Union detachment had diverged, crested Glorieta Mesa, and destroyed the Confederate supply train at Johnson's Ranch. The Confederate forces retreated from New Mexico, returning to Texas with one-third of Sibley's original troops. The Battle of Glorieta forced the Confederacy to abandon their plans to conquer the West and the Union Army retained control of a main military supply route (Swanson 1988; National Park Service 1990).

After the Civil War, livestock became the dominant industry in the western valleys and in the Llano Estacado, east of the Pecos River. Undaunted by Comanche, Navajo, Ute, and Apache raids, New Mexico's cattle and sheep industries thrived as new markets opened in the eastern United States. In the 1870s, conflicts between cattlemen, sheep ranchers, and homesteaders resulted in the Lincoln County range wars, which ended only after the intervention of federal troops during the administration of Governor Lew Wallace. Opportunities in land speculation led to the formation of the Santa Fe Ring, a group of attorneys, businessmen, ranchers, and promoters who controlled both economic and political life in the territory. Many prominent New Mexican citizens played a role at this time; these citizens included Lawrence Murphy, John Chisum, John Tunstall, and Thomas B. Catron. Gunmen like Frank McNab and Billy the Kid were employed as "enforcers" (Mullin 1968).

In 1869, a French Franciscan priest, Jean Baptiste Lamy, began construction of the St. Francis Cathedral on the adobe remains of the previous 1806 "fifth" Parish church (Chavez 1948). Archbishop Lamy brought a strong stabilizing presence to Santa Fe society previously known for its unruly "Wild West" atmosphere. Lamy died in 1884, two years before the cathedral was completed.

The arrival of the railroad signaled the demise of the Santa Fe Trail. The first train belonging to the Atchison, Topeka and Santa Fe Railway arrived in Las Vegas, New Mexico, on April 4, 1879. Though Santa Fe citizens prepared themselves for a boom, bad planning meant the main line of the railroad bypassed the city. The train stopped instead at a depot at Lamy, New Mexico, more than 20 miles from Santa Fe. The lack of accessibility gradually brought about a general business decline and after 1880, Santa Fe lost its prominence as a social and economic center. In 1883, in an effort to revitalize the economy, the town council created a fictitious celebration: the Tertio-Millennial. Although not nearly as successful as its sponsors had hoped, the Tertio-Millennial changed Santa Fe into a tourist destination.

New Mexico failed to obtain statehood in 1850, 1867, 1870, and again in 1889. President William Howard Taft signed a bill making New Mexico the 47th state of the Union on Jan. 6, 1912.

Santa Fe South Side development

Progressive expansion of commercial and residential neighborhoods southward from the historic core of Santa Fe continues to present day. What had been infrastructure located well beyond the historic portions of Santa Fe included the rodeo grounds, highway maintenance yards, nurseries, and airports. These have been increasingly encroached on and enveloped by retail and residential development, including the current segments of fiber optic service. The Jaguar Drive project area is located near the south end of the runways associated with the Santa Fe Municipal Airport, which operated from 1928–1959. The history of the airport is detailed in Chapter 5.

4 ⸸ Archaeological Activities and Sites in the Project Area

Eleven NMCRIS activities are located within 100 m of the Jaguar Drive project area. Four are positive and seven are negative (Fig. A1.1; Table A1.1). The combined areas of four previous surveys—NMCRIS 26028, NMCRIS 71283, NMCRIS 17350, and NMCRIS 119527—encompass the entire Jaguar Drive project area. One registered archaeological site is located inside the 500 m buffer zone (Fig. A1.2; Table A1.2). There are no archaeological sites within the 100 m buffer zone.

NMCRIS 10132 is a 9.60 acre survey performed by Eastern New Mexico University for Transwestern Gas Supply Company in 1982 (Brett 1982). No sites were encountered. There is no shape file on the NMCRIS GIS for this activity.

NMCRIS 17350 is a 1,481 acre survey completed by the Laboratory of Anthropology in advance of the development of the Tierra Contenta subdivision (Hannaford 1986). This activity overlaps most of the western portion of the Jaguar Drive project. Forty-five sites were encountered, none of which are within 500 m of the Jaguar Drive project.

NMCRIS 26028 is a 5,000 ft long (22.96 acres) pipeline survey conducted by PNM Environmental Services for the Sangre de Cristo Water Company. This survey encompasses the route of Jaguar Drive (Harlan 1988). No sites were encountered.

NMCRIS 32375 is a survey conducted by Southwest Archaeological Consultants on a 103 acre parcel north of the project area for construction of the Joseph Valdez Industrial Park (Viklund 1992). One site was discovered during this survey (LA 79942). This site is outside the 500 m buffer zone of the Jaguar Drive project area.

NMCRIS 46955 is a survey of a 2.3 mile long section of Cerrillos Road from its intersection with Rodeo Road south (Marshall 1994). The survey was performed by Cibola Research Consultants. One site and one locality were registered. Both are outside the 500 m buffer zone of the current undertaking.

NMCRIS 53618 is a 50 acre survey and archival study performed in advance of construction of the Arroyo Chamiso Capital Improvements Project (Post 1996). The report for this activity includes a detailed history of the Sebastián de Vargas grant. No sites were encountered.

NMCRIS 59402 is a 4 acre survey conducted by Lone Mountain Services for J. R. Hale Contracting (Darlington 1997). One IO was recorded. The survey parcel for this activity is adjacent to Bore Pit 4, on the east side of the Cerrillos Road-Governor Miles Road intersection, in the current investigation.

NMCRIS 65472 is an archaeological survey performed by Zia Archaeology (Post 1999). A total of 13.49 acres were surveyed just east of the current project area. No cultural resources were discovered during this activity.

NMCRIS 71283 is a 20.6 acre survey and historic land use study for the planned construction of Governor Miles Road (Condie and Snow 2000). The western portion of this activity encompasses Bore Pit 4 of the Jaguar Drive project. No sites were encountered during NMCRIS 71283.

NMCRIS 119527 is an 11.50 acre survey performed by Ron Winters in 2010. The southern portion of this activity follows the alignment of Jaguar Drive, where the current project is located. No cultural resources were discovered during this activity.

NMCRIS 122498 is an archaeological survey performed by Parametrix in 2011 (Okun 2011). Nineteen acres were surveyed in several counties, including a portion of Santa Fe County north of Jaguar Drive. No cultural resources were encountered.

Archaeological Sites in the Project Vicinity

Three archaeological sites are registered within 600 m of the project area, all of these are north of Jaguar Drive (see Fig. A1.2 and Table A1.2).

LA 76230 appears on the NMCRIS GIS map within the 500 m buffer zone but is not linked to a NMCRIS activity number. LA 76230 is located about 225 m north of Jaguar Drive. It is a prehistoric lithic and ceramic artifact scatter dating between 1100 and 1600. The site is roughly 12 sq m and was recorded in 1985 by Southwest Archaeological Consultants. No archaeological report is associated with this site in the NMCRIS system.

LA 79942 is listed on the LA Site Form as a Statehood period agricultural field dating between 1912 and 1945. The report associated with LA 79942 lists the site as a probable acequia. LA 79942 was registered under NMCRIS 32375 (Viklund 1992).

LA 87338 is listed in the report for NMCRIS 37592 (Viklund 1992:8) as a "possible site" that consists of a forked channel that runs along the base and north side of the head of a drainage that forms a major tributary of Arroyo de los Chamisos. The channel was in two parallel branches spaced approximately 10 m apart. The channels average 50 cm wide and 40 cm deep. The site form registers this site as a Statehood to World War II era reservoir, water catchment device, and water control device with Anglo cultural affiliations (Viklund 1992). It was encountered during a survey of a 25 acre parcel of land north of the Eberline Building on Airport Road. LA 87338 is about 600 m north of Jaguar Drive.

5 ⸸ Historic Map and Aerial Photograph Information

Archival land grant documents in the Jaguar Drive vicinity indicate that the area served as a resource for livestock grazing and firewood gathering. Limited agriculture was practiced along arroyos north of the project in the colonial era according to nineteenth century grant claims and twentieth century aerial photographs. Beginning in the 1920s, the Jaguar Drive area was home to the first municipal airport before shifting to private management in the 1940s. Historic map information related to the Jaguar Drive project area is as follows:

Historic Land Grants

Placing the Jaguar Drive project area on historic land grant maps is somewhat problematic. The project area appears to be situated on the boundary of a grant not clearly identified in J. J. Bowden's 1969 land grant map (Fig. 5.1). The project area is east of the Pacheco Grant and west of the Sebastián de Vargas Grant. Though the area's exact grant association could not be determined, research related to previous archaeological activities in the area indicates that historic grants south of town were sparsely occupied in the late nineteenth and early twentieth centuries. Land bordering the river was used primarily for grazing and, possibly, agriculture, based on acequia remnants in the area (Post 1996:11).

USGS Topographic Maps (1889 and 1892)

The project area has been autoplotted here on the 1892 Santa Clara USGS topographic map (livingatlas.arcgis.com). In Figure 5.2, the 1892 map has been combined with the adjacent 1889 Santa Fe topographic map in order to provide a larger context for the Jaguar Drive project area. The historic alignment of Cerrillos Road, or Camino de los Carros, is visible on the east side of the project area; the route has remained largely constant into modern times. The historic route of Camino de las Carros appears on both maps, having been established in the Spanish Colonial period (Snow 1988:14). Other than Cerrillos Road, no additional features are visible in the immediate vicinity of the project area.

Soil Conservation Services Aerial Photograph (1936)

The most obvious change in the landscape in 1936 is the appearance of the Pond-Byrne Airport, which was built in 1928 (Fig. 5.3). Pond-Byrne was the first of two municipal airports in Santa Fe. The Pond-Byrne Airport was variably known as Ashely Pond Field, Pond-Byrne Field, and finally, Boyd Field. The history of the airport and its changing nomenclature will be detailed later in this chapter. Cerrillos Road and Airport Road are visible on the 1936 aerial as well. A few small structures are scattered around that intersection but otherwise the project area consists of open land. One of the more striking features on the 1936 aerial photograph can be seen north of the project area, where numerous agricultural fields extend south from the Santa Fe River halfway to Airport Road.

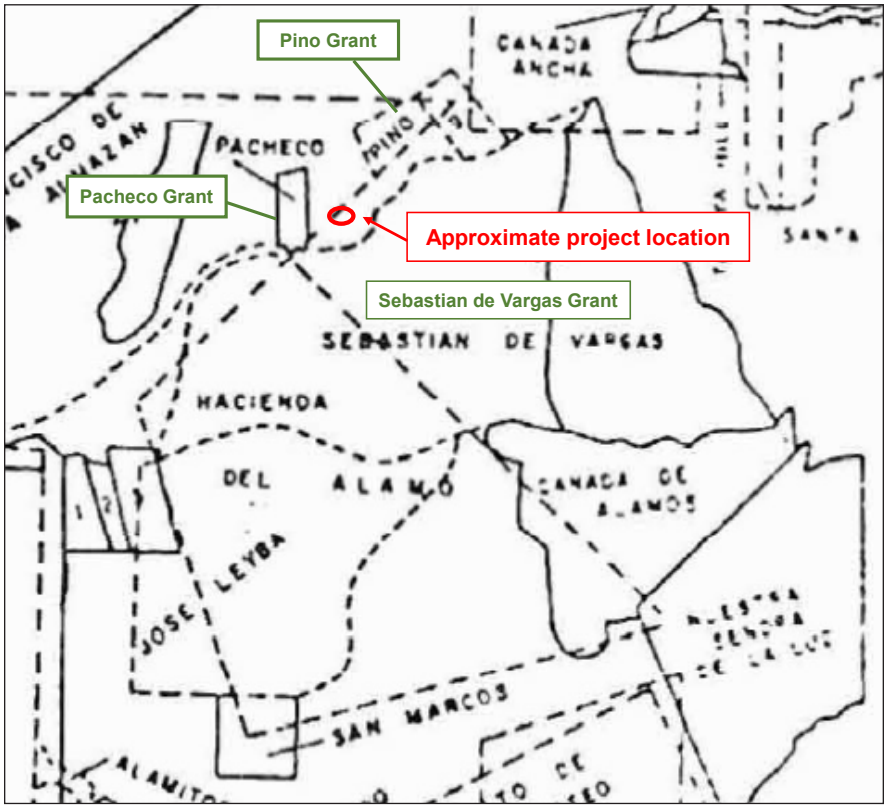


Figure 5.1. J. J. Bowden's land grant map (1969) with overlay of the approximate project area.

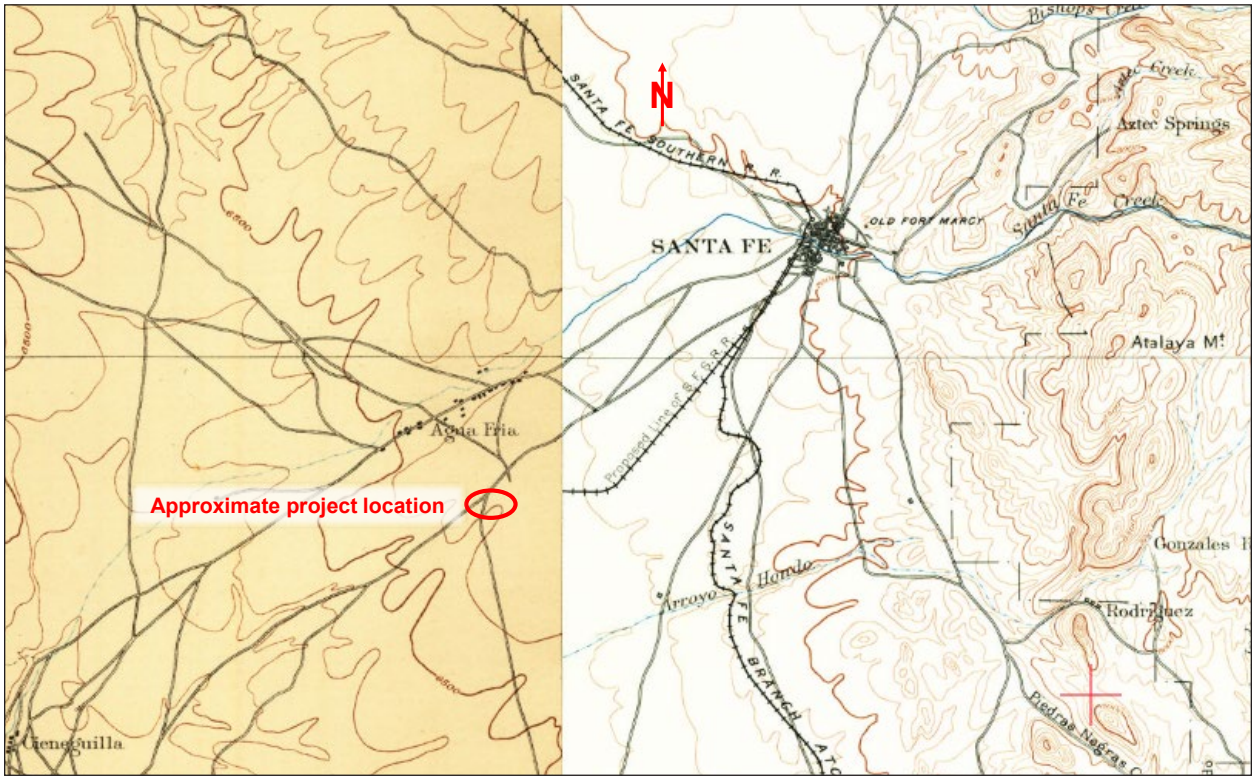


Figure 5.2. Santa Clara USGS quadrangle west (1892) and Santa Fe USGS quadrangle east (1889) quadrangle maps with overlay of the approximate project area.

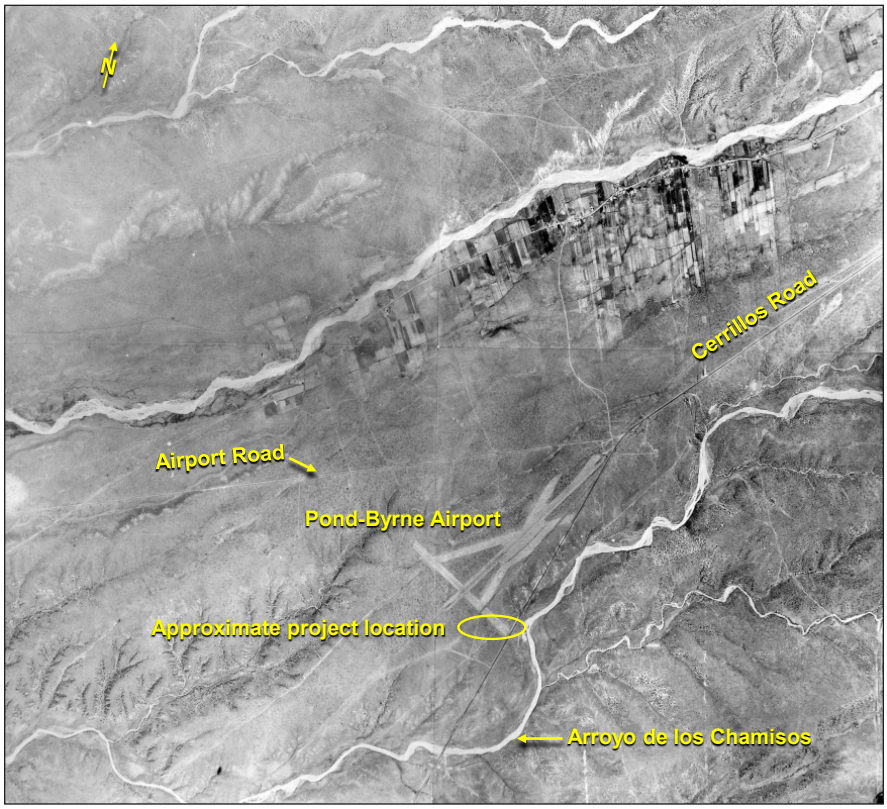


Figure 5.3. Aerial photograph (1936) with overlay of the project area.

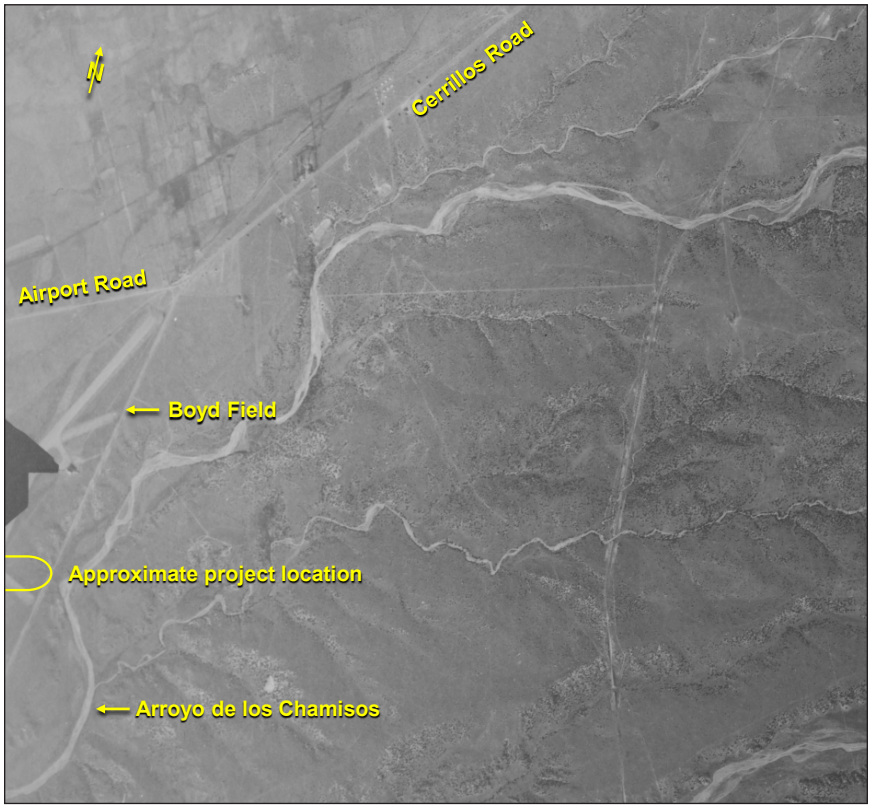


Figure 5.4. Aerial photograph (1948) with overlay of the project area.

Aerial Photograph (1948)

The far western portion of the project area is partially obscured in the 1948 aerial photograph, but the eastern area is visible (Fig. 5.4). There has been little change in the landscape over the preceding 12 years. The Pond-Byrne Airport has been renamed Boyd Field, after Charles J. Boyd, who began leasing the field in 1943. The municipal airport has shifted west, to its 1948 location, in 1941 in order to accommodate the growing military needs related to World War II. The 1948 airport runways largely reflect their 1936 configuration but a small turnout leading to a hangar now appears on the east side. The west end of the project area overlaps a northwest–southeast runway and the east end straddles Cerrillos Road. Between these two landmarks, the Jaguar Drive area consists of open land. Planted fields remain visible along the river north of the project area.

Aerial Photograph (1951)

The 1951 aerial photograph offers a clear view of the Jaguar Drive area (Fig. 5.5). The runways and hangar have not been altered over the previous three years. The project area remains mostly open land flanked by airport runways on the west and Cerrillos Road on the east. Planted fields still occupy much of the land between the Santa Fe River and Airport Road.

USGS Quadrangles (1953)

The Jaguar Drive area lies near the southern boundary of the 1953 Agua Fria quadrangle (Fig. 5.6). The Boyd Field runways and hangar remain unchanged. Cerrillos Road is shown on the USGS topographic map code, where it is denoted as a "secondary highway." With the exception of the northwest–southeast runway, the Jaguar Drive area remains largely open land.

Google Earth Image (1996)

The urbanization of the Jaguar Drive area is well under way by 1996 (Fig. 5.7). Plans for the Joseph Valdez Industrial Park began in 1959, following the eviction of Boyd Aero from Boyd Field just days before (SFNM, April 13, 1959). Approval of the Jaguar Drive right-of-way was sought in late 1994 as part of the Tierra Contenta residential development west of the project area (SFNM, Dec. 11, 1994). Only a portion of Jaguar Drive is paved in 1996. A short section from Cerrillos Road west is still unimproved dirt. A portion of the Boyd Field runways now serves as a training area associated with the New Mexico Police Academy, which appears on the north side of Jaguar Drive. On the south side of Jaguar Drive, the gravel and equipment yards of the present day New Mexico Department of Transportation are in place. Only a trace of the old Boyd Field runways are visible south of Jaguar Drive.

Google Earth Image (2003)

Jaguar Drive has not changed greatly between 1996 and 2003 (Fig. 5.8). It is now paved along its entire length from Cerrillos Road west. A fairly large area at the east end of the project area, where Bore Pit 4 is located, appears to have been extensively bladed. Otherwise, the landscape is unchanged.

Google Earth Image (2019)

At the east end of the project, Governor Miles Road has been constructed (Fig. 5.9). The bladed land bordering its south side has greened up. Otherwise, the project area is unchanged from its 2003 configuration.

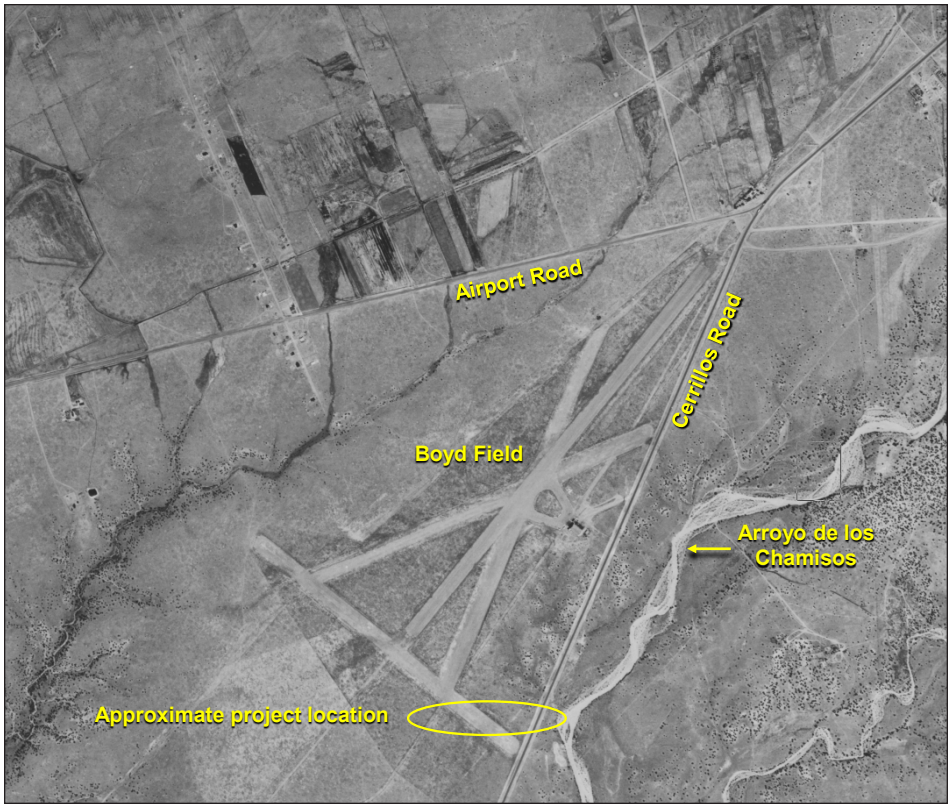


Figure 5.5. Aerial photograph (1951) with overlay of the project area.

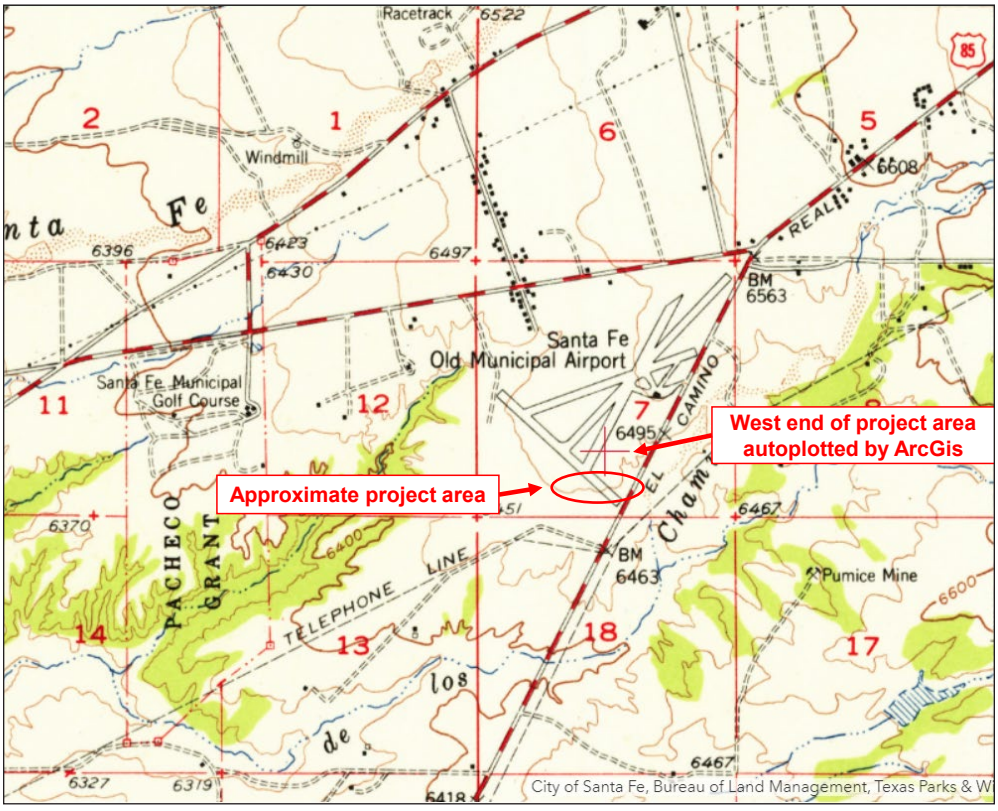


Figure 5.6. Agua Fria USGS quadrangle map (1953) with overlay of the project area.

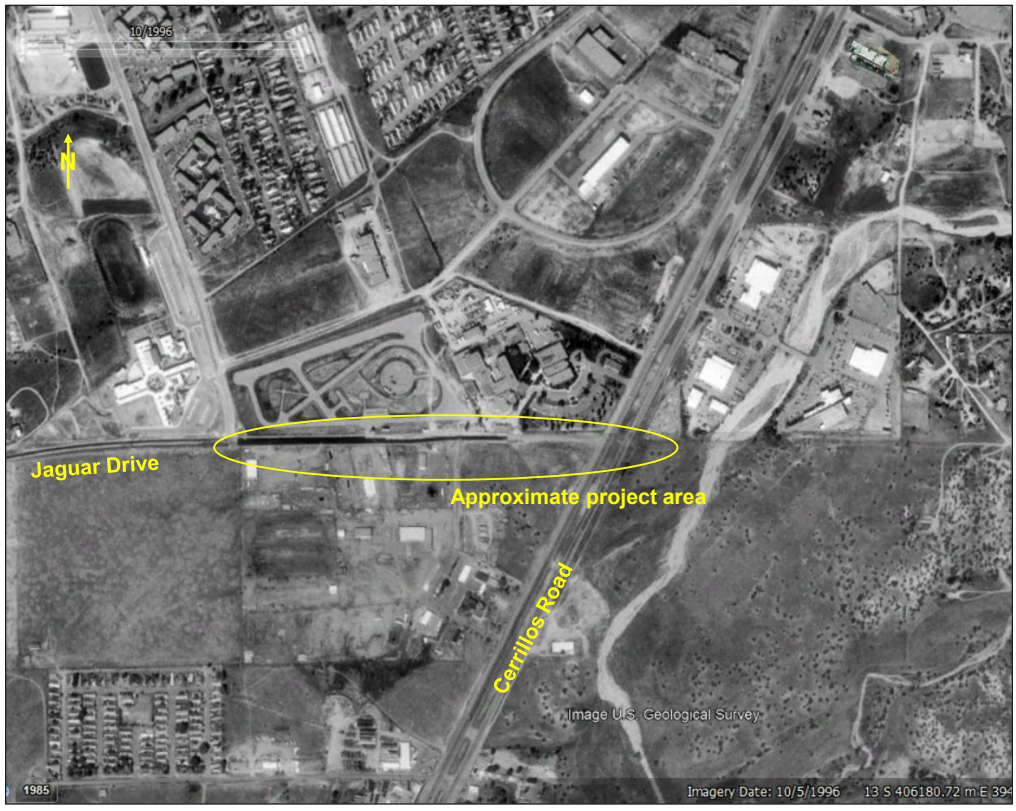


Figure 5.7. Google Earth image (1996) with overlay of the project area.

Figure 5.8. Google Earth image (2003) with overlay of the project area.

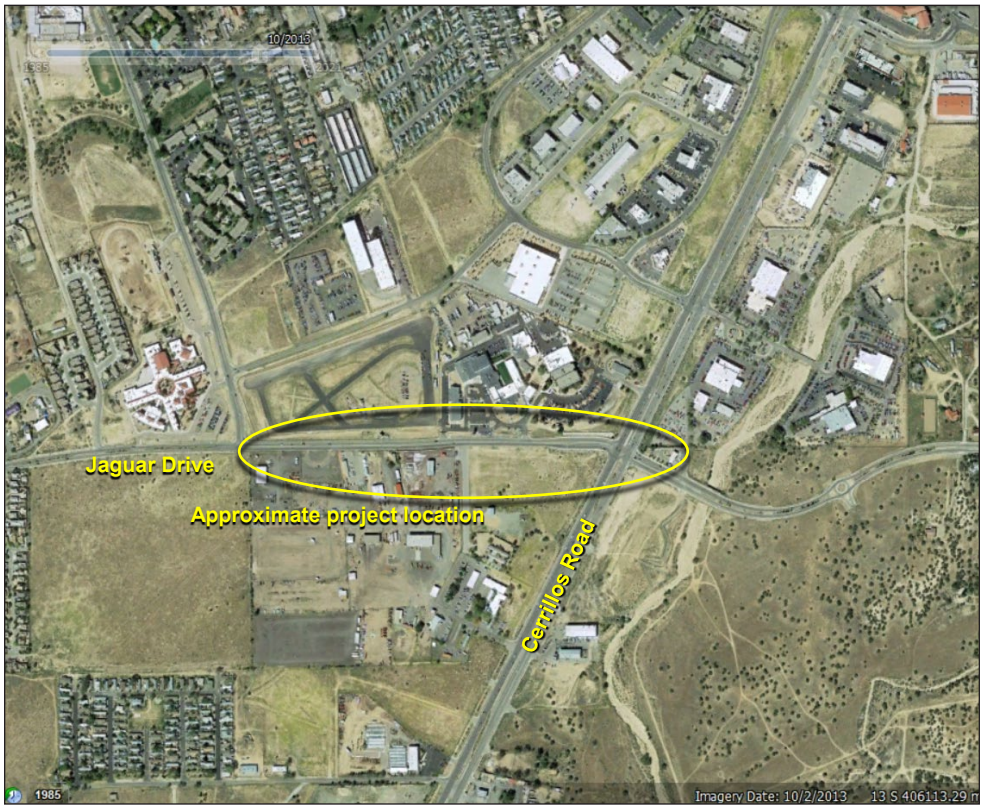


Figure 5.9. Google Earth image (2019) with overlay of the project area.

Santa Fe Municipal Airport Overview

The first Santa Fe municipal airport, located at the present day southwest corner of the Airport Road-Cerrillos Road intersection, was initially known as Ashley Pond Airport. Ashley Pond, a well known local aviator, was deeply involved in the initial design and construction of the airport in 1928. Pond was later assisted, in 1931, by US Army Air Inspector Verne Byrne whose involvement inspired the airport's second iteration as the Pond-Byrne Airport. The second, and current, municipal airport opened in 1941 in response to events surrounding World War II. Shortly after the current airport was in operation, the Pond-Byrne field was leased to Charles J. Boyd, who conducted flying lessons there until 1959, when he lost his lease.

Ashley Pond Field

Construction of the first city airport was at least partially inspired by the highly anticipated arrival of Charles Lindbergh in the fall of 1927 (SFNM, Sept. 27, 1927). Santa Fe was not initially on Lindbergh's itinerary, having been added later so that he could accomplish his goal of stopping at least once in each state (SFNM, Jan. 6, 1928). About a week prior to Lindbergh's arrival in Santa Fe, a "local flier" had been attempting to "put over a better field" with the understanding that the current runways were inadequate (SFNM, Jan. 6, 1928). By the time the internationally celebrated pilot arrived in Santa Fe, the newly refurbished airport was described as "unfinished," featuring a single, 1,000 foot long, northeast–southwest runway "with the Cerrillos road in the middle of it" (SFNM, Sept. 27, 1927). The months following Lindbergh's visit were apparently dedicated to completing the airport. The details of the first municipal airport were reported by *The Santa Fe New Mexican* in the summer of 1928:

> "A thousand acres of land smooth almost as a billiard table; far enough from the mountains to give ideal atmospheric conditions, just far enough out of the city and not too far; a mile and a half

runway with the prevailing southerly and southwesterly winds, a quarter mile cross-runway, and a surface which enables any plane or any number of planes of any size to land safely and with ample room—that is the Santa Fe airport at present.

"It lies at the junction of the Albuquerque and Madrid highways, where a combined aviation and auto gas filling station will later be erected. Plans for marking so that it can be plainly identified from the air at any needed distance, for lights and the erection of hangars, are going forward, following the completion of the grading and cleaning up of the tract, which is now without obstruction of any kind.

"Air-photos of the field will shortly be taken by O. S. Emblem, who has worked faithfully night and day supervising the improvements, and will be published in the *New Mexican*. They will show the fact soon to be known in aviation circles from coast to coast that Santa Fe has one of the finest airports in the United States, due to the magnificent natural terrain and the enterprise of the people of Santa Fe. The flyer who cannot get his bearings 15 miles away and land on that field safely has no business in the air" (SFNM, July 21, 1928).

The aerial photos mentioned in the July 21, 1928 article could not be located in the archives.

By the fall of 1928, the airport consisted of three runways over 3,000 ft long and 150 ft wide. A fourth runway was yet to be added (SFNM, Sept. 19, 1930). The "rapid" construction was being supervised by Ashley Pond—a local aviator, alderman, and fireman—and included plans for a hangar with station and telephone service. Pilots purportedly described it as being situated on excellent terrain with superior visibility from the air.

About two years later, in 1931, Pond, who was "chiefly instrumental in securing the land and establishing the new flying field" stated that an inspector from the US Department of Commerce would be arriving soon to assess conditions at the "new Santa Fe airport" (SFNM, March 19, 1931). Among the anticipated improvements to be required by the federal authorities were a "hangar, shops, waiting room, telephone station and so forth," indicating that these features were not in place by the spring of 1931 (SFNM, March 19, 1931).

Work continued into the following month in anticipation of the inspection, when a US Army air inspector was to formally approve the field (SFNM, April 4, 1931). Prior to his arrival, runways were being constructed by a "powerful little tractor…digging the three vast runways with an ingenious drag devised by [illegible: Pond?] of a triangle of heavy railroad ties fastened together. The runways are in excess of 3,000 feet and is hoped eventually to have at least 4,500 ft in length." The results of the final inspection were reported in the form of a letter printed on the front page of *The Santa Fe New Mexican* on April 21, 1931. The text of the letter is not fully legible but appears to report that the federal inspector stated that the northeast–southwest runway needed to be lengthened and that an abandoned portion of Cerrillos Road running across one runway needed to be infilled, a task that would require a great deal of dirt to be imported. Perhaps most important, the letter stated that a "Class 1" field could not be built at this location, possibly planting the seeds for the eventual relocation of the city airport.

Pond-Byrne Airport, 1928–1941

Pond began the required renovations soon after the federal inspection. Pond was aided by Byrne, a newly appointed US Transport licensee (SFNM, May 28, 1931). Their teamwork prompted the newspaper to begin referring to the airport as the Pond-Byrne Field (SFNM, July 28, 1931). The first airmail delivery to the field occurred that summer (SFNM, Aug. 3, 1931). However, the Pond-Byrne field was apparently minimally suited for commercial planes. The beginning of commercial flights to Pond-Byrne touched off a litany of published complaints that did not cease until a new city airport was built at the site in 1939. Calls for the airport to be relocated began in 1931, prompted by Western Air Express' request for an improved

runway, new hangar, and fencing (SFNM, Sept. 25, 1931). Two years later, *The New Mexican* published an emotive plea to relocate the airport and name it Pond Field, in memory of the late Pond, who passed away that summer (SFNM, June 22 and Dec. 12, 1933). Pond's passing appears to have been greatly lamented by Santa Fe citizenry.

In late 1933, Mayor David Chavez appointed a committee to apply for CWA funds for the construction of a new airport (SFNM, Dec. 14, 1933 and Jan. 11, 1934). Complaints regarding the city's plan to apply for CWA funding to improve private land were lodged soon after. The published complaint argued that a parcel of state land recently purchased by the city should be used for the new facility (SFNM, March 7, 1934).

Apparently by 1936, the condition of the runways was so poor that commercial airlines began bypassing the field. *The New Mexican* repeatedly blasted the quality and expense of the work at the airport, which they claimed was doing nothing to make the field serviceable. Perhaps the most stridently worded complaint came in May of that year. Followed by several others, the article (SFNM, May 19, 1936) stated that the "formerly good natural port" had been covered with $10,000 worth of gravel that made the runways unsafe, spurring warnings for planes to stay away. Varney Airlines, which provided airmail service, threatened to remove Santa Fe from their route for fear of a "crackup," a threat repeated again the next year (SFNM, May 22, 1937). The long promised hangar had never been built, nor had telephone service or restrooms been installed.

Days later, *The New Mexican* leveled an even more vociferous complaint, stating that the paper "with great zest hastens to proceed to give a place in the sun to the notorious alphabet fiascos like the once-useable Santa Fe airport made useless at a cost of $42,000, taking Santa Fe off the airways" (SFNM, May 23, 1936). A few weeks later, the paper announced that another $25,000 "boondoggle" would be invested to bring the runways up to standard (SFNM, June 9, 1936). A third complaint was lodged a few months later when the paper stated that the Bureau of Air Commerce was considering a "new" airport due to the unsafe conditions of the existing field—meaning that the airport required a total overhaul (SFNM, Oct. 17, 1936). The October article noted that the summer upgrade just completed by the WPA had only worsened the situation and that pilots were still bypassing the airfield. The tone of the paper had not changed by the end of that year, when it was announced that another $15,000 in WPA funds had made the airport "so impassable the commercial lines won't land there, and if there is any way to stop them from moving dirt back and forth and spending $10,000 more, we may save the port" (SFNM, Dec. 17, 1936). The condition of the runways apparently did not deter use of the field for plane rides and flying lessons that year. Both services were advertised for Byrne Field in the Feb. 17 and May 27, 1936 issues of *The New Mexican* (Fig. 5.10).

In the spring of 1937, the city council and Chamber of Commerce allocated funds to complete the main north–south runway, cross and diagonal runways, and a new hangar (SFNM, March 24 and May 14, 1937). WPA funds were also applied to the project, which was expected to result in Santa Fe having "one of the finest landing fields in this section of the country." However, work on the field was paused almost immediately to wait for the final approval of city funds (SFNM, July 16, 1937). About two months later, the new 7,000 ft elevation runways, said to be the highest in the country at the time, were tested when a Lockheed Twelve took off and climbed to 9,000 ft on only "one motor" (SFNM, July 1, 1937).

Work apparently did not exactly proceed apace in the summer of 1937, and an editorial in August 1937 firmly opined that the airport must be completed (SFNM, Aug. 23, 1937). The field was described as "practically nothing. A few privately owned hangars mark the place; the field is commodious and the runway, while untended, suffices. But it is all crude and unsatisfactory. No attendants are stationed at the port, fuel is difficult to secure; no telephone connects the place with the town. There are no conveniences for visiting planes. The place is practically a barren field." The editorial continued with a plea for the WPA to finish its share of the work and for local citizens to push for completion of the project. About that time, Santa Fe had applied for additional federal monies in addition to those already received through the WPA to complete the airport.

In late August 1937, *The New Mexican* reported that Congress had appropriated $20,000 for additional improvements to the field (SFNM, Aug. 27, 1937). When the allocation was announced, the newspaper

Figure 5.10. Advertisements for plane rides and flying lessons at Byrne Airport.

credited local citizens for making it happen, stating that "some papers, preening their pin feathers, might have been tempted to ascribe this quick succession of events to the so-called 'power of the press.' It is a nudge from Satan, however, that *The New Mexican* is prompt to disdain. It knows that powerful influences have been working behind the scenes and that the appropriation came as the result of long and devoted loyalty to the success of a most worthy project." Just a few months later, in the fall of 1937, another $1,000,000 was provided by the Bureau of Air Commerce for "aviation facilities." An editorial in *The New Mexican* asked that those monies be specifically applied to the Santa Fe airport (SFNM, Oct. 22, 1937).

By the fall of 1937, the city was proposing to construct the hangar with steel salvaged from the old mill at Waldo (SFNM, Oct. 22, 1937). Dismantling of the Waldo steel mill began a month later, along with construction of the hangar and administration building and the refurbishment of the runways by the WPA (SFNM, Nov. 18, 1937 and Jan. 15, 1938). The pattern of the three runways looked "somewhat like the three crosses of the British Union Jack but slightly telescoped." Shortly after the steel mill deconstruction began, conditions at the airport again forced a pause in airmail and passenger service, then provided by Continental Airlines (SFNM, Feb. 3, 1938). City funds had been exhausted, leaving runways unfinished. The day that airmail service stopped, city and WPA workers were sent to the airport to run rollers over the gravel in an attempt to improve the landing surfaces as soon as possible. The following day, even more men and equipment were rushed to the field to make such improvements as were necessary to reopen the airport for mail service (SFNM, Feb. 4, 1938). Telephone service was added in March 1938, followed by the arrival of a US Weather Service office soon after (SFNM, March 7 and March 21, 1938). Final inspection was scheduled for May 1938 (SFNM, May 18, 1938).

The city airport—still at the present day Airport Road-Cerrillos Road intersection—was opened with great fanfare (Figs. 5.11 and 5.12) in 1939, when it was lauded as the "Opening of the New Santa Fe Trail with the Opening of Santa Fe's New Municipal Airport" (SFNM, Sept. 23, 1939). The airport was formally dedicated the next day to a teary-eyed audience of 2,000 (SFNM, Sept. 25, 1939). Twelve planes were either

Figure 5.11. Announcement for the dedication of the first municipal airport (SFNM Sept. 23, 1939).

Figure 5.12. Announcement for the opening of the completed airport (SFNM Sept. 23, 1939).

flying stunts or were on display. Another "four shiny, all metal observation planes" manned by Colorado national guardsmen were parked on the runways, along with a "twin-motored" six-passenger Continental transport plane. The dedication program was published on the front page the day before the ceremony. The airport was completed at a cost of $75,000 with an additional $11,000 from the city. The field covered an entire section of land. Newspaper coverage of the airport opening refers to the field as the Santa Fe Municipal Airport, against the advice of *The New Mexican* that the field be named for Ashley Pond.

Problems with runway conditions persisted, though with less frequency. Planes delivering airmail simply flew over the airport for several days in early 1941, resulting in additional WPA funding for repairs and maintenance a few days later (SFNM, Jan. 16 and Jan. 19, 1941). The 1941 funding was listed as being for clearing, grubbing, grading, draining, and surfacing of runways, and lighting.

Santa Fe Regional Airport, 1941

In early 1941, it was determined that Santa Fe needed a new airport for US Army use (SFNM, Jan. 10, 1941). The city council met privately to recommend a new site for the municipal airport, one that could accommodate military needs (SFNM, Jan. 29, 1941). A US Army survey for the new field, located "two or three miles west of the municipal location on the old Albuquerque road," had apparently been completed the same day of the council meeting. Fundraising for the purchase of 1,450 acres of land began in February (SFNM, Feb. 5, 1941). The project was described as "a national defense program at this time…that will prove a great boon to the Capital City when the present emergency is over" (SFNM, March 3, 1941). The history of that airport will not be further addressed here due to its location west of the project area.

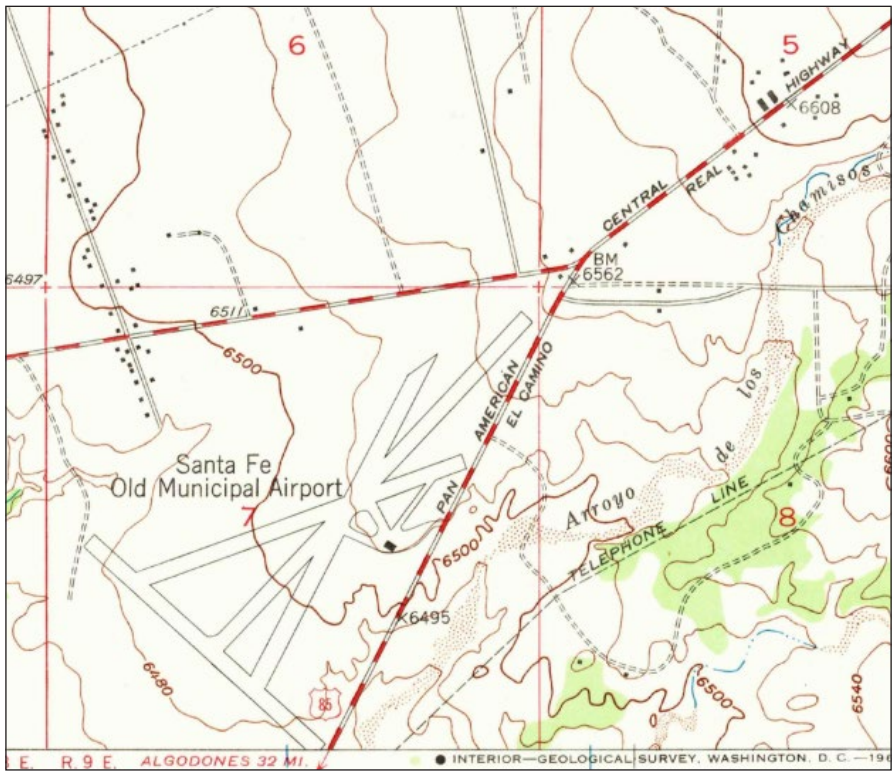
Boyd Field, ca. 1943–1959

While the new airport was under construction in 1941, discussions were under way regarding use of the old airfield. The City was considering applications to lease the old airport, hangar, and office buildings for training purposes but had not yet decided by the summer of 1941 (SFNM, July 29, 1941). In the spring of 1943, it was announced that Charles Boyd's application to establish an "airplane service" was being considered by the city (SFNM, Mar. 4, 1943). The lease did eventually go to Boyd, who later that year was noted as the director of vocational training at the old municipal airport (SFNM, Nov. 1, 1943).

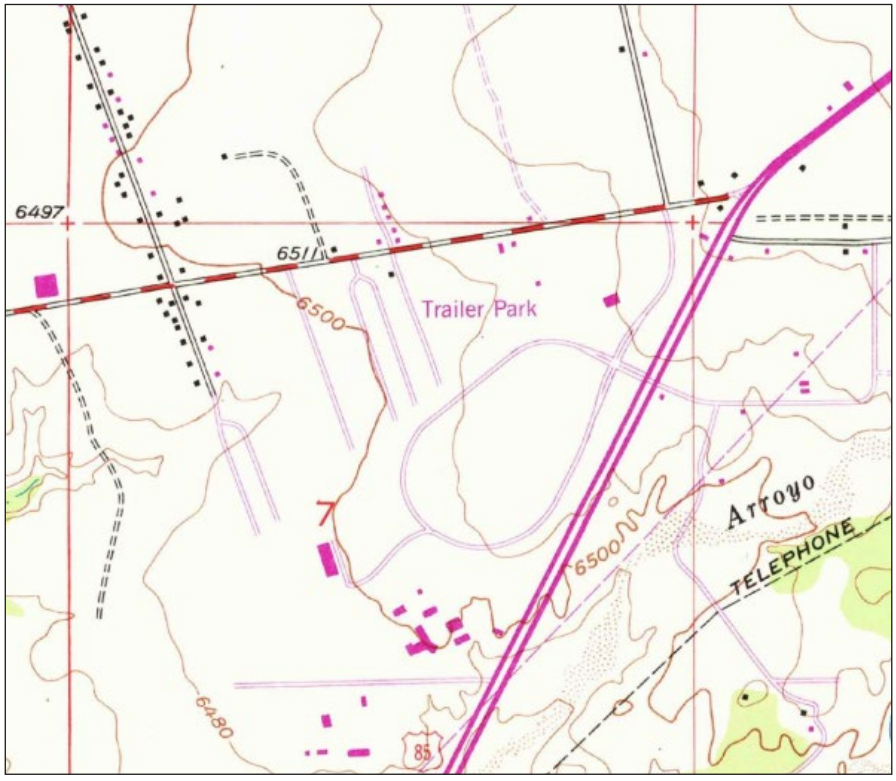
According to a 1969 newspaper biography, Boyd arrived in Santa Fe in 1940. His management of the old Santa Fe airport was only one chapter of an impressive aeronautical career (SFNM, May 8, 1969). Boyd was involved in one of the most impressive achievements in aviation history, the first transatlantic flight completed on May 8, 1919. The 1969 newspaper bio honored the 50th anniversary of that flight, in which Boyd was among the four-man service crew for the NC-4 airplane that made the crossing. The NC-4 "flying boat" is now on display at the National Air and Space Museum in Washington, DC. That flight preceded Lindbergh's 1927, non-stop, solo transatlantic flight by eight years.

After settling in Santa Fe, Boyd managed both the Santa Fe and Amarillo airports. Through Boyd Aero, he offered rides, charter services, and displays and sales of new airplane models (SFNM, Aug. 3 and Sept. 1, 1944). In the summer of 1944, Charlie Boyd appeared to have had no shortage of enthusiastic flying students at the old field, so much so that he hired an assistant (SFNM, June 10, 1944). That year, Boyd Aero was advertising flying lessons for $2.00 at the "Old Municipal Airport" (SFNM, June 3, 1944).

Brisk business prompted Boyd to seek assurance of a guaranteed 10-year lease or outright purchase of the airport from the city in 1945 (Sept. 13, 1945). Four bids for the airport were submitted, one of which was Boyd's. However, the lease did not go to Boyd. A five-year lease contract was awarded to Pella Airways in November 1945 (SFNM, Nov. 8, 1945). It is not clear what arrangements were made with Boyd following the Pella lease, but it is clear that Boyd Aero continued to operate from the old port. The year after he lost the bid, he began offering flying lessons to World War II veterans at no cost through the GI Bill of Rights (SFNM, May 10, 1946). He was also the director of the New Mexico Aeronautical Commission in 1946 (SFNM, June 28, 1946) but his full term of office could not be ascertained.



1969 Agua Fria USGS quadrangle



1979 Agua Fria USGS quadrangle

Figure 5.13. USGS Agua Fria quads (1969 and 1979) showing presence of runways until, at least, 1969.

Figure 5.14. Aerial photo (1967) with portion of Boyd Field, then abandoned.

It is not clear when Boyd regained the lease of the airport after it was awarded to Pella in 1945. But by 1954, he was again listed in *The New Mexican* as holding the lease for Boyd Field. That year, a heated dispute arose between Boyd, the Civil Air Patrol, and the Rodeo Association. The latter was lobbying the city to purchase the old airport against the strident objections of Boyd and the Civil Air Patrol (SFNM, May 13, 1954). The transfer of the lease to the Rodeo Association was under way when it was realized that the terms of the original airport lease required that the land remain an airfield. This prompted the Rodeo Association to withdraw its request the following year, leaving the airport under Boyd's direction (SFNM, Feb. 24, 1955).

However, Boyd's battle to keep the field was not over. In 1957, the city announced that the old airport would be leased to Aircon, stating that they had been in "sharp disagreement" with Boyd for two years over whether his lease had been invalidated (SFNM, Dec. 15, 1957). The case was taken to court in early 1958, and about a year later, Boyd was formally evicted from the airport (SFNM, Feb. 7, 1958; March 12 and 30, 1959). Boyd retired some time before 1969, the last year that the Boyd Field runways appear on USGS topographic maps (Fig. 5.13). The northernmost portion of the main runway is still visible in an aerial photograph taken in 1967, by which time the field was no longer serving as an airfield (Fig. 5.14). Aerial photos south of the area shown in Figure 5.14, in the present-day Jaguar Drive area, were unavailable for this study.

By 1959, plans were under way to transform the old airport into an industrial park, known today as the Joseph Valdez Industrial Park. Charles Boyd died in Santa Fe in 1974, five years after *The New Mexican* published its account of his role in the first transatlantic flight of 1919.

Acequias

The project area is beyond the boundary of David Snow's acequia map (1988:119). However, irrigation ditches and possible acequias have been recorded in the project area (see Table A1.2). LA 79942 is a probable acequia estimated to date from 1912–1945 (Viklund 1992). It runs roughly east–west and is about 380 m north of Jaguar Drive. LA 87338, which consists of two Territorial period irrigation ditches of Hispanic cultural affiliation, is located west of LA 79942. Additional acequia segments may have existed between the Santa Fe River and Airport Road but are less likely in the Jaguar Drive area. Historic aerial photographs from the early decades of the twentieth century show that the area between the Santa Fe River and Airport Road was intensively farmed but no plots are visible in the Jaguar Drive area. Planted fields are visible along the south side of the river in aerial photos from 1936–1967, representing only the latest decades of agricultural use in that area. Irrigation of those fields almost certainly involved construction of numerous ditches turning south from the river.

Summary of Map Information

The earliest historic use of the Jaguar Drive project area consisted of limited agriculture, livestock grazing, and resource gathering. Historic Camino de los Carros, now Cerrillos Road, was established in the Spanish Colonial period and continues to serve as a major city thoroughfare. Land in the project vicinity remained largely unoccupied long after the first municipal airport was established in 1928. The Pond-Byrne/Boyd Field operated as a municipal field until 1941, when the current airport was opened. Charles Boyd began leasing the field about 1943, and continued to do business there as Boyd Aero until 1959. The field was formally closed in 1959, when the airport location was slated to become the Joseph Valdez Industrial Park. Vestiges of the old municipal airport are still visible from the air and ground today. Camino Edward Ortiz, as well as some private property boundaries, follow the path of the central north–south runway established in 1928.

6 ⇓ Field Methods and Reporting Schedule

In order to determine whether any previously unknown cultural resources overlapped with the Jaguar Drive project components, an archaeological monitor observed all mechanical excavations. Examination of excavated backdirt and stratigraphy and hand-scraped sections of excavated wall in bore pits was conducted by Karen Wening. No sites, cultural strata, or isolated occurrences were encountered during the Jaguar Drive project. Standard OAS data-recording methods were employed. These included sediment descriptions using a Munsell Soil Color chart and standard geomorphological descriptors, notes on artifact variety and frequency, evidence of disturbance, horizontal and vertical locations and associations, and notes on excavation technique and temporal associations. Written descriptions were recorded on standardized forms.

Boring locations and other excavated areas were plotted using Global Position Systems (GPS) with a GeoXH 3000 series unit with submeter precision. GPS data was post-processed so that coordinate systems could be used with aerial photographs, topographic maps, and other planimetric graphics related to the project. Excavation records include photographs of the excavated areas. Photographs have a metric scale, north arrow, and label board with the project name, feature number, and date. All field recording was conducted on standard OAS feature and excavation forms under the provisions of General Permit NM-19-027-M. No artifacts were collected during this activity.

Personnel and Schedule

Eric Blinman is principal investigator for the project. Fieldwork was completed by Karen Wening. This document serves as a first draft of the final report for the Jaguar Drive project submitted to ARC for review. It includes a brief cultural historical and interpretive context, a brief description of the project location and purpose, field methods employed, and a description of the subsurface stratigraphy consisting of natural layers. Any review comments will be incorporated into a revised draft within six months of receipt of the comments. The revised draft will be resubmitted to the City of Santa Fe for further review, if needed, and for transmittal to HPD and any other regulatory agencies. Sufficient copies of the final report will be produced to fulfill the needs of the client, the City of Santa Fe, HPD, and any other statutory requirements.

7 ⇓ Stratum Descriptions

Four strata were encountered, all of which were non-cultural. Stratum 1, which composed the uppermost layer in all four bore pits, was the most ubiquitous. Strata 2 and 3 had comparatively low representation but this owed mostly to extensive modern deposition along Jaguar Drive. Stratum 4 was the least common layer among the four bore pits. Sediments in three bore pits were significantly disrupted (Bore Pits 1, 2, and 4). Bore Pit 3 was relatively intact. Despite the extensive reworking of sediments in most bore pits, some general observations can be made concerning overall deposition patterns. Generally, rock and $CaCO_3$ content was highest in lowest elevations along Cerrillos Road (Bore Pits 1 and 4). Higher-elevation bore pits, in contrast, had thick silty sediments with less rock and $CaCO_3$ (Bore Pits 2 and 3). The high rock and calcium carbonate content along Cerrillos Road likely represent ancestral deposits of Arroyo de los Chamisos, which is about 130 m east of the project area. Along the bore route, elevation ranges from 6,477 ft (Bore Pit 1) to 6,504 ft (Bore Pit 2). This reflects an elevation difference of 27 ft over the 980 ft long bore route.

Stratum 1

Stratum 1 formed the top layer in all four bore pits, where it was consistently reworked by modern and historic activity (see Table 1.1). This layer is composed of alluvial sand, gravel, and cobbles deposited by Arroyo de los Chamisos. The arkosic sediments of Stratum 1 were light reddish brown (5YR 6/4). Rock content accounted for about 50 percent of the fill and consisted mostly of quartzite cobbles. Gravels ranged from pea-sized to 15 cm in length. Most gravels exhibited an overall light calcium carbonate coating. Calcium carbonate nodules were visible throughout Stratum 1. Stratum 1 ranged in thickness from 20–80 cm depending on location and disturbance level. In low-elevation bore pits (Bore Pits 1 and 4), where disruption was highest, Stratum 1 was the only layer present. In high-elevation bore pits (Bore Pits 2 and 3), Stratum 1 was 20–30 cm thick. Thicker deposits of Stratum 1 were owed to their proximity to Arroyo de los Chamisos. Stratum 1's original thickness was difficult to assess in lower elevations since it was always disturbed, but it appeared to account for at least the upper 80 cm in those areas prior to modern disruption.

Stratum 2

Stratum 2 was observed in Bore Pits 2 and 3, both of which were about 25 ft higher in elevation than Bore Pit 1 and Bore Pit 4. This layer was strikingly different from other project strata in its compact, silty composition and well defined $CaCO_3$ inclusions. Sediments consisted of reddish-brown (5YR 4/4) silty clay with less than 5 percent sand. Discrete calcium carbonate nodules were even distributed throughout Bore Pit 3. In Bore Pit 2, Stratum 2 was extensively remixed with Stratum 1 and modern refuse. Worm bioturbation was moderate throughout. Gravel content was extremely low, accounting for less than 1 percent of the fill. Stratum 2 was below Stratum 1 and formed the lowest layer in Bore Pit 2, extending from 35–52 cm bgs. In Bore Pit 3, Stratum 2 was heavily reworked with Strata 1 and 3.

Stratum 3

Stratum 2 was best defined in Bore Pit 2. Stratum 3 was similar to overlying Stratum 2, differing primarily in its comparatively low $CaCO_3$ content. Stratum 3 consisted of light brown (7.5YR 6/4) compact silt with 10 percent fine grained arkosic sand. Gravels accounted for about 2 percent of the fill and were largely composed of angular, subrounded rocks from 1–5 cm in length. Granite and micaceous schist materials were observed. Calcium carbonate content lightened the color of this layer but did not occur as concentrated, discrete nodules or coatings. Stratum 3 was intact only in Bore Pit 2, where it extended from 52–95 cm bgs, forming the lowest unit of the pit. Stratum 3's only other occurrence was in Bore Pit 3, where it was reworked.

Stratum 4

Stratum 4 is a layer of reddish-brown (5YR 5/3) coarse grained alluvial sand. It was observed only in Bore Pit 3, where it was exposed below a heavily reworked layer. Rounded pebbles and cobbles, most of which were granite and micaceous schist, composed about 20 percent of the fill. Rocks were lightly coated with calcium carbonate. Stratum 4 extended from 70–108 cm bgs and formed the lowest layer in Bore Pit 3. Its upper boundary was truncated when the overlying, reworked layer was deposited.

8 ⸸ Monitoring Results

Four bore pits were excavated for the Jaguar Drive project. Bore Pits 1, 2, and 3 were on the south side of Jaguar Drive. Bore Pit 4 was on the south side of Governor Miles Road (see Fig. 1.2). Four strata were observed in collected excavations. No artifacts or other cultural resources were encountered.

Bore Pit 1 was located in the southwest corner of the Cerrillos Road-Jaguar Drive intersection (Fig. 8.1). Sediments in the area were extensively disrupted from road and drainage ditch construction. Existing utilities south of Bore Pit 1 included power, fiber optic, and water lines. Bore Pit 1 was oriented east–west, measured 1.9 by 0.50 m, and was excavated to 0.80 m bgs. The north face was profiled (Fig. 8.2). The top 10 cm consisted of landscape gravels, asphalt chunks, and cobbles. From 10–80 cm bgs was a layer of redeposited Stratum 1.

Bore Pit 2 was at the far west end of the project area (Fig. 8.3). It was east of the entrance to the NMDOT equipment yard on the south side of Jaguar Drive. Bore Pit 2 was oriented east–west, measured 2.15 by 0.50 m, and was excavated to 95 cm bgs. The south face of Bore Pit 2 was profiled (Fig. 8.4). The upper 35 consisted of reworked Stratum 1. From 35–52 cm bgs was an intact layer of Stratum 2 with discrete calcium carbonate nodules. The lowest layer of Bore Pit 2 was an uncalcified layer of Stratum 3 that extended from 52–95 cm bgs.

Bore Pit 3 was located on the south side of Jaguar Drive across from the entrance to the NM State Police Academy (Fig. 8.5). Bore Pit 3 was oriented east–west, measured 2.85 by 0.5 m, and was excavated to 1.08 m bgs. The profile in Bore Pit 3 (Fig. 8.6) provided a clear indication of how deeply sediments had been reworked during the construction of Jaguar Drive. The south face was profiled. The upper 20 cm consisted of Stratum 1 reworked with concrete fragments. From 20–70 cm bgs was a layer of Stratum 2 that was heavily mixed with asphalt chunks, concrete fragments, and modern refuse. This layer may be related to any of one multiple Statehood era grading and resurfacing projects related to the Pond-Byrne/Boyd Airport, which is detailed in Chapter 5. It may also represent debris related to the demolition of the airport sometime after 1959, when the city withdrew Boyd's lease and began plans for an industrial park. The relationship of this debris layer to the Boyd Field runways will be addressed later in this report. Streets that define the Joseph Valdez Industrial Park, Camino Edward Ortiz, and Camino Entrada were in place by 1979. Below this demolition debris layer was Stratum 4, which consisted of alluvial sand and gravel and was the lowest layer, extending from 70–108 cm bgs.

Bore Pit 4 was located at the southeast corner of Cerrillos Road and Jaguar Drive (Fig. 8.7). It was oriented north–south, measured 7.0 by 0.45 m, and was excavated to 0.80 m bgs. The 7 m length of Bore Pit 4 was required to connect the conduit from an existing power pole to an existing fiber optic vault. The area was extensively disturbed from installation of water, power, and traffic control vaults. An active powerline ran east–west across the south end of Bore Pit 4. The east face was profiled (Fig. 8.8). Sediments in Bore Pit 4 were heavily reworked from existing utilities and road construction. The surface was landscaped with bark chips and Russian sage. Below this to the base was a layer of reworked Stratum 1.

Figure 8.1. Bore Pit 1 location shot.

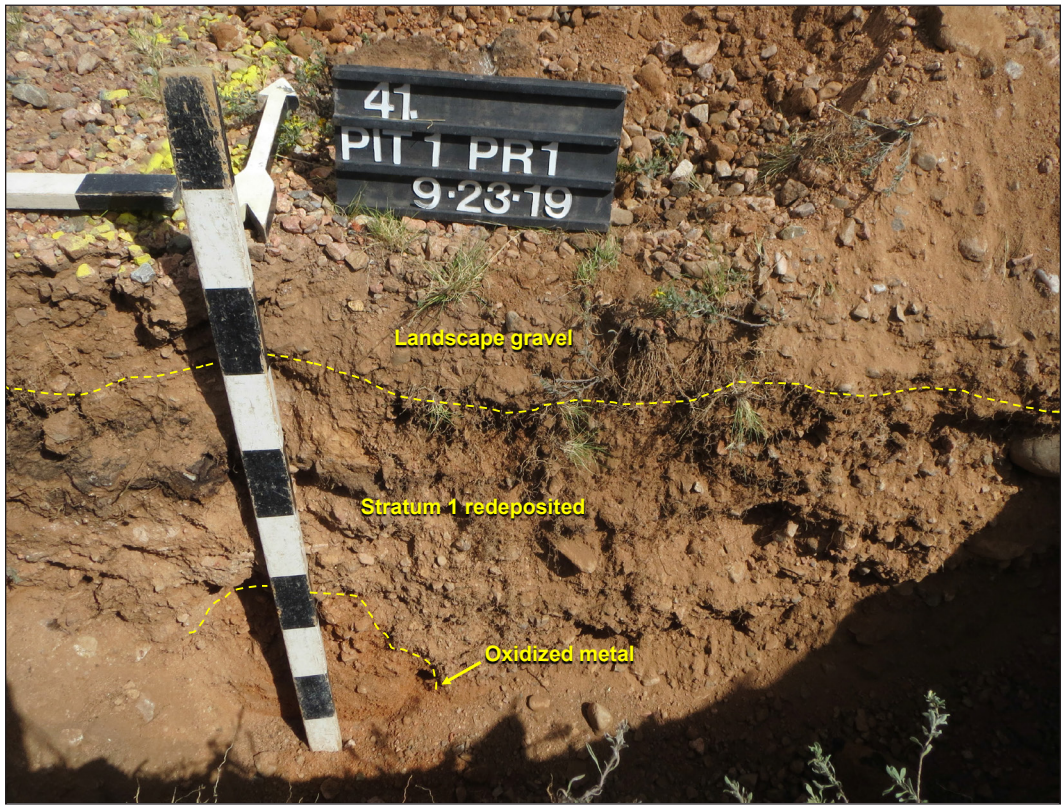


Figure 8.2. Bore Pit 1, north face profile.

Figure 8.3. Bore Pit 2 location shot.

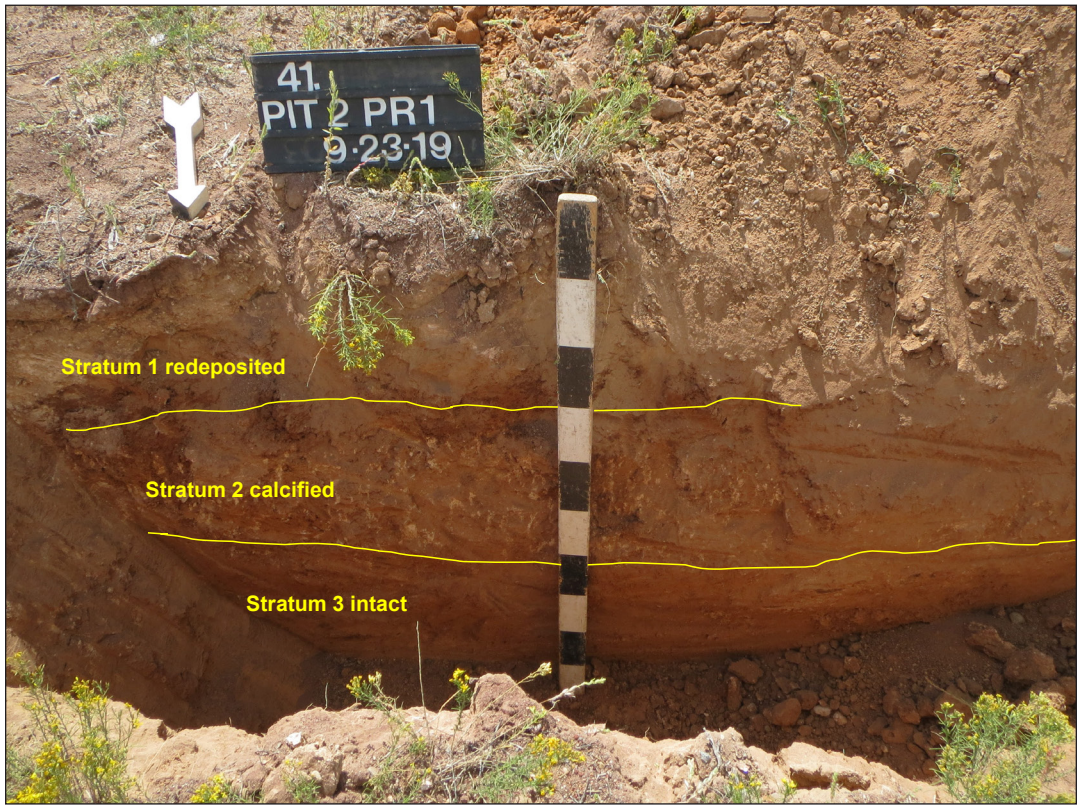


Figure 8.4. Bore Pit 2, south face profile.

Figure 8.5. Bore Pit 3 location shot.

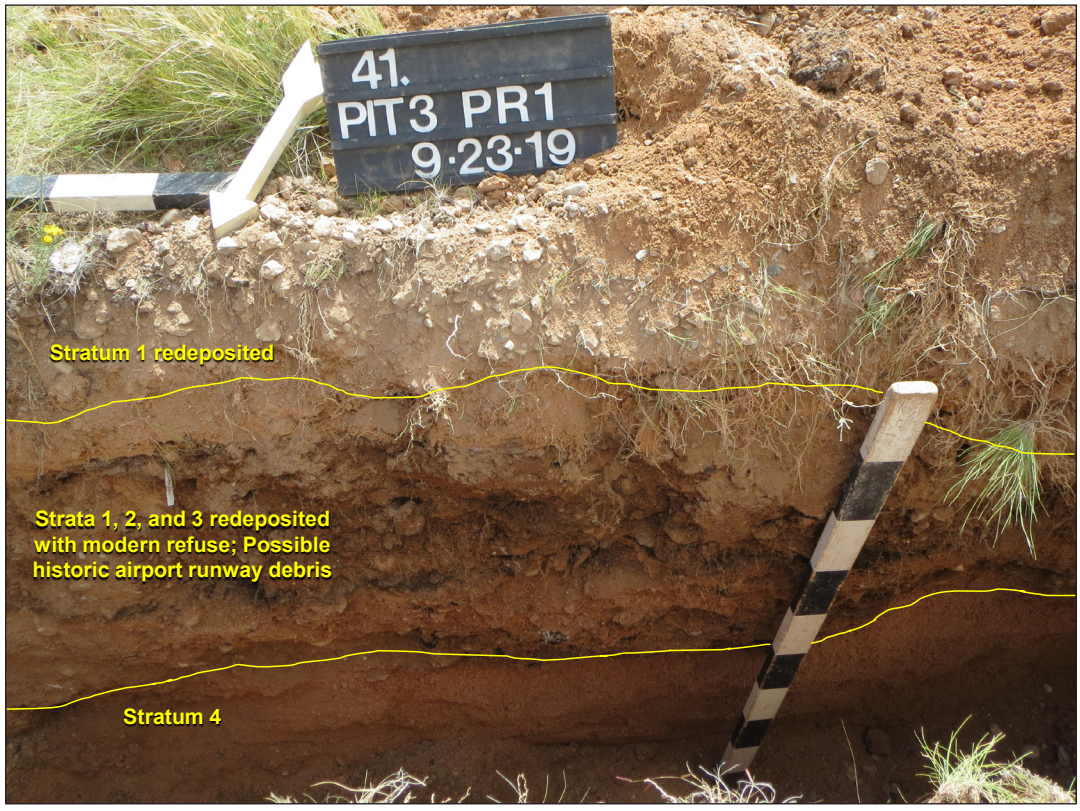


Figure 8.6. Bore Pit 3, south face profile.

Figure 8.7. Bore Pit 4 location shot.

Figure 8.8. Bore Pit 4, east face profile.

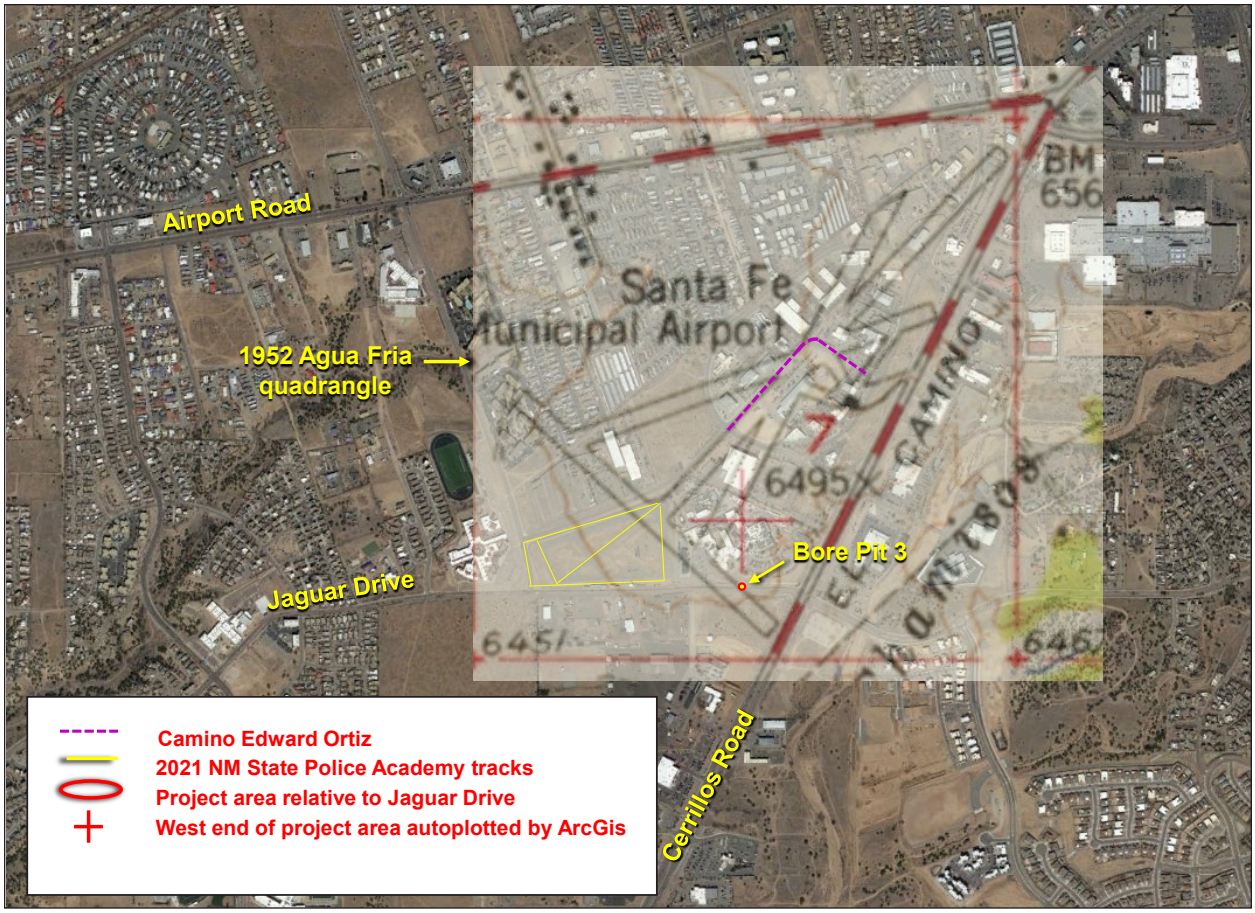


Figure 8.9. Google Earth image with overlay of 1952 airport runway.

Summary and Conclusions

Four bore pits were excavated for the Jaguar Drive project. No sites or isolated occurrences were encountered. Four strata were recorded during the Jaguar Drive project, all of which were sterile. Sediments in three bore pits were significantly disrupted (Bore Pits 1, 2, and 4). Bore Pit 3 was relatively intact. Despite the extensive reworking of sediments in most bore pits, some general observations can be made concerning overall deposition patterns. Generally, rock and $CaCO_3$ content was highest in lowest elevations along Cerrillos Road (Bore Pits 1 and 4). Higher-elevation bore pits, in contrast, had thick silty sediments with less rock and $CaCO_3$ (Bore Pits 2 and 3). The high rock and calcium carbonate content along Cerrillos Road likely represent ancestral deposits of Arroyo de los Chamisos, which is about 130 m east of the project area. Along the bore route, elevation ranges from 6,477 ft (Bore Pit 1) to 6,504 ft (Bore Pit 2). This reflects an elevation difference of 27 ft over the 980 ft long bore route.

There was a significant difference in the degree of stratigraphic disturbance among bore pits. Disturbance increased as elevation decreased; the lowest bore pits, Bore Pits 1 and 4, were completely churned. The highest-elevation bore pit, Bore Pit 3, was by far the most intact. Bore Pit 2, which was slightly lower in elevation, exhibited extensive remixing but not to the depths in Bore Pits 1 and 4. This variation in disturbance is not necessarily explained by the construction of Jaguar Drive. In the higher portions of the project where Bore Pits 2 and 3 were located, Jaguar Drive is not deeply cut (see Figs. 8.3 and 8.5).

Possibly, some of the disturbance is related to the 1928 Pond-Byrne/Boyd Airport, at least for Bore Pit 3. As noted in Chapter 5, the runways were repeatedly bladed, graveled, and oiled from about 1928–1959. A rectification of the 1951 USGS Agua Fria quadrangle map to the modern landscape shows the northwest–southeast runway intersecting Bore Pit 3 (Fig. 8.9). Bore Pit 3 was at the edge of the former

northwest–southeast runway. The thick layer of redeposited gravel, asphalt, concrete, and Strata 1, 2, and 3 that extended 20–70 cm bgs in Bore Pit 3 may be related to one or more of these grading episodes. This layer may have been at least 20 cm thicker in the early Statehood to World War II years, with its upper extent truncated when the airport was retired and more recent commercial development began.

Figure 8.9 shows other interesting relationships between the historic and modern landscapes. It has been assumed by this author and others, that the modern police academy tracks were largely adapted from the historic runway paths. However, Figure 8.9 shows that the police academy training tracks are only minimally aligned with the old airport runways. Only the police track that cuts northeast–southwest through the center of the training yard overlaps slightly with the longest runway of the Pond-Byrne/Boyd Airport, which was also oriented northeast–southwest. It appears that the police academy simply extended the longest runway southwest and constructed all additional tracks around it without regard to other runways.

Another modern feature aligns with the longest runway of Pond-Byrne/Boyd Airport: Camino Edward Ortiz (see Fig. 8.9). Its path along the United Parcel Service complex follows the historic central runway north to the point where it turns east to connect to Camino Entrada. North of the Camino Entrada-Camino Edward Ortiz intersection, the path of the main north–south runway is still clear from the air, though it is not a modern road.

The Pond-Byrne/Boyd Airport runway pattern remained largely unaltered from at least 1936–1969, in terms of the Jaguar Drive project area. Some changes were made north of the project area by 1948, when a turnout to what appears to be a hangar is visible on the aerial photograph of that year. After 1948, the runway configuration appears stable until at least 1969, based on aerial photographs and topographic maps. By 1979, the airport runways have disappeared from the landscape, as indicated by the topographic map. In its place, the streets associated with the Joseph Valdez Industrial Park appear, two of which are Camino Entrada and Camino Edward Ortiz.

References Cited

Acklen, John C., John A. Evaskovich, and Christopher A. Turnbow
1994 *Results of Archaeological Investigations of Old Fort Marcy, Santa Fe County, New Mexico*. MAI Project 1141. Mariah Associates, Albuquerque, New Mexico.

Anschuetz, Kurt F., and Cherie L. Scheick
1999 The Pre-Columbian Archaeology of the Geographic Subdivisions. In *A Study of Pre-Columbian and Historic Uses of the Santa Fe National Forest: Competition and Alliance in the Northern Middle Rio Grande*, ed. Cherie L. Scheick. Southwest Archaeological Consultants, Santa Fe, and Santa Fe National Forest, Albuquerque.

Bandelier, Adolph A.
1882 *The Southwestern Journals of Adolph F. Bandelier, 1880–1882*, ed. Charles H. Lange and Carroll L. Riley. University of New Mexico Press, Albuquerque.

Bowden, J. J.
1969 Private Land Claims in the Southwest. Master's thesis. Southern Methodist University, Dallas.

Brett, L.
1982 *Antelope Fed #2 & Road, and #3 for Transwestern Gas Supply Co.* Report F83-159. Eastern New Mexico University, Portales.

Bullard, William Rotch, Jr.
1962 *The Cerro Colorado Site and Pithouse Architecture in the Southwestern United States Prior to A.D. 900.* Papers of the Peabody Museum of Archaeology and Ethnology 44(2). Harvard University, Cambridge.

Carroll, Charles H.
1984 Norton-Tesuque 115 kV Transmission Project Cultural Resources Technical Report. Ms. on file, Public Service Company of New Mexico, Albuquerque.

Chavez, Fray Angélico
1948 *Our Lady of the Conquest*. Santa Fe: The Historical Society of New Mexico.
1979 Genízaros. In *Handbook of North American Indians*, Vol. 9, *Southwest*, ed. Alfonso Ortiz, pp. 198–200. Smithsonian Institution, Washington, DC.

Condie, Carol J., and Cordelia T. Snow
2000 *An Archaeological Survey and Land Use Study Along the Proposed Route for the Governor Miles Road in T16N R9E, Southwest Santa Fe, Santa Fe County, New Mexico for Metric Corporation*. Report 412. Quivira Research Associates, Albuquerque.

Cordell, Linda S.
1979 *A Cultural Resources Overview of the Middle Rio Grande Valley, New Mexico*. USDA Forest Service, Albuquerque, and Bureau of Land Management, Santa Fe.

Darlington, Jacob H.
1997 *Archaeological Survey of Proposed Equipment for J. R. Hale Contracting, Santa Fe County, New Mexico.* Report 290. Lone Mountain Archaeological Services, Albuquerque.

Dozier, Edward P.
1970 *The Pueblo Indians of North America*. Holt, Rinehart and Winston, New York.

Eggan, Fred
1979 Pueblos: Introduction. In *Handbook of North American Indians*, Vol. 9, *Southwest*, ed. Alfonso Ortiz, pp. 224–235. Smithsonian Institution, Washington, DC.

Elliott, Michael L.
1988 *The Archaeology of Santa Fe: A Background Report*. Planning Department, City of Santa Fe.

Ellis, Florence H.
1989 *San Gabriel del Yungue: As Seen by an Archaeologist.* Sunstone Press, Santa Fe.

Fenneman, Nevin M.
1931 *Physiography of the Western United States.* McGraw Hill, New York.

Folks, James J.
1975 *Soil Survey for the Santa Fe Area, New Mexico.* U.S. Department of Agriculture, Soil Conservation Service.

Frisbie, T. R.
1967 The Excavation and Interpretation of the Artificial Leg Basketmaker to Pueblo I Sites near Corrales, New Mexico. Master's thesis. University of New Mexico, Albuquerque.

Gabin, Vickie L., and Lee E. Lesperance
1977 *New Mexico Climatological Data. Precipitation, Temperature, Evaporation, and Wind, Monthly and Annual Means, 1850–1975*. W. K. Summers and Associates, Socorro.

Garcia-Matson, Velma
1979 Acoma Pueblo. In *Handbook of North American Indians*, Vol. 9. *Southwest*, ed. Alfonso Ortiz, pp. 450–456. Smithsonian Institution, Washington, DC.

Goodman, Linda J.
2010 An Ethnohistorical Examination of LA 89019, 149868, and the Surrounding Comita-Cubero-McCartys Area. In *Data Recovery at Three Archaeological Sites for the Acomita Interchange Improvements Project*, ed. Stephen C. Lentz, pp. 17–67. Archaeology Notes 417. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Hack, John T.
1942 *The Changing Environment of the Hopi Indians of Arizona*. Papers of the Peabody Museum of American Archaeology and Ethnology 35(1).

Hackett, Charles W., and Charmion C. Shelby
1942 *Revolt of the Pueblo Indians of New Mexico and Otermín's Attempted Reconquest, 1680–1682, Vols. 8 and 9.* Coronado Cuarto Centennial Publications: 1540–1940. University of New Mexico Press, Albuquerque.

Hall, G. Emlen
1987 The Pueblo Grant Labyrinth. In *Land, Water and Culture. New Perspectives on Hispanic Land Grants*, ed. Charles L. Briggs and John R. Van Nes, pp. 67–138. University of New Mexico Press, Albuquerque.

Hammond, George P., and Agapito Rey (translators and editors)
1953 *Don Juan de Oñate Colonizer of New Mexico, 1595–1628*. Coronado Cuarto Centennial Publications, University of New Mexico Press, Albuquerque.

Hannaford, Charles
1986 *Archaeological Survey of the Tierra Contenta Subdivision, Santa Fe County, New Mexico*. Archaeology Notes 356. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.
2007 *The First Judicial District Courthouse Complex: Archaeological Investigations at LA 156207 in Santa Fe, Santa Fe County, New Mexico*. Archaeology Notes 390. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Harlan, Mark E.
1988 *An Archaeological Survey of Approximately 5000 Feet of Water Pipe Line Right-of-Way for the Sangre de Cristo Water Company*. Public Service Company of New Mexico Environmental Services Division. Santa Fe.

Hewett, Edgar L.
1953 *Pajarito Plateau and Its Ancient People*. Revised by B. B. Dutton. School of American Research and University of New Mexico Press, Santa Fe.

Hordes, Stanley M.
1990 The History of the Santa Fe Plaza, 1610–1720. In *Santa Fe Historic Plaza Study I, with Translations from Spanish Colonial Documents*, ed. Linda Tigges, pp. 3–36. Santa Fe City Planning Department, Santa Fe.

Jenkins, Myra E., and Albert H. Schroeder
1974 *A Brief History of New Mexico*. University of New Mexico Press, Albuquerque.

Judge, W. James.
1991 Chaco: Current Views of Prehistory and the Regional System. In *Chaco and Hohokam: Prehistoric Regional Systems in the Southwest*, ed. P. L. Crown and W. J. Judge, pp. 11–30. School of American Research Press, Santa Fe.

Kelley, Vincent C.
1979 Geomorphology of the Española Basin. In *New Mexico Geological Society Guidebook: Santa Fe County (30th Field Conference)*, pp. 281–288. University of New Mexico Press, Albuquerque.

Lakatos, Steven A.
2011 *Data Recovery Results from the First Judicial District Courthouse Complex, LA 156207, Santa Fe County, New Mexico*. Archaeology Notes 424. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Lang, Richard W.
1977 *Archaeological Survey of the Upper San Cristobal Arroyo Drainage, Galisteo Basin, Santa Fe County, New Mexico*. Contract Archaeology Program Report 37. School of American Research, Santa Fe.

Lang, Richard W., and Cherie L. Scheick
1989 *Limited Excavations at LA 2, the Agua Fria Schoolhouse Site, Agua Fria Village, Santa Fe County, New Mexico*. Research Series 216. Southwest Archaeological Consultants, Santa Fe.

Lekson, Stephen H., and Catherine M. Cameron
1995 The Abandonment of Chaco Canyon, the Mesa Verde Migrations, and the Reorganization of the Pueblo World. *Journal of Anthropological Archaeology* 14:184–202.

Lentz, Stephen C.
2004 *Excavations at LA 80000, the Santa Fe Plaza Community Stage Location, Santa Fe, New Mexico*. Archaeology Notes 343. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.
2005 *El Pueblo de Santa Fe (LA 1051): Archaeological Testing of the Proposed Santa Fe Civic Center*. Archaeology Notes 355. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.
2011 *Ogapogeh, the White Shell Water Place. The Prehistoric Component at El Pueblo de Santa Fe (LA 1051)*. Archaeology Notes 438, Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Lentz, Stephen C., and Matthew J. Barbour.
2011 *Settlers and Soldiers. The Historic Component at El Pueblo de Santa Fe (LA 1051).* Archaeology Notes 410. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Lentz, Stephen C., and Linda J. Goodman
1992 *Archaeological Testing and a Brief Ethnohistory of San Gabriel de Yunge Owinge, San Juan Pueblo, New Mexico.* Archaeology Notes 102. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Lucas, Mary Beth
1984 Norton-Tesuque 115 kV Transmission Project Earth Resources Technical Report. Ms. on file, Public Service Company of New Mexico, Albuquerque.

Marshall, Michael P.
1994 *A Cultural Resource Survey for the Cerrillos Road Reconstruction Project, Santa Fe County, New Mexico.* Cibola Research Consultants report 112. Corrales.

Maxwell, Timothy D., and Stephen S. Post
1992 *An Archaeological and Historical Study of Old Pecos Trail.* Archaeology Notes 58. Office of Archaeological Studies, Museum of New Mexico. Santa Fe.

Mera, H. P.
1939 *Style Trends of Pueblo Pottery in the Rio Grande and Little Colorado Cultural Areas from the Sixteenth to the Nineteenth Century*. Laboratory of Anthropology Memoirs 3, Museum of New Mexico, Santa Fe.

Mullin, N. Robert.
1968 *History of the Lincoln County War.* University of Arizona Press, Tucson.

National Park Service
1990 *Santa Fe National Historic Trail Comprehensive Management and Use Plan*. U.S. Department of the Interior, National Park Service, Denver.

Nelson, Nels C.
1914 *Pueblo Ruins of the Galisteo Basin, New Mexico.* Anthropological Papers of the American Museum of Natural History 15(1). New York.
1916 Chronology of the Tano Ruins, New Mexico. *American Anthropologist* 18(2):159–180.

Noble, David G.
1989 *Santa Fe: History of an Ancient City.* School of American Research Press, Santa Fe.
2008 *Santa Fe: History of an Ancient City.* Revised ed. School for Advanced Research Press, Santa Fe.

Okun, Adam
2011 *Cultural Resources Report for the New Mexico Statewide Interoperable Radio Communications Internet Transportation System (SIRCITS) Middle-mile Project.* Report PMX-2011-25. Parametrix, Albuquerque.

Ortman, Scott G.
2009 Depopulation of the Mesa Verde Region Debated. *American Archaeology*, Vol. 4, Issue 1.

Pearce, Thomas M.
1965 *New Mexico Place Names: A Geographical Dictionary. University of New Mexico Press,* Albuquerque.

Peckham, Stewart L.
1984 The Anasazi Culture of the Northern Rio Grande Rift. In *New Mexico Geological Society Guidebook: Rio Grande Rift, Northern New Mexico*, ed. W. Scott Baldridge, Patricia Woo Dickerson, Robert E. Riecker, and Jiri Zidek. pp. 275–286, New Mexico Geological Society Thirty-Fifth Annual Field Conference, Oct. 11–13, 1984.

Pilz, Wayne P.
1984 KV Transmission Project Biotic Resources, Technical Report. Ms. on file, Public Service Company of New Mexico, Albuquerque.

Post, Stephen S.
1996 *An Archaeological and Historical Study of 50 Acres of the Arroyo Chamiso Interceptor, Capital Improvement Project No. XXX, City of Santa Fe and Santa Fe County, New Mexico*. Consulting Archaeologist Report 56. Santa Fe.
1999 *An Archaeological and Historical Study of 13.489 Acres at the Planned Intersection of Governor Miles and Cerrillos Roads, Santa Fe, New Mexico*. Report 75. Zia Archaeology, Santa Fe.
2010 *7,000 Years on the Piedmont: Excavation of Fourteen Archaeological Sites Along the Northwest Santa Fe Relief Route, Santa Fe County, New Mexico*. Archaeology Notes 357. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Reinhart, Theodore R.
1967 Rio Rancho Phase: A Preliminary Report in Early Basketmaker Culture in the Middle Rio Grande Valley, New Mexico. *American Antiquity* 32:458–470.

Reynolds, S.
1956 *Climatological Summary, New Mexico: Temperature 1850–1954; Frost 1850–1954; and Evaporation 1912–1954*. Technical Report 5. New Mexico State Engineer's Office, Santa Fe.

Robinson, William J., J. W. Hannah, and B. G. Harrill
1972 *Tree Ring Dates from New Mexico I, O, U, Central Rio Grande Area*. Laboratory of Tree-Ring Research, University of Arizona, Tucson.

The Santa Fe New Mexican (SFNM)
1927 Sept. 27, 1927, newspapers.com (accessed Aug. 2022).
1928 Jan. 6, 1928, newspapers.com (accessed Aug. 2022).
July 21, 1928, newspapers.com (accessed Aug. 2022).
1930 Sept. 19, 1930, newspapers.com (accessed Aug. 2022).
1931 March 19, 1931, newspapers.com (accessed Aug. 2022).
April 4, 1931, newspapers.com (accessed Aug. 2022).
April 21, 1931, newspapers.com (accessed Aug. 2022).
May 28, 1931, newspapers.com (accessed Aug. 2022).
July 28, 1931, newspapers.com (accessed Aug. 2022).
Aug. 3, 1931, newspapers.com (accessed Aug. 2022).
Sept. 25, 1931, newspapers.com (accessed Aug. 2022).
1933 June 22, 1933, newspapers.com (accessed Aug. 2022).
Dec. 12, 1933, newspapers.com (accessed Aug. 2022).
Dec. 14, 1933, newspapers.com (accessed Aug. 2022).
1934 Jan. 11, 1934, newspapers.com (accessed Aug. 2022).
March 7, 1934, newspapers.com (accessed Aug. 2022).
1936 May 19, 1936, newspapers.com (accessed Aug. 2022).
May 23, 1936 newspapers.com (accessed Aug. 2022).
June 9, 1936 newspapers.com (accessed Aug. 2022).
Oct. 17, 1936 newspapers.com (accessed Aug. 2022).
1936 Feb. 17, 1936, newspapers.com (accessed Aug. 2022).
May 27, 1936, newspapers.com (accessed Aug. 2022).
Dec. 17, 1936, newspapers.com (accessed Aug. 2022).
1937 March 24, 1937, newspapers.com (accessed Aug. 2022).
May 14, 1937, newspapers.com (accessed Aug. 2022).
May 22, 1937, newspapers.com (accessed Aug. 2022).
July 1, 1937, newspapers.com (accessed Aug. 2022).
July 16, 1937, newspapers.com (accessed Aug. 2022).
Aug. 23, 1937, newspapers.com (accessed Aug. 2022).

Aug. 27, 1937, newspapers.com (accessed Aug. 2022).
Oct. 22, 1937, newspapers.com (accessed Aug. 2022).
Nov. 18, 1937, newspapers.com (accessed Aug. 2022).
1938 Jan. 15, 1938, newspapers.com (accessed Aug. 2022).
Feb. 3, 1938, newspapers.com (accessed Aug. 2022).
Feb. 4, 1938, newspapers.com (accessed Aug. 2022).
March 7, 1938, newspapers.com (accessed Aug. 2022).
March 21, 1938, newspapers.com (accessed Aug. 2022).
May 18, 1938, newspapers.com (accessed Aug. 2022).
1939 Sept. 23, 1939, newspapers.com (accessed Aug. 2022).
Sept. 25, 1939, newspapers.com (accessed Aug. 2022).
1941 Jan. 10, 1941, newspapers.com (accessed Aug. 2022).
Jan. 16, 1941, newspapers.com (accessed Aug. 2022).
Jan. 19, 1941, newspapers.com (accessed Aug. 2022).
Jan. 29, 1941, newspapers.com (accessed Aug. 2022).
Feb. 5, 1941, newspapers.com (accessed Aug. 2022).
March 3, 1941, newspapers.com (accessed Aug. 2022).
July 29, 1941, newspapers.com (accessed Aug. 2022).
1943 March 4, 1943, newspapers.com (accessed Aug. 2022).
Nov. 1, 1943, newspapers.com (accessed Aug. 2022).
1944 June 3, 1944, newspapers.com (accessed Aug. 2022).
June 10, 1944, newspapers.com (accessed Aug. 2022).
Sept. 1, 1944, newspapers.com (accessed Aug. 2022).
Aug. 3, 1944, newspapers.com (accessed Aug. 2022).
1945 Sept. 13, 1945, newspapers.com (accessed Aug. 2022).
Nov. 8, 1945, newspapers.com (accessed Aug. 2022).
1946 May 10, 1946, newspapers.com (accessed Aug. 2022).
June 28, 1946, newspapers.com (accessed Aug. 2022).
1954 May 13, 1954, newspapers.com (accessed Aug. 2022).
1955 Feb. 24, 1955, newspapers.com (accessed Aug. 2022).
1957 Dec. 15, 1957, newspapers.com (accessed Aug. 2022).
1958 Feb. 7, 1958, newspapers.com (accessed Aug. 2022).
1959 March 12, 1959, newspapers.com (accessed Aug. 2022).
March 30, 1959, newspapers.com (accessed Aug. 2022).
1969 May 8, 1969, newspapers.com (accessed Aug. 2022).

Scheick, Cherie L.
2005 *Coalition Period Remains Under the West Alcove, U.S. Federal Courthouse, Santa Fe, New Mexico.* Report No. SW 477C. Southwest Archaeological Consultants, Santa Fe.

Schoenwetter, James, and Alfred E. Dittert
1968 *Archaeological Investigations at the Arroyo Hondo Site: Third Field Report 1972.* School of American Research, Santa Fe.

Schroeder, Albert H.
1979 Pueblos Abandoned in Historic Times. In *Handbook of North American Indians*, Vol. 9, *Southwest*, ed. Alfonso Ortiz, pp. 236–254. Smithsonian Institution, Washington, DC.

Schroeder, Albert H., and Dan S. Matson
1965 A *Colony on the Move: Gaspar Castaño de Sosa's Journal, 1590–1591.* School of American Research, Santa Fe.

Schwartz, D. W. and R. W. Lang
1973 *Archaeological Investigations at The Arroyo Hondo Site, Third Field Report 1972.* School of American Research, Santa Fe.

Simmons, Marc
1979 History of Pueblo-Spanish Relations to 1821. In *Handbook of North American Indians*, Vol. 9, *Southwest*, ed. Alfonso Ortiz, pp. 178–193. Smithsonian Institution, Washington, DC.
1988 "Misery" as a Factor in New Mexican Colonial Life. *Archaeological Society of New Mexico Papers* 14:227–230.

Smiley, Terah L., Stanley A. Stubbs, and Bryant Bannister
1953 *A Foundation for the Dating of Some Late Archaeological Sites in the Rio Grande Area, New Mexico: Based on Studies in Tree-Ring Methods and Pottery Analyses*. Laboratory of Tree-Ring Research Bulletin No. 6, Bulletin 24(3), University of Arizona, Tucson.

Snow, Cordelia Thomas
1999 Archival research. In *Preliminary Results of Archaeological Investigations and Archival Study at 60 East San Francisco Street, Santa Fe, New Mexico*, ed. Glenda Deyloff, pp. 14–35. Research Series 442. Southwest Archaeological Consultants, Santa Fe.

Snow, David
1988 *The Santa Fe Acequia System*. Planning and Land Use Department, City of Santa Fe.

Spicer, Edward
1962 *Cycles of Conquest.* University of Arizona Press, Tucson.

Steen, Charles R.
1977 *Pajarito Plateau Archaeological Survey and Excavations.* Los Alamos Scientific Laboratories, Los Alamos, New Mexico.

Stuart, David E., and Rory P. Gauthier
1988 *Prehistoric New Mexico: Background for Survey.* Historic Preservation Bureau, Santa Fe.

Stubbs, Stanley A., and Bruce T. Ellis
1955 *Archaeological Investigations at the Chapel of San Miguel and the Site of La Castrense, Santa Fe New Mexico.* Monographs of the School of American Research No. 18. School of American Research, Santa Fe.

Stubbs, Stanley A., and W. S. Stallings Jr.
1953 *The Excavation of Pindi Pueblo, New Mexico*. Monographs of the School of American Research and the Laboratory of Anthropology No. 18. School of American Research, Santa Fe.

Swanson, Betsy
1988 The Battles of Glorieta Pass. In *Pecos, Gateway to the Pueblos and Plains*, ed. J. V. Bezy and J. P. Sanchez, pp. 32–39. Southwest Parks and Monuments Association, Tucson.

Tuan, Yi Fu, Cyril E. Everard, Jerold G. Widdison, and Ivan Bennett
1973 *The Climate of New Mexico*. Revised ed. New Mexico State Planning Office, Santa Fe.

Twitchell, Ralph Emerson
1925 *The Story of New Mexico's Ancient Capital: Old Santa Fe*. Rio Grande Press, Chicago.

Viklund, Lonyta
1992 *An Archaeological Survey of Valdez Park, Santa Fe, New Mexico*. SW 242. Southwest Archaeological Consultants, Santa Fe.

Warren, A. Helene
1979 The Glaze Paint Wares of the Upper Middle Rio Grande. In *Archaeological Investigations in Cochiti Reservoir, New Mexico, Vol. 4, Adaptive Change in the Northern Rio Grande Valley*, ed. Jan V. Biella and Richard C. Chapman, pp. 187–216. Office of Contract Archeology, University of New Mexico, Albuquerque.

Wenker, Chris T.
2005 *Santa Fe Railyard Archaeological Testing: Preliminary Report.* Archaeology Notes 352. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Wendorf, Fred, and Erik Reed
1955 An Alternative Reconstruction of Northern Rio Grande Prehistory. *El Palacio* 62:131–173.

Winters, Ron
2011 *An Archaeological Inventory of 11.50 Acres for the Proposed S-1 Pipeline Alignment on South Meadows and Jaguar Drive, Santa Fe, New Mexico*. Santa Fe.

Wiseman, Regge N.
1989 *The KP Site and Late Developmental Period Archaeology in the Santa Fe District.* Laboratory of Anthropology Notes 494. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.