

Aubrey Dunn, Commissioner of Public Lands State of New Mexico

APPLICATION TO AMEND A RIGHT-OF-WAY

(Roads, Telephone and Telegraph, Pipelines, Saltwater Disposal, etc.)

Dear Commissioner:	
Santa Fe County, a governmental entity	Colleen Baker
(Name of Applicant)	(Designated Field Contact name)
102 Grant Av. Santa Fe, NM 87501	(505) 992-9868
(Street Address, City, State, Zip Code)	(Field Contact Phone Number
Katherine Miller (505) 986-6200	cbaker@santafecountynm.gov
(Contact Name, Phone Number)	(Field Contact Email Address)
Hereby applies for an amendment to right-of-way No. R- 25329 to add "multi-use public trail for non-motorized traffic including but not limited to possed amendment does not change the survey plat of the original right-	. The amendment sought is described as follows: pedestrians, bicycles and equestrains* to the purpose of the right-of-way.
(Type of ame	ndment)
breakdown) of any area being added or subtracted from the Survey must be completed within twelve months of this (if applicable) must be staked and flagged. <i>Failure to do so</i> y	e original right-of-way and a statement of the same.
Cultural Resource Protection:	
Please indicate that you (Applicant) have read the T&E at that you understand and agree to abide therein. Yes \(\sqrt{N} \) No \(\sqrt{N} \)	and Cultural Resources Notice to Applicants and by the terms and conditions set forth
An Archaeological Survey is strongly recommended. If Management Section Inspection (ARMS Inspection) in acapplicant does not provide the ARMS Inspection, the Lar order applications are received.	cordance with NMAC 4.10.15.9 is required. If the
An Archaeological Survey is attached with a cover page lab Confidential ExhibitA	eled: Yes No No

An ARMS Inspection is attached with a cover page labeled: Confidential Exhibit	Yes No V
The Applicant would like the NMSLO to provide the ARMS	Inspection: Yes No No
Shape Files:	
Shape Files are required with all applications. Shape Files for this project are available: Yes	No V
If yes, the NMSLO lease analyst will contact you at the addre	ss you provide:
Applicant Shape File Custodian (email contact information):_	
Pursuant to New Mexico State Land Office fee schedule, encl for rods (16.5 feet) at	osed is a check in the amount of \$ per rod, plus \$200.00 application fee.
* When you provide a check as payment, you authorize the from your check to make a one-time electronic fund transfel a check transaction.	e State of New Mexico to either use information r from your account or to process the payment a
Applicant covenants and agrees to abide by all laws and regula a governmental entity that is provided immunity from suit by and hold harmless, defend and indemnify the State of New M agents or employees, in their office and individual capacities, damages arising out of or alleged to arise out of or indirect employees, agents, or contractors hereunder.	the New Mexico Tort Claims Act, agrees to save exico, the Commissioner of Public Lands, and his of and from any and all liability, claims, losses, and
A _I	pplicant y:
Ti	tle: DEPUTY CONTY MANAGER
	Approved as to form Santa Fe County Attorney By: Substitute how to PBI Date: 25 - 18
	1123/18

	ACKNOWLE	DOMESTICOR	COPPORATIONS	IL]	
STATE OF)		Ambra Baca		
COUNTY OF) ss.)	My Commissio	STATE OF NEW MEX	CO	
The foregoing ins	rument was ackı	nowledged befo	re me this	day of	
denuary 2	0 <u>18</u> , by <u>Tor</u>	VI Flures. Name of Officer)	, <u>D</u> ;	Outy County Title of Officer)	Memager
of Scinta FC (Name of Corporation A	Cunty cknowledging)	, a	Jew Mexi (State of Incorp	Ooration)	
corporation, on behalf of s	aid corporation.				
My Commission Expires:			0 (
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A	CKNOWLEDGI	MENT FOR NA	TURAL PERSONS		
STATE OF)				
COUNTY OF)ss.)				
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2	0 by				
My Commission Expires:					
			NOTA	ARY PUBLIC	

Confidential Exhibit A

A CULTURAL RESOURCES SURVEY OF CAJA DEL RIO ROAD, SANTA FE COUNTY, NEW MEXICO

Prepared for

SANTA FE COUNTY 102 Grant Ave Santa Fe, New Mexico 87501-2061

Prepared by

Amanda B. Cohen Greg Mastropietro

SWCA® ENVIRONMENTAL CONSULTANTS

5647 Jefferson Street NE Albuquerque, New Mexico 87109 Telephone: (505) 254-1115; Facsimile: (505) 254-1116 www.swca.com

Matthew S. Bandy, Principal Investigator

SWCA Project No. 21178 SWCA Cultural Resources Report No. 2011-416

January 23, 2012

	NMCRIS INVEST			FORM (NIAF)	
1. NMCRIS Activity No.:	2a. Lead (Sponsoring) Agency:	2b. Other l Agency(ie New Mexic		3. Lead Agency Re	eport No.:
122876	BLM, Taos Field Office	Land Office			
4. Title of Rep A Cultural Res New Mexico	<u> </u>	oad, Santa I	Fe County,	5. Type of Report Negative	☐ Positive
Ideas Intevico					
Author(s): 6. Investigati	Amanda Cohen and Greg Mastr	opietro			
Research Study		•	Excavation	☐ Excavation	Collections/Non-Field
Overview/				/ Site specific vi	sit Other
entall?):	n of Undertaking (what does t		8. Dates of August 18–1	Investigation: 9, 2011	
intersections of Caja del Rio F (3.7 miles) fro the end of the to the interse include the a project stagin foot) rights-o New Mexico S Land Manage funded by Sar SWCA Enviro an archaeolog The archaeolog pedestrian su area covered acres (27.26	County proposes to improve and the pavement of the entire Road. The project area extends it im New Mexico Highway 599 (Network of the county maintenance line. Imprections will consist of road warddition of left turn lanes. All gwill take place within the 45. If way and easements crossing will take place within the 45. If way and easements crossing the Land Office (NMSLO) and ement (BLM) lands. The project after the County. Commental Consultants (SWCA) gical survey of the proposed progical survey consisted of an arrey within the rights-of-way. If by the archaeological survey hectares. Archaeologists from the product of the proposed programments. Archaeologists from the product of the product of the proposed programments. Archaeologists from the product of the p	e length of north 6 km IM 599) to rovements idening to work and 7-m (150-g Private, Bureau of ect will be completed oject area. Intensive The total / is 67.36 cm SWCA	9. Report D	ate: January 23, 20	12
site, LA 1370 The recorded survey area;	ndings consist of one previousl 075, and two isolated occurrer site boundary of LA 137075 falls although the location of the trace of the site is visible within	ices (IOs). s within the site was			
10. Performing Agency/Consultant: SWCA Environmental Consultants Principal Investigator: Matthew S. Bandy Project Manager: Amanda B. Cohen Field Personnel: Greg Mastropietro and Ryan Brucker			ning Agency/Consu ort Number 2011-41		
		NM Survey	bie Cultural Resou Permit: 11-055-S	rce Permit No(s):	
			BLM Permit: 110-2920-11-NN		
Santa Fi Contact Address 102 San	ustomer (project proponent): e County :: Paul Kavanaugh s: Grant Ave ta Fe, NM 87501-2061 (505) 992-3026		14. Cllent/6	Customer Project N	lo.:
L THOMB:	(202) 235-0050				

	ership Status (M	ust be Indicated	• • • • • • • • • • • • • • • • • • • •		
	ndowner		Ac	res Surveyed	Acres in APE
	Way acquired from	n Private owner:	5	42.68	42.68
	se from the BLM			15.24	15.24
Lasemer	nt across NMSLO	lands		9.44	9.44
10 7			TOTALS	67.36	67.36
16. Records S	Search(es):				
Date(s) of AR	MS File Review:		Name of Reviewer(s):		
August 17, 20			Amanda Cohen		
August 17, 20	/SR File Review:		Name of Reviewer(s): Amanda Cohen	:	
Date(s) of Oth	ter Agency File i	Review:	Name of Reviewer(s):	: Agency:	<u> </u>
August 18, 20	11		David Eck	NMSLÓ	
Date(s) of Oth August 18, 20	ner Agency File I	Review:	Name of Reviewer(s): Paul Williams		-14 011
7.090at 10, 20	11	<u> </u>	I Lan AAIIIISUUS	BLM, Taos F	iela Office
Agua Fria	☑ USG ☑ GF pographic Map : Santa Fe y or Town: Santa	Name	O) topo map ☐ C curacy ⊠<1.0m ☐ 1 USGS Quad Code 35106-F1		Scale: 00m □>100m
16N	8E	2	Quarter, Quarter, Qu	larter	
1014	36	-	SWW, NEW, NEW		
	l		NE%, NW%, NE% NW%, NW%, NE%		
	}		SE14, NW14, NE14		
			NE'4, SE'4, NE'4		
			NW14, SE14, NE14		
			SW14, SE14, NE14		
			SE14, SE14, NE14		
17N	8E	14	SW14, SW14, SW14		
17N	8E	15	SE¼, SE¼, SE¼		
17N	8E	22	NE14, NE14, NE14		
****			,		
			SE14, NE14, NE14		

NE%, SE%, NE% SE%, SE%, NE% NE%, NE%, SE% SE%, NE%, SE% NE%, SE%, SE% SE%, SE%, SE%

nship	Range	Section	Quarter, Quarter, Quarter	
	8E	23	NW14, NW14, NW14	
			SW14, NW14, NW14	
	ļ		NW14, SW14, NW14	
			SW1/4, SW1/4, NW1/4	
			NW14, NW14, SW14	
	}		SW1/4, NW1/4, SW1/4	
			NW14, SW14, SW14	
			SW1/4, SW1/4, SW1/4	
	8E	26	NW1/4, NW1/4, NW1/4	
			SW1/4, NW1/4, NW1/4	
		Ì	SE14, NW14, NW14	
			NE¼, SW¼, NW¼	
			SE1/4, SW1/4, NW1/4	
			SW14, SE14, NW14	
			NW1/4, NE1/4, SW1/4	
			SW1/4, NE1/4, SW1/4	
			NEW, NWW, SWW	
			SE14, NW14, SW14	
			NE1/4, SW1/4, SW1/4	
			SE14, SW14, SW14	
	}		NW14, SE14, SW14	
	_		SW14, SE14, SW14	
	8E	35	NW14, NE14, NW14	
			SW1/4, NE1/4, NW1/4	
		ļ	NE14, SE14, NW14	
			NW14, SE14, NW14	
			SW14, SE14, NW14	
			SE14, SE14, NW14	
			NE14, NE14, SW14	
			NW14, NE14, SW14	
			SW14, NE14, SW14	
			NE¼, SE¼, SW¼	
			NW14, SE14, SW14	
			SE14, SE14, SW14	
			SW14, SW14, SE14	

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 (I x w): 4 miles x 150 feet ☐ other survey units
(specify):
Scope: 🗵 non-selective (all sites recorded) 🔲 selective/thematic (selected sites recorded)
Coverage Method: ⊠ systematic pedestrian coverage ☐ other method (describe)
Survey Interval (m): 15 Crew Size: 2 Fieldwork Dates: August 18 and 19, 2011
Survey Person Hours: 26 Recording Person Hours: 2 Total Hours: 28 Additional Narrative:
19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): The project area lies in the northwest area of Santa Fe County, New Mexico, within the western outskirts of Santa Fe. Elevations in project area range from 1,967.5 to 1,991.6 m (6,455–6,534 feet). The area is bisected by numerous drainages and marked by low-rise terraces.
The average annual maximum temperature for the project area near Santa Fe, based on climatic information from nearby weather station Santa Fe 2, New Mexico (298085), is 18.22 degrees Celsius (°C) (64.8 degrees Fahrenheit [°F]), while the annual average minimum temperature is 2.22 degrees Celsius (°C) (36.0 degrees Fahrenheit [°F]). Average annual rainfall for the project area is 35.03 cm (13.79 inches), with the heaviest rain falling between May and October. Average annual snowfall is 53.59 cm (21.1 inches), with heaviest snows falling from November through March (Western Regional Climate Center 2010).
The geology of the area is the Upper Santa Fe Group, which includes Camp Rice, Fort Hancock, Palomas, Sierra Ladrones, Ancha, Puye, and Alamosa formations, ranging in age from the Middle Pleistocene to the uppermost Miocene (USGS 2011). There are seven different soils/sediments or soil/sediment complexes that are located throughout the project area: Panky loam, Khapo sandy loam, Tanoan-Encantado complex, Predawn loam, Zozobra-Jaconita complex, Alire loam, and Buckhorse-Altazano complex, listed in decreasing abundance within the project area (Natural Resource Conservation Service 2011).
The project area is in a juniper savanna community that is composed almost entirely of one-seed juniper and grasses, approximately 90 percent, and has been affected by livestock grazing and land development (Dick-Peddie 1993). Beside one-seed juniper, the dominant species in this region are grasses, including blue grama, hairy grama, western wheatgrass, and buffalograss. A few low shrubs are scattered throughout the savanna and include broom snakeweed, rubber rabbilbrush, and tree cholla (Dick-Peddie 1993). Cottonwood and Russian olive trees were also observed in the area.
Common mammals observed throughout the project area include elk, plains prairie dog, ground squirrel, desert cottontail, and jackrabbit. The avian species observed include burrowing owl, red-tailed hawk, crow, turkey vulture, pinyon jay, raven, and barn swallow. Because burrowing mammals are so prolific in this region, a large snake population utilizes the food source and the burrows. Most common are the bullsnake and the prairie rattlesnake (Brown 1994).
20a. Percent Ground Visibility: 75% b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): The survey area has been impacted by disturbances related to the construction of utility lines and a recreational path. 21. CULTURAL RESOURCE FINDINGS ☑ Yes, See Page 3 ☐ No, Discuss Why:
22. Required Attachments (check all appropriate boxes):
□ 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 and Historic Water Delivery System Forms □ List and Description of isolates, if applicable □ Copy of NMCRIS Mapserver Map Check □ Photographs and Log □ Other Attachments □ Copy of NMCRIS Mapserver Map Check □ Other Attachments □ Describe):

24. I certify the information provided above is correstandards.	ect and accurate and meets all applicable agency
Principal Investigator/Responsible Archaeologist: Matthe	ew S. Bandy
Signature: Date: Januar	ry 23, 2012 Title (If not PI):
25. Reviewing Agency: Reviewer's Name/Date	26. SHPO Reviewer's Name/Date:
Accepted () Rejected () Tribal Consultation (if applicable): Yes No	HPD Log #: SHPO File Location: Date sent to ARMS:

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 122876	2. Lead (Sponsoring) Agency:	3. Lead Agency Report No.:
SURVEY RESULTS:		
Previously recorded TOTAL SITES VISITE Total isolates record	NOT registered: 0 sites revisited (site update form requi sites not relocated (site update form	required): 0 ording? ⊠
MANAGEMENT	SUMMARY	
l .		were located within the project area LA 137075 wa

One previously recorded site, LA 137075, and two IOs were located within the project area. LA 137075 was determined eligible to the National Register of Historic Places (NRHP) in 2005 under Criterion D (HPD Log No. 75127). Because LA 137075 has lost its integrity as a result of three ground-disturbing projects, there is no longer any research potential within the project right-of-way portion of the site. As such, SWCA recommends that the portion of the site within the right-of-way be considered as not contributing to the site's NRHP eligibility, and that the proposed project will have no adverse effect on the cultural resource. No further management is recommended.

Detailed locational information for the cultural properties, including maps, Universal Transverse Mercator coordinates, and Public Land Survey System (PLSS) descriptions, are attached as Appendix A. This information is confidential, and disclosure thereof is prohibited by Section 18-6-11.1 NMSA 1978 and by 36 CFR 296.18.

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)
137075		Y, Criterion D - portion within ROW non- contributing

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CHAPTER 1

INTRODUCTION AND PROJECT DESCRIPTION

Santa Fe County proposes to improve seven intersections and the pavement of the entire length of Caja del Rio Road. The project area extends north 6 km (3.7 miles) from New Mexico Highway 599 (NM 599) to the end of the county maintenance line. Improvements to the intersections will consist of road widening to include the addition of left turn lanes. All work and project staging will take place within the 45.7-m (150-foot) rights-of-way and easements crossing Private, New Mexico State Land Office (NMSLO) and Bureau of Land Management (BLM) lands. The project will be funded by Santa Fe County.

SWCA Environmental Consultants (SWCA) completed an archaeological survey of the proposed project area (Figure 1.2-Figure 1.3). The archaeological survey consisted of an intensive pedestrian survey within the rights-of-way. The total area covered by the archaeological survey is 67.36 acres (27.26 hectares). Archaeologists from SWCA completed the pedestrian survey between August 18 and 19, 2011.

The project findings consist of one previously recorded site, LA 137075, and two isolated occurrences (IOs). The recorded site boundary of LA 137075 falls within the survey area; although the location of the site was re-identified, no trace of the site is now visible within the project right-of-way.

The project parcel is located on the Agua Fria 35106-F1 U.S. Geological Survey (USGS) 7.5-minute quadrangle map.

Paul Kavanaugh is Project Manager for Santa Fe County (102 Grant Ave Santa Fe, NM 87501-2061; telephone: [505] 992-3026) and Jeanette Walther is Project Manager for Bohannan Huston (Courtyard I, 7500 Jefferson St NE, Albuquerque, NM 87109-4335; telephone: [505] 823-1000). The archaeological survey was conducted out of SWCA's Albuquerque office (5647 Jefferson Street NE, Albuquerque, NM 87109; telephone [505] 254-1115, facsimile [505] 254-1116), with Matthew Bandy (mbandy@swca.com) as Principal Investigator and Amanda Cohen (acohen@swca.com) as Project Manager. Archaeology field personnel for the pedestrian and built environment survey were Greg Mastropietro and Ryan Brucker from SWCA. The report was authored by Amanda B. Cohen and Greg Mastropietro. Rachel Cooper was the Geographic Information Systems (GIS) Specialist, Justin Elza was the Technical Editor, and Alayne Szymanski produced the document.

Specific location information is provided for all project findings in Appendix A. Locational information is confidential, and disclosure thereof is prohibited by Section 18-6-11.1 New Mexico Statutes Annotated (NMSA) 1978 and 36 Code of Federal Regulations (CFR) 296.18.

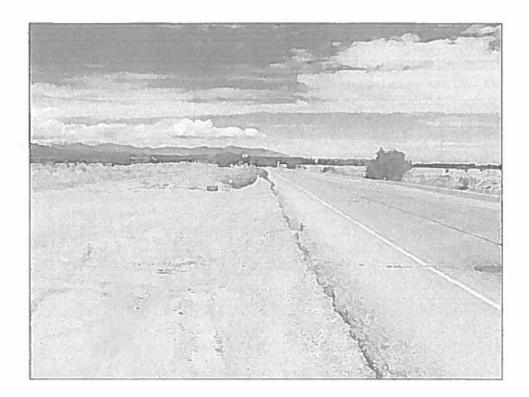


Figure 1.1. Project overview with Caja del Rio Road, facing northwest.

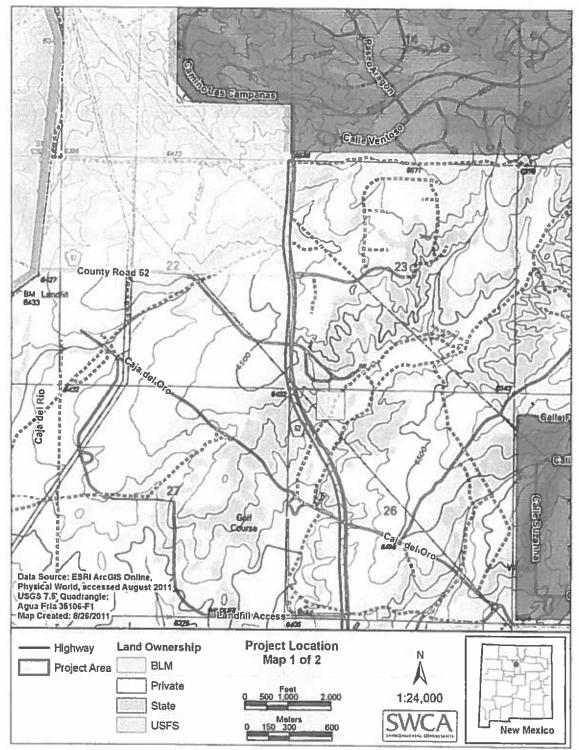


Figure 1.2. Project location map 1 of 2.

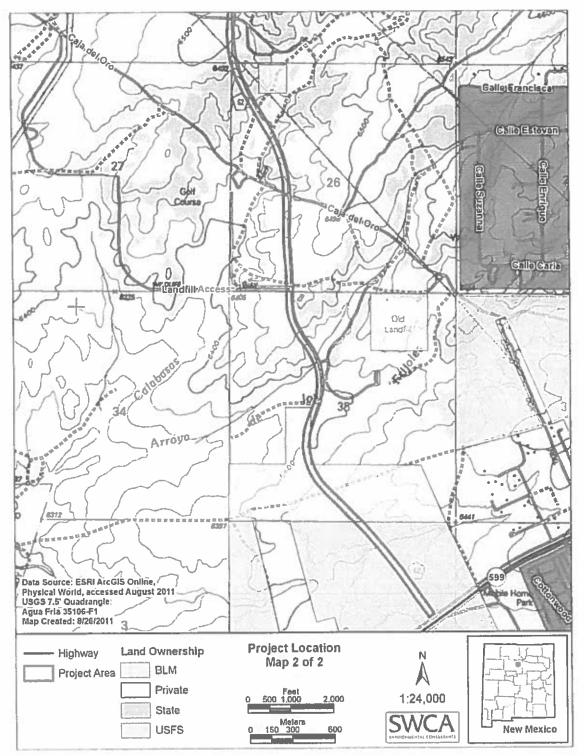


Figure 1.3. Project location map 2 of 2.

CHAPTER 2

ENVIRONMENTAL SETTING AND CULTURAL CONTEXT

The following sections describe the physical and social environment of the study area in order to contextualize the materials observed during this investigation.

ENVIRONMENTAL SETTING

GEOLOGY AND GEOMORPHOLOGY

The project area lies in the northwest area of Santa Fe County, New Mexico, within the western outskirts of Santa Fe. Elevations in project area range from 1,967.5 to 1,991.6 m (6,455-6,534 feet) (Google Earth 2011). The area is bisected by numerous drainages and marked by low-rise terraces.

CLIMATE

The average annual maximum temperature for the project area near Santa Fe, based on climatic information from nearby weather station Santa Fe 2, New Mexico (298085), is 18.22 degrees Celsius (°C) (64.8 degrees Fahrenheit [°F]), while the annual average minimum temperature is 2.22 degrees Celsius (°C) (36.0 degrees Fahrenheit [°F]). Average annual rainfall for the project area is 35.03 cm (13.79 inches), with the heaviest rain falling between May and October. Average annual snowfall is 53.59 cm (21.1 inches), with heaviest snows falling from November through March (Western Regional Climate Center 2010).

SEDIMENT, FLORA, AND FAUNA

The geology of the area is the Upper Santa Fe Group, which includes Camp Rice, Fort Hancock, Palomas, Sierra Ladrones, Ancha, Puye, and Alamosa formations, ranging in age from the Middle Pleistocene to the uppermost Miocene (USGS 2011). There are seven different soils/sediments or soil/sediment complexes that are located throughout the project area: Panky loam, Khapo sandy loam, Tanoan-Encantado complex, Predawn loam, Zozobra-Jaconita Complex, Alire loam, and Buckhorse-Altazano complex, listed in decreasing abundance within the project area.

Panky loam soils are well-drained alluvium derived from granite, gneiss, schist, loess, and volcanic ash. They are found in eroded fan remnants, with a slope ranging from 1 to 4 percent. The typical soil profile is loam, to clay loam, to loam, 0 to 292.1 cm (0–115 inches). Khapo sandy loam is a well-drained slope alluvium derived from granite, gneiss, schist, loess, and volcanic ash. They are found in eroded fan remnants, with a slope ranging from 3 to 8 percent. Typically, the soil profile is sandy loam to sandy clay loam, fine sandy loam, sandy loam, and loam, 0 to 304.8 cm (0–120 inches).

The Tanoan-Encantado Complex is composed of Tanoan and Encantado sediments. Tanoan is a somewhat excessively drained alluvium derived from granite, gneiss, schist, and loess over residuum weathered from basaltic tuff or granitic sandstone. It is located within eroded fan remnants, with a slope ranging from 5 to 15 percent. The typical soil profile is gravelly sandy loam to loam, sandy loam, gravelly loamy coarse sand, and gravelly coarse sandy loam, 0 to 213.36 cm (0–84 inches). Encantado soils are a somewhat excessively drained colluvium and

slope alluvium derived from granite, gneiss, and schist over residuum weathered from granitic fanglomerate and sandstone. An eroded fan remnant, with slopes ranging from 10 to 25 percent, is the typical landform location. Encantado soil profile is very gravelly sandy loam to very gravelly loam, very gravelly coarse sandy loam, gravelly loamy coarse sand, very gravelly loamy sand, and very gravelly loamy sand, 0 to 215.9 cm (0–85 inches).

Predawn loam is a well-drained alluvium derived from granite, gneiss, schist, loess, and volcanic ash. The general landform location consists of eroded fan remnants, with a slope ranging from 1 to 4 percent. The sediment profile is comprised of loam to clay loam, loam, gravelly sandy loam, very gravelly coarse sand, and gravelly loamy sand 0 to 218.44 cm (0-86 inches).

The Zozobra-Jaconita complex is composed of Zozobra and Jaconita soils. Zozobra soils are a somewhat excessively drained alluvium derived from granite, gneiss, schist, and loess. The landform location is eroded fan remnants, with a slope ranging from 5 to 12 percent. Sedimentary profile ranges from gravelly sandy loam to loam, sandy loam, gravelly loamy sand, gravelly loamy coarse sand, loamy coarse sand, gravelly coarse sand, very gravelly loamy coarse sand, and gravelly coarse sand, 0 to 223.52 cm (0–88 inches). The Jaconita soils are a somewhat excessively drained alluvium derived from granite, gneiss, and schist. Landform location is eroded fan remnants, with a slope ranging from 10 to 25 percent. Typically these soils have a sediment profile ranging from very gravelly coarse sandy loam to extremely gravelly loamy coarse sand, very gravelly coarse sand, very gravelly coarse sand, pravelly loamy coarse sand, gravelly coarse sand, very gravelly coarse sand, and fine sand, 0 to 299.72 cm (0–118 inches).

Alire loam is a well-drained alluvium derived from granite, gneiss, schist, loess, and volcanic ash. It is also located on eroded fan remnants, with a 2 to 6 percent slope. The sediment profile consists of loam to clay loam, loam, gravelly loam, gravelly sandy loam, 0 to 266.7 cm (0–105 inches).

The Buckhorse-Altazano complex is composed of Buckhorse and Altazano soils. Buckhorse is a well-drained slope alluvium derived from granite, gneiss, schist, granitic sandstone, fanglomerate, and mudstone. Eroded fan remnants, with a slope of 2 to 8 percent, are the landform. The sediment profile ranges from coarse sandy loam to loam, fine sandy loam, sandy loam, and gravelly coarse sand, 0 to 210.82 cm (0–83 inches). Altazano soils are a well-drained slope alluvium derived from granite, gneiss, schist, granitic sandstone, fanglomerate, and mudstone. Inset fans on eroded fan remnants, with slopes ranging from 2 to 8 percent, are the landform location. The sediment profile typically consists of gravelly sandy loam to gravelly coarse sandy loam, very gravelly loamy coarse sand, gravelly sandy loam, loam, gravelly coarse sandy loam, and gravelly loamy coarse sand, 0 to 228.6 cm (0–90 inches) (Natural Resource Conservation Service 2011).

The project area is in a juniper savanna community that is composed almost entirely of one-seed juniper and grasses, approximately 90 percent, and has been affected by livestock grazing and land development (Dick-Peddie 1993). Beside one-seed juniper, the dominant species in this region are grasses, including blue grama, hairy grama, western wheatgrass, and buffalograss. A few low shrubs are scattered throughout the savanna and include broom snakeweed, rubber rabbitbrush, and tree cholla (Dick-Peddie 1993). Cottonwood and Russian olive trees were also observed in the area.

Common mammals observed throughout the project area include elk, plains prairie dog, ground squirrel, desert cottontail, and jackrabbit. The avian species observed include burrowing owl, red-tailed hawk, crow, turkey vulture, pinyon jay, raven, and barn swallow. Because burrowing mammals are so prolific in this region, a large snake population utilizes the food source and the burrows. Most common are the bullsnake and the prairie rattlesnake (Brown 1994).

CULTURAL CONTEXT

This section is based in large part on Stuart and Gauthier (1988) and Post (2001). Table 2.1 provides a basic ceramic sequence for the area.

PRECERAMIC PERIOD

Human occupation of the Upper Rio Grande valley is believed to date from the Late Pleistocene, about 10,000 years ago, during the Paleoindian period (ca. 10,000–5500 B.C.). Most archaeologists believe that bands of mobile hunter-gatherers (Paleoindians) subsisted primarily on large game supported by the cooler, wetter environment of that era, but also collected wild plant foods. Elliot (1988:12) states, "There are no known Paleo-Indian sites in the Santa Fe area. Isolated Paleo-Indian artifacts have been found in the vicinity, though not commonly." However, one Paleoindian site is located near the project area. La Caja del Rio Paleoindian site, a Clovis through Plainview site, was discovered during an Archaeological Resources Protection Act investigation (Williams 1996, cited in Post 2001:44). As noted above, La Caja del Rio (LA 112527) is south of the project area, on an isolated mesa above the Cañada Ancha.

The first strongly documented occupation of the Santa Fe area took place during the Archaic. At that time hunter-gatherers practiced a more diversified subsistence strategy, targeting smaller game and expanding plant-gathering activities in response to warmer and drier climatic conditions that eliminated herds of large game. For much of northern New Mexico, Archaic sites can be classified in terms of the Oshara tradition defined by Cynthia Irwin-Williams (1973, 1979) for the Arroyo Cuervo area west of Albuquerque. Irwin-Williams rejected the "static Archaic" assumptions of the then-prevailing Desert Culture concept and documented a pattern of more intensive land use and changing band organization through time. As an alternative, the Cochise culture sequence is sometimes applied to remains in the area, but such efforts usually assume that projectile points equal culture and overlook the fact that even within the area where it was defined, the Cochise sequence can be problematic. This report will therefore hew to the Oshara sequence defined by Irwin-Williams.

The Jay phase (5500–4800 B.C.) and Bajada phase (4800–3200 B.C.) probably represent roughly similar adaptations: small bands of individuals using a variety of food resources, including plant foods and large and small game. Pit hearths were used during both phases, but ground stone was uncommon.

The San Jose phase lasted from 3200 to 1800 B.C. and roughly corresponds to the Middle Archaic period, a time of generally drier conditions and decreased evidence for human occupation.

Middle Archaic sites remain rare in the Santa Fe archaeological record. (Post 2001:17-18)

The Armijo phase lasted from 1800 to 800 B.C. Armijo projectile points have ovate blades, shallow corner notches, and concave or slightly indented bases. During this period, Archaic populations seem to have developed a biseasonal pattern, based on aggregation at winter base camps and dispersal to warm-weather foraging camps. Local populations began growing maize during this period.

Locally, the best evidence for Armijo phase occupation is from the margins of the Santa Fe River, near the Santa Fe Airport at Tierra Contenta (Schmader 1994) and along Airport Road.... The data from [these] sites suggest ... repeated seasonal occupations by small groups, [coinciding] with the availability of abundant subsistence resources. Different occupation patterns are evidenced by the presence of shallow pit structures or dense clusters of hearths, roasting pits, and processing and discard areas. Sites with pit structures show evidence of generalized subsistence.... Wood charcoal from pit structures and associated features yielded calibrated two-sigma date ranges between 1930 and 830 B.C. The tightest cluster of dates indicates occupations during the ninth and tenth centuries B.C. ... (Post 2001:18)

The En Medio phase, which correlates to the Basketmaker II period of the Pecos classification system, lasted from 800 B.C. to A.D. 600. As groups became less mobile and more dependent on agriculture, sites were used more intensively and incorporated more durable pit houses and storage pits. Sites are sometimes identifiable by the presence of large corner-notched projectile points. According to Post,

Basketmaker II sites are reported in all environmental zones from the Santa Fe River Valley to the foothills of the Sangre de Cristo Mountains. ... [I]t is possible that late Archaic-Basketmaker II groups were the first to occupy the area year-round.

Most of the sites from the Santa Fe area [are] limited or temporary base camps and limited activity sites. Characteristics ... of these two site types are low numbers of (or no) processing facilities and equipment, a low-density artifact scatter or small artifact cluster, and very few unbroken tools.... Most sites [yield] evidence of multiple occupations resulting in spatially extensive sites with low artifact densities. (Post 2001:25)

Nonetheless,

Excavations within the last five years have furnished evidence for longer duration occupation and frequent reuse or reoccupation of desirable locations. Pit structures have been excavated within the Tierra Contenta area ... in the vicinity of the National Cemetery ... and north of the Santa Fe River in the Las Campanas area... These shallow, roughly circular, basin-shaped structures often have intramural hearths, sometimes with multiple remodeling episodes, and a suite of extramural roasting pits and hearths. ... These sites have yielded radiocarbon dates ranging from 200 B.C. [to] A.D. 900, suggesting that seasonal occupation of pit

structures may have continued [into the period of] the earliest Pueblo settlements [in] the Santa Fe area and the northern Rio Grande region. (Post 2001:25-26)

CERAMIC PERIOD

Following Wendorf and Reed (1955), the Ceramic period can be divided into the Early and Late Developmental, Coalition, and Classic periods (Table 2.1). The Early Developmental period (A.D. 600–900) is marked by the appearance of gray and black-on-white pottery. Early Developmental Period sites are rare in the northern Rio Grande, perhaps because local populations were able to maintain their Archaic way of life for several centuries longer than populations on the Colorado Plateau to the west. The sites that are found tend to include one to three pit houses and a sparse scatter of artifacts and tend to be near permanent sources of water (Stuart and Gauthier 1988:48). Post suggests that populations who lived elsewhere used the Santa Fe area mostly as a resource area. After A.D. 800, though, farming villages were present along small permanent streams north of the Santa Fe River basin (Post 2001:26).

Table 2.1. Outline of Ceramic Period Sequence for Upper Rio Grande

Period	Ceramics		
Historic Pueblo A.D. 1600-present	Glaze E	Tewa Polychromes	
Classic A.D. 1325–1600	Glaze E (early) Glaze A-D Los Padillas Glaze Sankawi B/C Biscuit B Biscuit A Wiyo B/W		
Coalition A.D. 1175–1325	Santa Fe B/W Mesa Verde B/W St. Johns Polychrome		
Late Developmental A.D. 900–1175	Kwahee B/W "Chaco II" B/W Wingate B/R (late)		
Early Developmental A.D. 600–900	Plain Gray, some Brownwares		

Note: Modified from Stuart and Gauthier (1988:Figure III.4).

Late Developmental period (A.D. 900–1175) sites are more common. During this period, sites became larger and pit houses gave way to clusters of surface rooms. One Late Developmental site, Arroyo Negro, had multiple adobe room blocks (Elliott 1988:18; Post 2001:27). Post (2001:28) notes that Late Developmental remains were rare in his Las Campanas study area.

In northern New Mexico, the Coalition period (A.D. 1175–1325) was a time of changes. Both the number and the size of sites increase, indicating a growth in population. Many archaeologists believe that people were emigrating from the Colorado Plateau to the Rio Grande valley. Local potters began decorating their black-on-white pottery with carbon-based paint instead of the mineral paint used for centuries; since carbon-based paint was traditional in the Four Corners area, this shift in pottery design supports the notion of population movement (Elliott 1988:18).

In the Coalition period, habitation structures were exclusively surface rooms, most often with 15 to 30 rooms to a site (Post 2001:28). A few villages were much larger, with blocks of rooms defining plazas (Elliott 1988:Figure 15). Pindi Pueblo, the Agua Fria Schoolhouse site, and other

Coalition period sites formed a community extending about 3 km along the Santa Fe River (Post 2001:28–29). Coalition period use of the hills northwest of Santa Fe was fairly intensive but represented recurring limited activities in support of villages along the Santa Fe River or other permanent streams:

Excavations at Las Campanas identified 37 Coalition period components.... Pottery occurred as isolated or clustered artifacts, usually associated with chipped stone scatters and clusters. Thermal features associated with pottery included fire-cracked rock filled pits, unlined burned pits, and two pottery kilns.... Numerous sites showed evidence of repeated occupations with multiple clusters of pottery and thermal features. No formal structures were identified, though a foundation for a temporary shelter was identified at [one site]. Use of chipped stone focused ... on raw material procurement, core production, and the use of core flakes as tools. Formal tools were rare but when present, often were made from obsidian. Typically, the sites were ... on gentle slopes or flat ridges above the Arroyo Calabasas and Arroyo de los Frijoles and their major tributary arroyos.

The Northwest Santa Fe Relief Route inventory and testing ... yielded 16 components from the Coalition or early Classic period ... from short duration or [day] use of the piedmont hills. Thermal features were mostly shallow oval ... pits with cobble linings or fire-cracked rock.... Most sites exhibited chipped stone reduction patterns reflecting material procurement and testing, and debris from all stages of core reduction. Sites were interpreted as containing debris from ... daily foraging activities. (Post 2001:31–32).

The Classic period (A.D. 1325–1600) saw continued change, most dramatically the construction of large villages with plazas. Ceramic traditions again changed, with the complete replacement of black-on-white pottery by glaze-painted pottery by A.D. 1350 (Elliott 1988:20). The immediate Santa Fe area was heavily occupied during the early Classic period but after about A.D. 1420, the area east of Agua Fria was mostly depopulated, with few sites of any kind being found (Elliott 1988:21; Post 2001:34).

HISTORIC PERIOD

After initial explorations, the Spanish established a permanent foothold in New Mexico in 1598, with a capital near San Juan Pueblo. In 1609–1610 the capital was shifted to the depopulated but well-watered upper Santa Fe River, where it remains today. As time passed, much of the area was parceled into grants, confirming Pueblo land use or opening lands to Spanish colonists (Post 2001:37–41). In 1742 Viceroy don Gaspar Domingo de Mendoza established two grants in the vicinity of the project area (Duncan 1999:8). The Caja del Rio grant and what became known as the Ramon Vigil grant were used primarily for grazing (Duncan 1999:8). No permanent villages were established on these lands, and both grants went through litigation and border disputes during their histories.

The effort spent obtaining grants and then litigating their boundaries shows that upland areas were valuable—for hunting and fuel-wood gathering, but most of all for grazing sheep. In the subsistence economy of the Spanish colonists, sheep provided wool for clothing, a ready source of animal protein, and a walking insurance policy against crop failure. In addition, through the

partido system, sheep became wealth for many leading New Mexico families (see, for example, Simmons 1982:114-115). Under Spanish law, the uplands were held as common lands, where residents could graze their sheep as part of a seasonal round. Livestock were grazed in the uplands during the summer and brought down to the valley for the winter. Consistent with the low level of available technology, Spanish shepherds left few archaeological traces of their activity. Although much of New Mexico shifted from sheep to cattle in the 1900s, flocks of sheep were grazed in the hills northwest of Santa Fe until a half-century ago.

The Spanish colony became part of independent Mexico in 1821, a territory of the expanding United States in 1846, and one of the United States in 1912. Land between confirmed land grants became available for homesteading, which continued well into the 1900s. The Caja del Rio grant was held by the heirs of the original grantee until the early 1900s, although portions were sold to John S. Watts and Louis Gold in 1872; the grant was sold to Thomas B. Catron for back taxes in 1910. The town of Buckman was built within the Caja del Rio grant (Duncan 1999). The Ramon Vigil grant, on the west side of the Rio Grande, included parts of the Pajarito Plateau. Originally the Sanchez grant, the grant was sold to Ramon Vigil in 1851 (Rothman 1989, cited in Duncan 1999). Eventually, Winfield R. Smith and George Fletcher, entrepreneurial partners from the East, purchased the Vigil grant (Perlman 1991, cited in Duncan 1999). With the coming of the railroad, land had become a commodity. A new, regional market economy concentrated on resource exploitation was developing, promulgated by entrepreneurs from outside New Mexico.

CHAPTER 3

PREFIELD INVESTIGATIONS

Prior to the survey fieldwork, SWCA archaeologist Amanda Cohen conducted records searches through the online Archaeological Records Management Section (ARMS) database and the online Historic Preservation Division (HPD) database. The ARMS database records search was conducted on August 15, 2011, for previously recorded archaeological sites and previously conducted archaeological surveys within 500 m (1,640 feet) of the project area. The HPD and National Register of Historic Places (NRHP) database records search was also conducted on August 15, 2011, for properties on the NRHP and State Register of Historic Places within 500 m (1,640 feet) of the project area. The records search was verified by Paul Williams of the BLM, Taos Field Office and David Eck of the NMSLO.

Two sites, LA 137075 and LA 88152 are indicated on ARMS as being located within the survey or project area boundaries. A review of the site documentation confirms that LA 88152 is, in fact, outside the survey area and does not cross into Caja del Rio Road's right-of-way. This discrepancy can be attributed to the use of a site diameter to generate a circular site boundary in the New Mexico Cultural Resource Information System (NMCRIS) geodatabase. LA 137075 does fall within the survey area and was re-identified during the course of this investigation.

Results of the records searches show that six previous archaeological surveys and six previously recorded archaeological sites have been identified within 500 m (1,640 feet) of the project area (Figure A.3, Tables A.3 and A.4 in Appendix A).

ARMS screenshots and location information for previous sites and surveys are provided in Appendix A. This information is confidential, and disclosure thereof is prohibited by Section 18-6-11.1 NMSA 1978 and 36 CFR 296.18.

CHAPTER 4 FIELD METHODS

A 100 percent (intensive) cultural resources pedestrian inventory was conducted by Ryan Brucker and Greg Mastropietro of SWCA by walking parallel transects spaced no more than 15 m (49 feet) apart. Transects were spaced more closely on the eastern side of the survey area so that road cuts and erosion events could be inspected. The survey and recording were conducted on August 18 and 19, 2011.

The objective of the fieldwork portion of the project is to identify and document all physical evidence of prehistoric and historic cultural activities within the project area of potential effect (APE). This evidence includes all sites, features, and IOs of an apparent or possible age of 50 or more years. This includes all structures (e.g., bridges, irrigation features, railroad grades, and roads), buildings, and districts that are 50 or more years old or are less than 50 years old and are likely to meet the integrity and significance criteria in 30 CFR 60.4 within five years of the date of recording. Therefore, a cutoff date of 1966 was used for the current survey.

Recording of newly discovered cultural locations is typically initiated with the pin-flagging of artifacts and other cultural manifestations. Any cultural location is then evaluated in terms of artifact types, classes, quantity, and density to determine whether the location should be treated as a site or an IO. Cultural resources sites are defined as locations dating to an age or likely age of 50 years or more that contain 10 or more artifacts within a 10×10 -m (33×33 -foot) area, or as a feature or features in association with any artifacts meeting the 50-year age criterion. Other factors that influence designation of selected locations as archaeological sites include diversity of artifact materials and classes, presence of features or diagnostic artifacts, and high potential for intact buried cultural deposits. Cultural locations that are not classified as sites are categorized as IOs.

Vehicle and pedestrian access to the survey area was unrestricted. The majority of the survey area was impacted by disturbances including vehicular traffic, road construction and maintenance, and human use. Visibility of the ground surface during the survey was good, at approximately 80 percent. The remaining percentage of the ground surface was obscured by vegetation.

Cultural locations were described and recorded according to current archaeological standards and were mapped with a Trimble GeoXH global positioning system (GPS) receiver and marked on the appropriate USGS 7.5-minute quadrangle map. Historic Cultural Property Inventory Forms were completed for all historic cultural properties (see Appendix A). The historic properties were assessed for their condition, potential project impacts, and eligibility for inclusion in the NRHP. All field records from the survey are on file at SWCA's Albuquerque office (see Project Description for contact information).

Specific location information is provided for all the recorded cultural resources within the survey area in Appendix A. This information is confidential, and disclosure thereof is prohibited by Section 18-6-11.1 NMSA 1978 and 36 CFR 296.18.

CHAPTER 5 SURVEY RESULTS

One previously recorded site, LA 137075, was previously located within the project area. The site was re-identified during the course of the investigation. Two IOs were also recorded within the project area.

PREVIOUSLY RECORDED SITES

LA 137075

County: Santa Fe

Elevation: 1,964 m (6,445 feet)

Cultural Affiliation and Age: Prehistoric, age unknown

Site Type: Prehistoric lithic scatter

Previous Size: 648 m² (6,975.013 square feet)

NRHP Eligibility Recommendation: Eligible, Criterion D - portion within right-of-way non-

contributing

Management Recommendations: No further management is recommended.

LA 137075 was initially recorded in 2002 (NMCRIS 79997) as a light lithic scatter atop a hill between Arroyo Calabasas and Arroyo de los Frijoles. At that time, local plant community included grass, rabbitbrush, cholla, and juniper. The site sits just southwest of Caja del Rio Road, between the Municipal Recreation Complex and the Marty Sanchez Golf Course. The site extends onto private property outside the existing right-of-way, demarcated by a fence line to the southwest.

Within the project area, 59 artifacts were originally observed and recorded at LA 137075. Only flaked stone artifacts were found, and no features were observed within the project right-of-way. The assemblage consisted of two sharpening flakes, 17 biface thinning flakes, 19 flakes, 13 flake fragments, and eight pieces of angular debris. Of the 59 artifacts, 52 were obsidian, six were chalcedony, and one was chert. These three raw material types are all found locally.

It was originally estimated that the site was at least 50 percent intact within the right-of-way, due to a low amount of wind and water erosion, as well as a shallow two-track near the fence. No artifacts were observed eroding down the slope, and no drainages were present in any portion of the site, confining the site to the hill top.

LA 137075 (Figure 5.1) was revisited on August 19, 2011, by SWCA archaeologists Ryan Brucker and Greg Mastropietro. Although the site's location was re-identified, no trace of the site was visible within the project right-of-way. Only two artifacts were observed within LA 137075's site boundary: an obsidian tertiary flake fragment and an obsidian primary piece of shatter. It is possible, however, that the site exists outside the right-of-way on private property, demarcated by the existing fence line to the southwest.

Since LA 137075 was originally recorded, ground disturbance has taken place within the site's boundary by the construction of a water pipeline and a fiber optic cable line. The once dirt two-track that ran through the site has since been bladed and covered with gravel and is used

regularly by golf carts from the nearby Marty Sanchez Golf Course. The ground disturbances from these three projects have most likely played the major role in the displacement and removal of artifacts from LA 137075. Ground visibility was approximately 85 percent. Desert grasses, cholla, prickly pear cactus, and the 1.5-m-wide (5-foot-wide) gravel path, obstructed ground visibility. There was no overstory present at site LA 137075 during the time of this investigation.

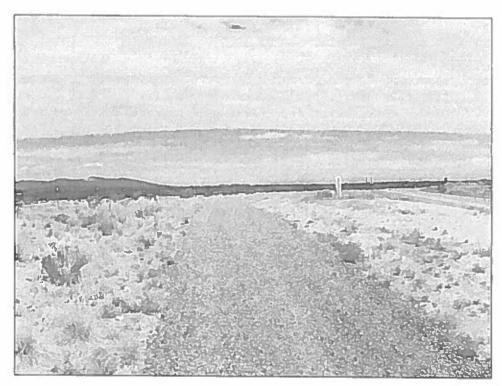


Figure 5.1. Site overview facing north.

Eligibility and Management Recommendations

LA 137075 was determined eligible to the NRHP in 2005 under Criterion D (HPD Log No. 75127). Because LA 137075 has lost its integrity within the right-of-way as a result of three ground-disturbing projects, there is no longer any research potential within the project right-of-way portion of the site. As such, we recommend that the portion of the site within the right-of-way be considered as not contributing to the site's NRHP eligibility, and that the proposed project will have no adverse effect on the historic resource. No further management is recommended.

ISOLATED OCCURRENCES

Two IOs were documented during the cultural resources survey. Location information for the IOs is provided in Appendix A. The IOs fit the pattern of landscape use as manifested by the previously recorded lithic scatter sites in the survey area and vicinity. The IOs identified during the survey are not eligible for listing in the NRHP, and no further treatment is recommended.

Isolated Occurrence 1

IO 1 is a single translucent smoky obsidian tertiary complete flake with a plain platform, measuring to size class three (2-3 cm) in length.

Isolated Occurrence 2

IO 2 is a white chalcedony tertiary flake fragment, measuring to size class four (3-4 cm) in length.

SUMMARY OF ELIGIBILITY AND MANAGEMENT RECOMMENDATIONS

One previously recorded site, LA 137075, and two IOs were located within the project area. LA 137075 was determined eligible to the NRHP in 2005 under Criterion D (HPD Log No. 75127). Because LA 137075 has lost its integrity as a result of three ground-disturbing projects, there is no longer any research potential within the project right-of-way portion of the site. As such, we recommend that the portion of the site within the right-of-way be considered as not contributing to the site's NRHP eligibility, and that the proposed project will have no effect on the cultural resource. No further management is recommended.

Detailed locational information for the cultural properties, including maps, Universal Transverse Mercator coordinates, Public Land Survey System (PLSS) descriptions, and associated New Mexico Department of Transportation mileposts are attached as Appendix A. This information is confidential, and disclosure thereof is prohibited by Section 18-6-11.1 NMSA 1978 and by 36 CFR 296.18.

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APPENDIX A Cultural Resources Location Information

This appendix provides the locations of cultural properties and is marked as confidential. Public disclosure is prohibited by Section 18-6-11.1 NMSA 1978 and 36 CFR 296.18.

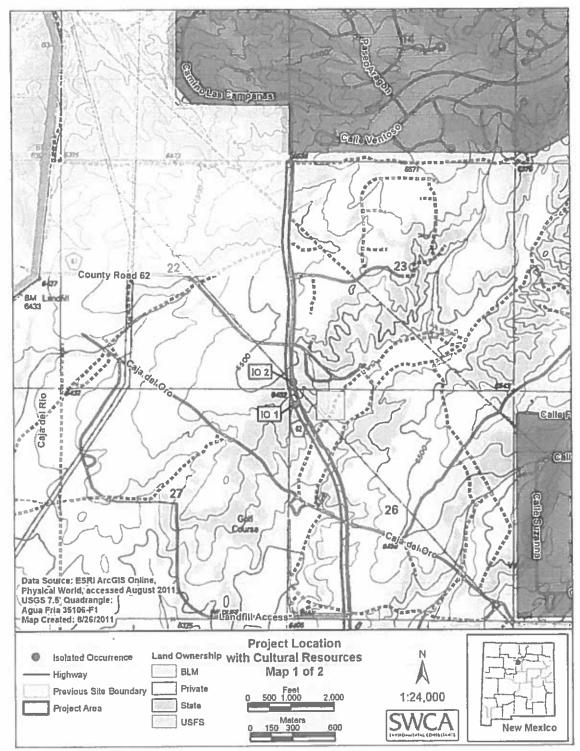


Figure A.1. Project location map with cultural resources, map 1 of 2.

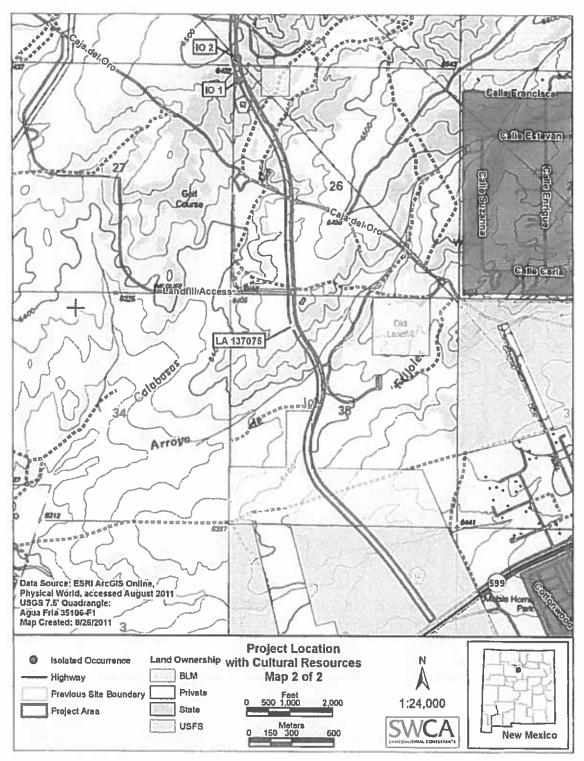


Figure A.2. Project location map with cultural resources, map 2 of 2.

Table A.1. Cultural Resources Location Information

UTM Coordinates (Zone 13N, NAD 83)		Eligibility
		Eligible, Criterion D
4	(Zone 13N,	(Zone 13N, NAD 83) 403427 3947400

Table A.2. Isolated Occurrence Location Information

IO No.	UTM Coordinates (Zone 13N, NAD 63)		
IO 1	403054	3949131	
10 2	403046	3949288	

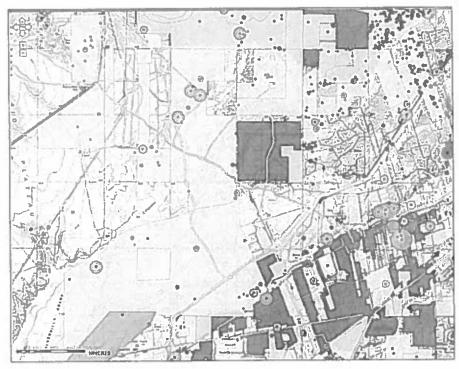


Figure A.3. ARMS screenshot showing previous cultural resources investigations and previously recorded sites within 500 m (1,640 feet) of the project area.

Table A.3. Previous Investigations within 500 m (1,640 feet) of the Project Area

NMCRIS Number	Performing Agency	Acres Surveyed	Number of Sites Visited	Relationship to Project Area
37729	University of New Mexico Office of Contract Archaeology	2520	6	Outside project area
46232	Office of Archaeology Studies	32	0	Outside project area
21437	NM Office of Cultural Affairs	675	49	Outside project area
16340	NM Office of Cultural Affairs	2300	2	Outside project area
79997	SWCA Environmental Consultants	651	10	Within project area
42139	Office of Archaeology Studies	1100	17	Outside project area

Table A.4. Previously Recorded Sites within 500 m (1,640 feet) of the Project Area

LA No.	Structural/Non- structural	Occupation Type	Maximum Length	Relationship to Project Area
137075	Non-structural	Prehistoric	36 m	Within project area
88154	Non-structural	Unknown	302 m	Outside project area
88153	Non-structural	Unknown	96 m	Outside project area
137523	Non-structural	Historic	57 m	Outside project area
88152	Non-structural	Unknown	100 m	Outside project area
153360	Non-structural	Unknown	131 m	Outside project area