MUSEUM OF NEW MEXICO

OFFICE OF ARCHAEOLOGICAL STUDIES

Monitoring of Cultural Resources within Segments of U.S. 180, U.S. 60, NM 12, NM 32, NM 36, and NM 435 for Tree Thinning in Catron County, New Mexico

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ARCHAEOLOGY NOTES 337

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ADMINISTRATIVE SUMMARY

At the request of the New Mexico Department of Transportation (NMDOT), the Office of Archaeological Studies (OAS) conducted cultural resource monitoring at tree-thinning areas within the rights-of-way of federal and state highways in NMDOT District 6, Catron County, New Mexico. The work was conducted between December 15, 2003, and March 16, 2004. The NMDOT is conducting tree-thinning activities within the rights-of-way of the Gila and Cibola National Forests, Socorro Bureau of Land Management, State Trust Land, and lands acquired by the NMDOT from private sources. A Class I cultural resource overview by Hurt et al. (2003) identified 99 archaeological sites that required monitoring. These sites were field checked by OAS. Several sites were added to the list, and some were deleted because of prior excavation, previous clearance prior to road construction, or lack of trees, or because they were outside of the right-of-way. In addition, maps at the Archeological Records Management Section (ARMS) were reviewed to check for other sites that might need to be monitored. As a result, several more sites were added to the list. In all, 168 archaeological sites were scheduled for monitoring or investigated through field checks or reviewing site records and maps. New maps were drawn in the field and submitted as site updates to ARMS for the eleven sites that ultimately required monitoring. Ten of the monitored sites were within the Gila National Forest, and one was on NMDOT land acquired from private sources.

Field monitoring was conducted to ensure that archaeological sites within the areas to be thinned were protected from any adverse effects that might ensue as a result of tree thinning. Monitoring involved marking boundaries of sites with flagging tape to prevent equipment trespass, skidding of downed trees, and piling of cut wood on the sites. The thinning contractor agreed to notify OAS in advance of the times and locations of planned activities in marked site areas so the archaeologist could be present during the thinning process. However, prior notification was not given in the case of seven sites, which resulted in surface disturbance to three sites.

NMDOT Project No: TPS-180-1(1)19, CN 3954.
Contract Task No: 4522-10.
MNM Project No: 41.742 (Catron County Tree Thinning).
NMCRIS No. 87856.
Gila National Forest special-use permit expires December 31, 2004.

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INTRODUCTION

At the request of the New Mexico Department of Transportation (NMDOT), the Office of Archaeological Studies (OAS) completed cultural resource monitoring of the rights-of-way of portions of federal and state highways extending for 117.3 miles (excluding Miles 0.0-8.0) in Catron County, New Mexico (Fig. 1 and Appendix 1). The NMDOT is planning to thin trees and clear brush along these roads in compliance with federal guidelines. Monitoring of archaeological sites was conducted between December 15, 2003, and March 16, 2004, by Yvonne R. Oakes of the OAS, assisted at times by Dorothy A. Zamora.

Previous monitoring of tree-thinning activities along these highways was conducted in 2002 by Sheppard (2003), who used information collected through a Class I archaeological overview prepared by Williamson et al. (2002). Thinning involved removing all trees within 24 ft of the edges of road pavements and selective removal of all trees beyond this margin. Five archaeological sites were monitored. New federal regulations adopted in 2003 required additional tree thinning along these highways. The recovery zone was increased to 40 ft. Trees, brush, and stumps were to be removed within this zone. Hurt et al. (2003) prepared a cultural resource overview identifying 131 archaeological sites within the areas of potential effect, and 99 sites were selected for possible initial field checking. Utilizing these and our own data, and completing a new ARMS records search for 43 sites before field checking a new total of 109 sites, the OAS determined that 11 sites—nine along NM 12, and two on NM 435—required cultural resource monitoring during thinning (Table 1).

Of the 11 sites scheduled for monitoring, seven were not monitored because the contractor failed to provide prior notification of work being conducted within the site boundaries, as required in the NMDOT contract. Of the seven sites that were not monitored, two suffered some surface disturbance from the tree-thinning activities, and one showed evidence of equipment use over a trail at the site. Two other sites along SR 435 were not thinned because of lack of time on the contractor's part, and so they were not monitored. Whenever a new contract is set in place, these two sites will require monitoring.

No archaeological sites required monitoring along U.S. 60, U.S. 180, NM 32, and NM 36, since guidelines for recent highway road construction led to their excavation or clearance. However, no highway construction activities have taken place along NM 12 (north of Reserve), and many sites remain within the right-of-way of this roadway.

Table 1. Sites to be monitored and their locations

Roadway	Milepost	Site	Area
NM 12	14	LA 39968	South side
	14.1 to 14.2	LA 43885	East side
	15.3	LA 143613	West side
	15.6 to 15.8	LA 43884	West side
	18.1	LA 43896	East side
	18.5 to 18.7	LA 2949	Both sides
	21.8 to 22.0	LA 3259	Both sides
	25.2 to 25.3	LA 43910	North side
	29.1	LA 43895	West side
NM 435	4.3	LA 124547	East side
	4.9	LA 124548	West side

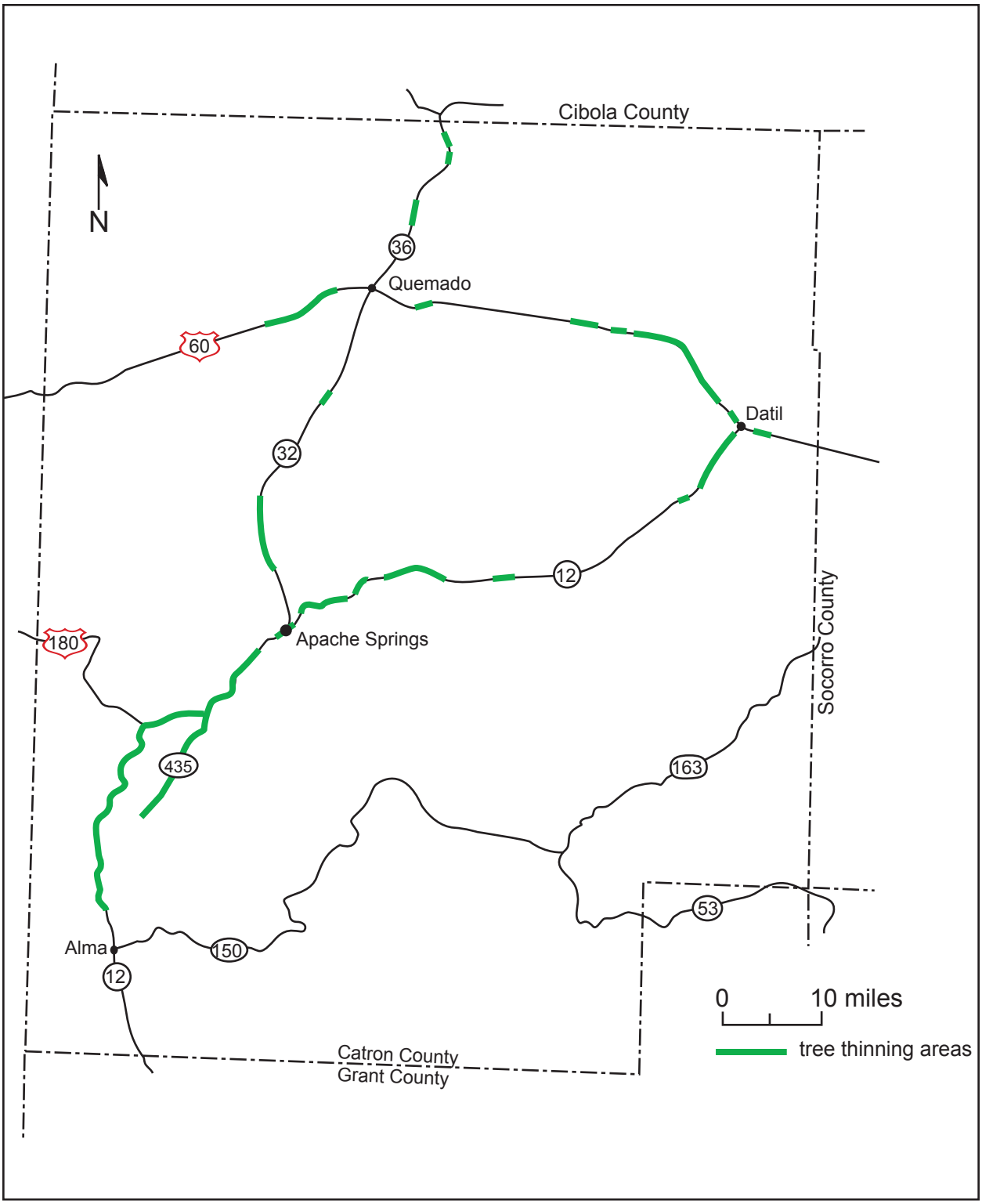

Figure 1. Catron County, showing rights-of-way to be thinned.

SCOPE OF HIGHWAY WORK

The NMDOT contracted a tree-thinning and pruning project along state and federal highways in Catron County. Prior to the work, the agency established a description of the work to be completed in "Contract Documents for the Construction of CN Project 3954/TPS-180-1(1)19." These specifications are quoted here to reiterate the parameters under which contractors and archaeologists were to proceed. Procedures that apply to archaeological work are italicized.

Recovery Zone

Defined as 40 ft from the white shoulder strip in all areas. In these areas, all trees, brush, and existing stumps to be removed except willow, cottonwood, and box elder. All existing and new stumps to be removed to within 4" or less above ground level.

Thinning Area

Defined as the area from the outside edge of the Recovery Zone to the Right-of- Way fence or markers. In this area, all existing brush to be removed. All trees producing leaves to be pruned to variable heights between 5'-7' above ground. Trees to be spaced no closer than 30' to allow access by NMDOT maintenance equipment. Also, trees that shade roadways, creating icy spots in winter, that are in the right-of-way are to be removed.

Steep Slope Areas

Defined as areas having slopes steeper than 3:1 or behind existing guardrails. No equipment allowed off roadways in these areas. Equipment used will be mounted on excavator/grade-all equipment allowing work from the roadway for a minimum distance of 30' slope distance from the shoulder stripe. All firewood and timber to be lifted out of area using appropriate lifting equipment.

Stacking

Firewood and timber to be stacked no closer than 30 linear ft to the shoulder stripe. All equipment to be rubber-tired or tracked to minimize ground disturbance.

Cultural Resources

Cultural resource sites noted will be treated as steep slope areas with no equipment allowed off of the roadway in these area.

Additional specifications that pertain to cultural resources are listed under "Environmental Commitments," Sheet 9, in the above document. These state:

1. An archaeologist will be present for all tree-cutting activity at all archaeological sites designated for protection. No skidding will be allowed at these locations and any wood stacking locations will be inspected by the archaeologist. The contractor will contact the Environmental Section to coordinate this activity and obtain a list of site locations that require monitoring.

2. Trees located within site boundaries will be cut to ground level and no removal of tree roots will occur at these locations.

FIELD CHECKS OF SITES

Before monitoring the tree-thinning project, Yvonne Oakes of the OAS attended a preproject meeting at the NMDOT District 6 office in Grants, New Mexico, on December 22, 2003. Highway personnel and Elkhorn Construction, the contractor, were present. OAS was provided with a copy of the construction documents and a list of 99 sites and their milepost locations that possibly needed monitoring. The list had been prepared by Hurt et al. (2003) for the NMDOT.

OAS first checked the list of sites against archaeological reports prepared by this office (Kayser 1975; Kayser and Dart 1977; Oakes 1986; Oakes 1989; Oakes 1990; Oakes 1991; Oakes and Wiseman 1993; Oakes and Zamora 1993; Oakes and Kimmelman 1995; Akins 1998; Hayden et al.1998; Oakes and Zamora 1999; Oakes and Williamson 2001) for sites within the project areas. Thirty-one sites that had been granted clearance through previous excavation or testing, or were outside of the adjusted project zone for NM 32 (Table 2), were eliminated from the list of sites requiring monitoring. In addition, several sites that are known by OAS to exist within some of the project rights-of-way were added to the list of sites to be field checked and, eventually, to the monitoring schedule. These included LA 2949 (Apache Creek Pueblo) and LA 3259 along NM 12 (Table 3). After this point, all sites to be field checked were plotted on USGS topographic maps to help locate them. Also before field checks, ARMS files were consulted on several occasions to find other sites that might be within project rights-of-way. As a consequence, more sites were added to the list of sites to be checked (Table 3).

Before the field checks, Yvonne Oakes met with Joe Garrotto, archaeologist for the Reserve Ranger District, to advise him of the upcoming fieldwork. Field inspections showed that milepost locations in the list provided were not accurate, and in many cases, attempts by OAS to find the proper locations were not successful. One solution involved obtaining UTM locations from the USGS topographic maps and field checking these sites again. In some cases, the map locations at ARMS are incorrect, and field inspection required some surveying of the area. Even so, several sites could not be relocated. After the sites that required monitoring were identified, it was decided, with the agreement of the contractor, that the limits of these sites would be marked with blue flagging tape on the right-of-way fencing at the beginning and end and along both sides of the roadways, if necessary.

As stated earlier, several of these highways (U.S. 180, U.S. 60, and NM 32) have had fairly recent highway construction activities. Many sites within these corridors were previously granted archaeological clearance, and in these cases no further work is necessary.

Table 2. Disposition of sites on original list

Original List (Hurt et al. 2003)	Previous Clearance	Field Checked	Results			To Monitor
			Outside Right-of-way	Destroyed or Absent	No Trees	
NM 12						
LA 39982 and LA 138795	X	-	-	-	-	-
LA 39977	X	-	-	-	-	-
LA 69064	X	-	-	-	-	-
LA 39974	X	-	-	-	-	-
LA 39972	X	-	-	-	-	-
LA 119970	-	X	X	-	-	-
LA 39970	X	-	-	-	-	-
LA 39971	-	X	X	-	-	-
LA 43766	X	-	-	-	-	-
LA 23876	-	X	-	-	X	-
LA 39969	X	-	-	-	-	-
LA 88277	-	X	X	-	-	-
LA 57134	-	X	-	X	-	-
LA 9734 and LA 75928	-	X	-	X	-	-
LA 1672 and LA 3441	-	X	-	X	-	-
LA 9735	-	X	X	-	-	-
LA 43870	-	X	X	-	-	-
LA 43886	-	X	-	-	X	-
LA 43885	-	X	-	-	-	X
LA 61269	-	X	X	-	-	-
LA 43884	-	X	-	-	-	X
LA 43896	-	X	-	-	-	X
LA 43909	-	X	-	-	X	-
LA 8093	-	X	X	-	-	-
LA 3258	-	X	X	-	-	-
LA 3257	-	X	X	-	-	-
LA 3256	-	X	X	-	-	-
LA 8090	-	X	-	-	X	-
LA 8084 and LA 8086	-	X	-	-	X	-
LA 23917	-	X	X	-	-	-
AR-O3-06-06-323	-	X	-	X	-	-
LA 43905	-	X	-	-	X	-
LA 76409	-	X	-	X	-	-
LA 43906 and LA 88358	-	X	-	-	X	-
LA 8080	-	X	-	-	X	-
LA 43895	-	X	-	-	-	X
AR-03-06-06-325	-	X	X	-	-	-
LA 64507	-	X	X	-	-	-
LA 64506	-	X	X	-	-	-
NM 32						
LA 8106	out of project	-	-	-	-	-
LA 8107	out of project	-	-	-	-	-
LA 4989	out of project	-	-	-	-	-
LA 6066	out of project	-	-	-	-	-
LA 6053	out of project	-	-	-	-	-
LA 6047	out of project	-	-	-	-	-
LA 89628	-	X	-	-	X	-
LA 23874	-	X	-	-	X	-
LA 43880	-	X	-	-	X	-
LA 83274	-	X	X	-	-	-
LA 43873	-	X	X	-	-	-
LA 83287	-	X	X	-	-	-
LA 23887	-	X	X	-	-	-
LA 23875	-	X	X	-	-	-
LA 15101	-	X	X	-	-	-

Table 2 (continued)

Original List (Hurt et al. 2003)	Previous Clearance	Field Checked	Results			To Monitor
			Outside Right-of-way	Destroyed or Absent	No Trees	
NM 36						
LA 68898	-	X	X	-	-	-
LA 82021 and LA 82022	-	X	-	-	X	-
LA 8111	X	-	-	-	-	-
NM 435						
LA 5176	-	X	-	-	X	-
LA 117874	-	X	X	-	-	-
LA 124573	-	X	X	-	-	-
LA 39964 and LA 124544	-	X	-	-	X	-
LA 39965	-	X	X	-	-	-
LA 124546	-	X	-	-	X	-
LA 124547	-	X	-	-	-	X
LA 124548	-	X	-	-	-	X
U.S. 180						
LA 37918	X	-	-	-	-	-
LA 37919	X	-	-	-	-	-
LA 70189	X	-	-	-	-	-
LA 39979	X	-	-	-	-	-
LA 85100	-	X	X	-	-	-
LA 138795	-	X	X	-	-	-
LA 39975	X	-	-	-	-	-
LA 70195	-	X	X	-	-	-
LA 43785	X	-	-	-	-	-
LA 9772	-	X	-	X	-	-
LA 4428	-	X	X	-	-	-
LA 3563	X	-	-	-	-	-
LA 43786	X	-	-	-	-	-
LA 70199	X	-	-	-	-	-
LA 23881	-	X	-	-	X	-
LA 43788	X	-	-	-	-	-
LA 43783	-	X	-	-	X	-
LA 75792	X	-	-	-	-	-
LA 43789	-	X	X	-	-	-
LA 130507	-	X	-	X	-	-
LA 103864	-	X	X	-	-	-
U.S. 60						
LA 51922	X	-	-	-	-	-
LA 68086	-	X	X	-	-	-
LA 8065	-	X	X	-	-	-
LA 68084	-	X	-	-	X (fenced)	-
LA 8064	-	X	X	-	-	-
LA 88134	X	-	-	-	-	-
LA 88135	X	-	-	-	-	-
LA 88136	-	X	X	-	-	-
LA 88137	-	X	X	-	-	-
LA 137341	-	X	X	-	-	-
LA 104381	X	-	-	-	-	-
LA 104382	X	-	-	-	-	-
LA 3648	-	X	-	X	-	-
Total = 99	31*	68	36	8	18	6

* 6 out of project area

Table 3. Sites added to original list

Site	Researched	Previous Clearance	Field Checked	Out of Right-of-way	Destroyed / Absent	No Trees	To Monitor
NM 12							
LA 2949	-	-	X	-	-	-	X
LA 3259	-	-	X	-	-	-	X
LA 39968	-	-	X	-	-	-	X
LA 2947	-	-	X	X	-	-	-
LA 61273	-	-	X	X	-	-	-
LA 58665	X	-	X	X	-	-	-
LA 43908	X	-	X	X	-	-	-
LA 43862	-	-	X	-	-	X	-
LA 4427	-	-	X	X	-	-	-
LA 8092	-	-	X	X	-	-	-
LA 143613	-	-	-	-	-	-	X
LA 43910	-	-	X	-	-	-	X
LA 3571	-	-	X	X	-	-	-
LA 43904	-	-	X	-	X	-	-
NM 32							
LA 6192	X	-	X	X	-	-	-
LA 43868	-	-	X	X	-	-	-
LA 5401	X	X	-	-	-	-	-
LA 14909	X	X	-	-	-	-	-
LA 14908	X	X	-	-	-	-	-
LA 14912	X	X	-	-	-	-	-
LA 14911	X	X	-	-	-	-	-
LA 10984	X	X	-	-	-	-	-
LA 5409	X	-	X	X	-	-	-
LA 14882	X	X	-	-	-	-	-
LA 14858	X	X	-	-	-	-	-
LA 6074	X	X	-	-	-	-	-
LA 6075	X	X	-	-	-	-	-
LA 6076	X	X	-	-	-	-	-
LA 6077	X	X	-	-	-	-	-
LA 14907	X	X	-	-	-	-	-
LA 5239	X	X	-	-	-	-	-
LA 5388	-	-	X	-	-	X	-
LA 14917	X	X	-	-	-	-	-
LA 14920	X	X	-	-	-	-	-
LA 5410	-	X	X	-	-	-	-
LA 14918	X	X	-	-	-	-	-
LA 5390	X	-	X	-	-	X	-
LA 5240	-	-	X	X	-	-	-
LA 5938	-	-	X	X	-	-	-
LA 5387	-	-	X	X	-	-	-
LA 5403	-	-	X	X	-	-	-
LA 5389	X	-	X	X	-	-	-
LA 5406	X	-	X	X	-	-	-
LA 14913	X	-	X	X	-	-	-
LA 5407	X	X	-	-	-	-	-
LA 5408	X	-	X	X	-	-	-
LA 14463	X	-	X	-	X	-	-
LA 14910	X	X	-	-	-	-	-

Table 3 (continued)

Site	Researched	Previous Clearance	Field Checked	Out of Right-of-way	Destroyed / Absent	No Trees	To Monitor
NM 36							
LA 89418	-	-	X	-	-	X	-
LA 8076	X	-	X	X	-	-	-
LA 8075	X	-	X	X	-	-	-
LA 8114	-	-	X	-	-	X	-
NM 435							
LA 124545	-	-	X	X	-	-	-
U.S. 180							
LA 39982	-	-	X	-	-	X	-
LA 70190	X	X	-	-	-	-	-
LA 70191	X	X	-	-	-	-	-
LA 70192	X	X	-	-	-	-	-
LA 70197	X	X	-	-	-	-	-
LA 70198	-	-	X	X	-	-	-
LA 70200	X	X	-	-	-	-	-
LA 70202	-	-	X	X	-	-	-
LA 70203	X	X	-	-	-	-	-
LA 70204	-	-	X	X	-	-	-
LA 3337	-	-	X	-	X	-	-
LA 99840	X	-	X	X	-	-	-
LA 71919	X	-	X	X	-	-	-
LA 75917	X	X	-	-	-	-	-
LA 61659	X	-	-	X	-	-	-
NM 60							
LA 8063	X	X	-	-	-	-	-
LA 137336	-	-	X	X	-	-	-
Total = 69	43	28	41	29	3	6	5

RESULTS OF MONITORING

Originally, after the literature search and initial field checks of archaeological sites, 11 sites were scheduled for cultural resource monitoring. Yvonne Oakes of OAS met with Bob Fisher of Elkhorn Construction, the thinning contractor, and they inspected several sites along U.S. 180, NM 12 to Reserve, and NM 435. Mr. Fisher explained and demonstrated thinning procedures. They agreed that two-day advance notice would be given to OAS before thinning on archaeological sites that were selected for monitoring. Sites would be marked with blue flagging tape, as stated earlier. A list of those sites along with "begin" and "end" milepost locations was provided to Elkhorn Construction.

It was determined that LA 39968, along SR 12 at MP 1.4, would be the first site to require monitoring according to the thinning schedule. Advance notice of when work was to begin along NM 12 at MP 0.0 was requested by OAS. Several weeks later, on a field inspection trip to the project area, OAS discovered by that thinning had already begun along NM 12, and the trees had been cut on LA 39968. Upon inspection, the archaeologist found that no damage had been done to the site.

Because of the thinning crew's deadlines, two sites along NM 435 that were no longer on the thinning schedule for the year, LA 124547 and LA 124548, were dropped from the monitoring program. Of the remaining nine sites, the contractor gave the archaeologist advance notice of thinning activities at LA 43885 and LA 143613, which were monitored. However, at the remaining seven sites, all along NM 12, the contractor notified the archaeologist only after thinning crews had already cleared the sites of trees. Therefore, no monitoring occurred at these sites (Table 4). Apologies were offered by Elkhorn Construction. Because they had the list of sites and their locations and knew where the flagging tape had been placed, they did not believe it was necessary to have an archaeologist present during all phases of the thinning project. However, this was not the agreement before the thinning process began.

Of the seven sites that were not monitored, four had no damage, and three suffered some disturbance (Table 4). The disturbance resulted from driving the mulcher equipment on sites, along trails near the right-of-way fences, and down slopes of the sites in the roadcut. Also, cut wood was stacked on several sites so that trucks could drive on the sites to retrieve the wood. In one case (LA 2949), a tree on the slope of the site was to be left in place to prevent further erosion to the fragile slope where a roomblock was beginning to erode downslope. Without monitoring, this tree was cut down.

On March 12, 2004, Yvonne Oakes received notice from Elkhorn Construction that they were working in the vicinity of Aragon, New Mexico, having completed thinning at six unmonitored sites along NM 12. Yvonne Oakes immediately notified Will Williams, project manager of the NMDOT office, District 6, about the problem. He was out of the office. After the archaeologist inspected the sites on March 14 and noted recent tire tracks, another call was placed on March 15. Mr. Williams agreed to send his assistant to look at the sites. Upon field inspection, he agreed that the mulcher had made several tracks over the sites. Unfortunately, the damage caused by these tracks had been increased by recent heavy rains in the area. Other truck tracks, not related to the thinning crew, were also noted on the sites. OAS photographed the damage to the sites and indicated the affected areas on the site plans. A Reserve District

Table 4. Results of monitoring

Site	Highway	Milepost	Monitored?	Assessment
LA 124547	NM 435	4.3	No	Dropped from project
LA 124548	NM 435	4.9	No	Dropped from project
LA 39968	NM 12	1.4	No	No damage
LA 43885	NM 12	14.1-14.2	Yes	No damage
LA 143613	NM 12	15.3	Yes	Mulcher tracks from subsequent clearing
LA 43884	NM 12	15.6-15.8	No	Damage from ATV traffic
LA 43896	NM 12	18.1	No	Mulcher tracks over site
LA 2949	NM 12	18.5-18.7	No	Mulcher tracks in several areas
LA 3259	NM 12	21.8-22.0	No	No damage
LA 43910	NM 12	25.2-25.3	No	No damage
LA 43895	NM 12	29.1	No	No damage

forest ranger, Sam Gutierrez, also stopped by the sites and was shown the damage. It is our understanding that Mr. Gutierrez also showed one of the damaged sites to officers of the Historic Preservation Division, who were in the area on business.

A description of the 9 sites that were to have been monitored during the tree-thinning project follows, with an assessment of their condition after thinning.

LA 39968

Site Type: Small roomblocks and a pithouse.

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted].

Background: LA 39968 was first recorded by Pool and Logan in 1980 (ARMS files). It consists of two small roomblocks (one within the right-of-way), a large pithouse, a jacal structure, and a water-retention basin (Figs. 2 and 3). OAS excavated the entire site within the right-of-way in the mid-1990s (Oakes and Zamora 1999). It was dated to A.D. 1200 through archaeomagnetic sampling, placing it within the Tularosa phase of the Mogollon cultural sequence. The 1.9 m deep pithouse was backfilled carefully because the USDA Forest Service requested that it be left intact for future interpretation.

Effects of Tree-thinning Project: The archaeologist asked the tree-thinning crew to notify her when work was to start along NM 12 so she could monitor this previously excavated site, as requested by the USDA Forest Service. However, OAS staff discovered that the crew had cut trees on the site (Fig. 4) without notifying the monitoring archaeologist. Inspection of the site determined that no site damage had occurred as a result of thinning activities.

LA 43885

Site Type: Roomblock.

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted]

Background: LA 43885, a Reserve phase site, was recorded in November 1997 by J. Martin (ARMS files). It lies on both sides of NM 12. A roomblock and a small depression (possible kiva) are on the west side. Scattered concentrations of sherds, lithic artifacts, and ground stone are found on both sides of the roadway. Pithouse structures may be present on the east side. There are about 5,000 artifacts at the site.

Results of Monitoring: Elkhorn Construction notified OAS that tree thinning was approaching LA 43885. OAS archaeologists mapped the site (Fig. 5) and took photographs of it (Fig. 6) before the thinning crew arrived. Only the east side of the highway required monitoring; no trees were present on the slope on the west side. The tree-thinning process was monitored by OAS. No equipment was driven on the site, and trees were lifted off of the site before chipping and mulching. Cut wood was stacked on the slope immediately adjacent to the bar ditch so that no traffic would occur on the site. The process went smoothly, and no damage was done to the site.

LA 143613

Site Type: Artifact scatter (possible pithouses).

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted].

Background: The site was recorded by Oakes and Zamora during the field check of sites for this monitoring project. They were looking for another nearby site, which proved to be outside of the highway right-of-way. In doing so, they discovered LA 143613, an unrecorded site within right-of-way bounds. It is a sherd and lithic scatter. Pithouses may exist on the site. Most of the 40 artifacts on the site are sherds. Seven or eight lithic artifacts were observed. LA 143613 may date to the Early Pithouse period (ca. A.D. 500-700), since only Alma Plain and San Francisco Red sherds are visible.

Results of Monitoring: Elkhorn Construction notified OAS before tree thinning occurred at this site. The site was mapped (Fig. 7) and photographed (Fig. 8) before thinning began. Only one small tree was within the cutting zone. No damage occurred at the site at this time. The thinning crew temporarily stopped work along NM 12 after tree clearing at the site was completed and before proceeding further. They returned to thinning along U.S. 180, where they had been waiting for specialized equipment. They were reminded to give two days' notice before returning to work along NM 12. However, Elkhorn Construction did not give notice until two days after resuming work. In the interim, trees immediately north of the flagged area of LA 143613 were cut by the crew. This was not a site area; however, with no archaeologist present, the mulcher went back and forth over LA 143613 when mulching the nonsite

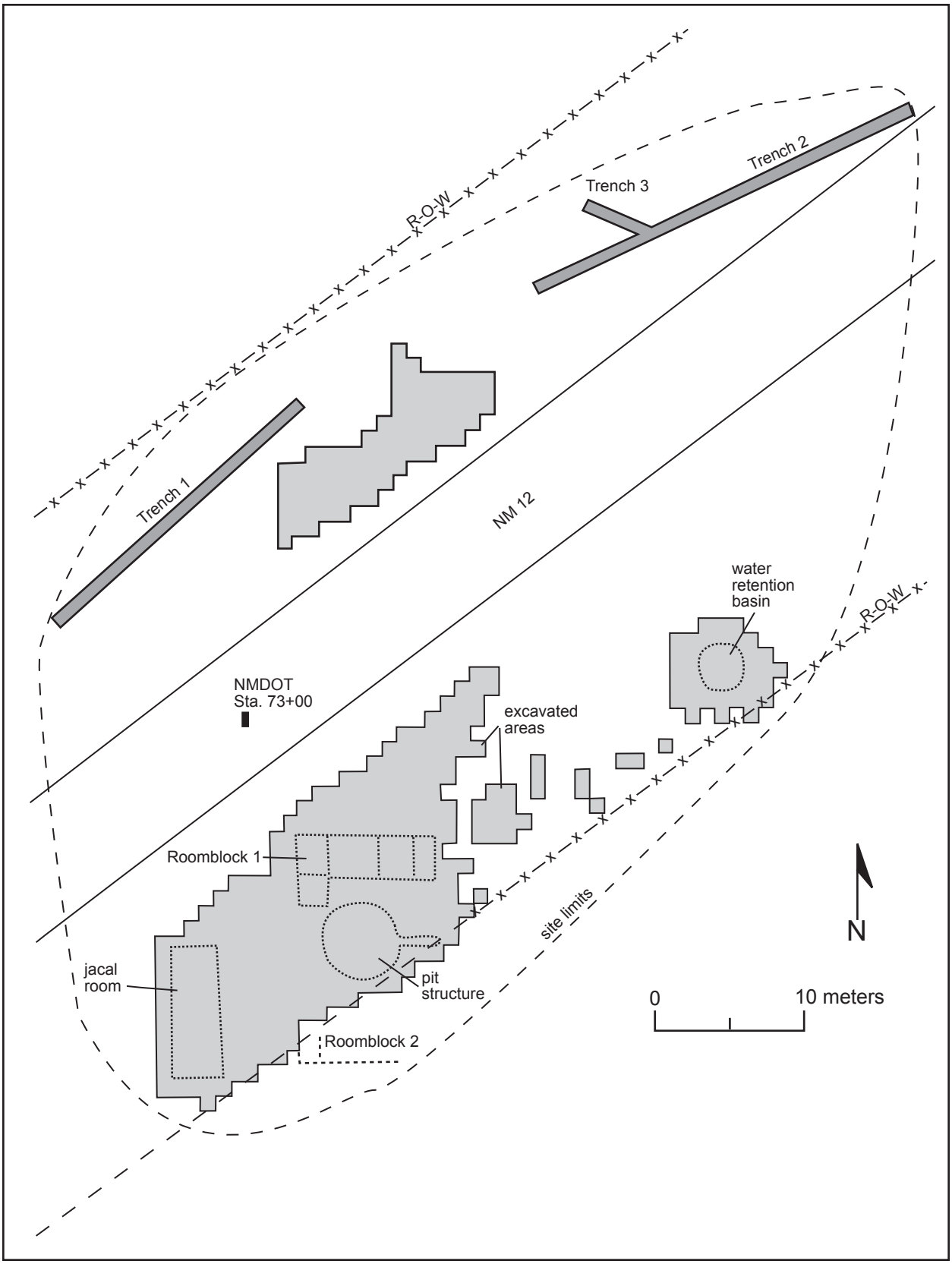

Figure 2. Site map of LA 39968.

Figure 3. Trees at LA 39968 after it was excavated in 1994, facing east (Oakes and Zamora 1999[2]:115). NM 12 can be seen at the upper left.

Figure 4. LA 39968 after tree clearing.

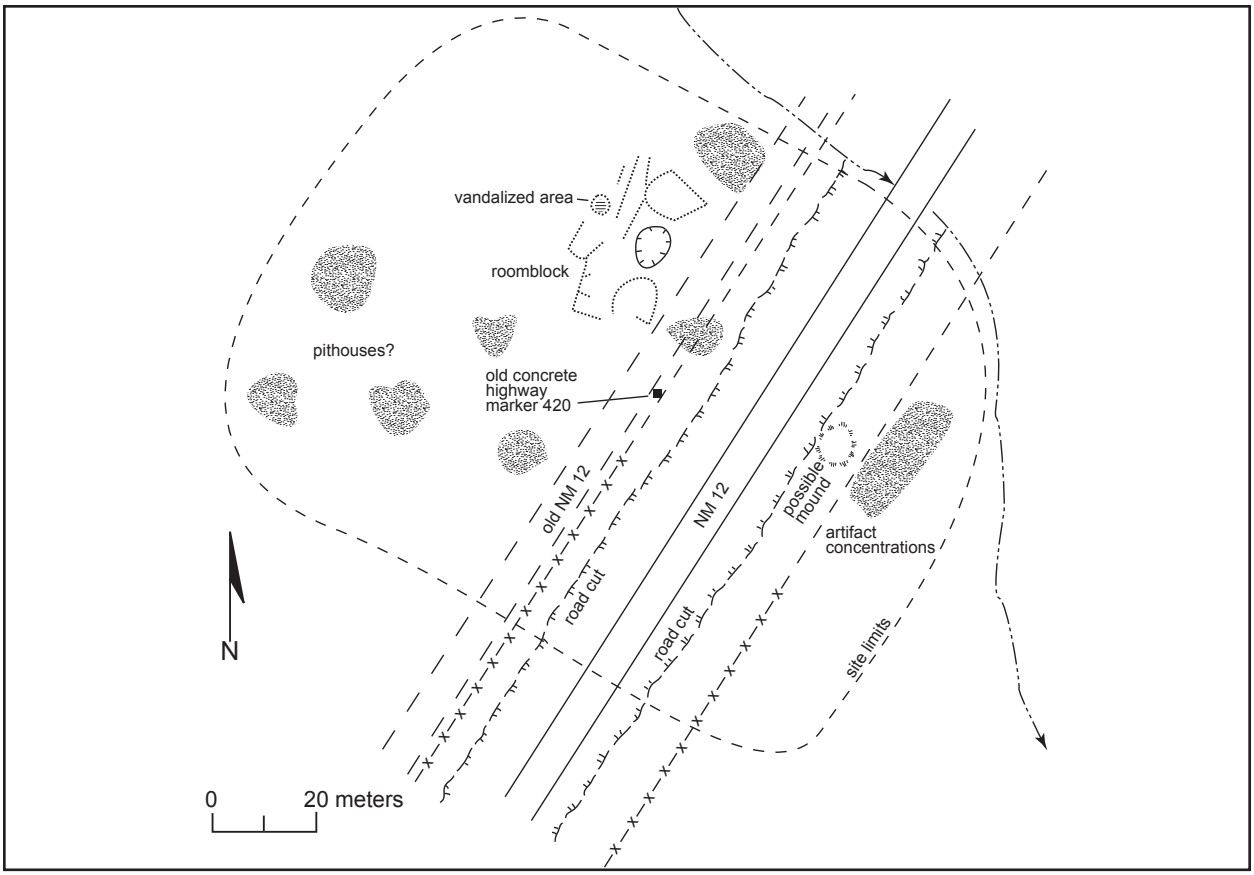

Figure 5. Site map of LA 43885.

Figure 6. Trees to be cut at LA 43885, on the east side of NM 12.

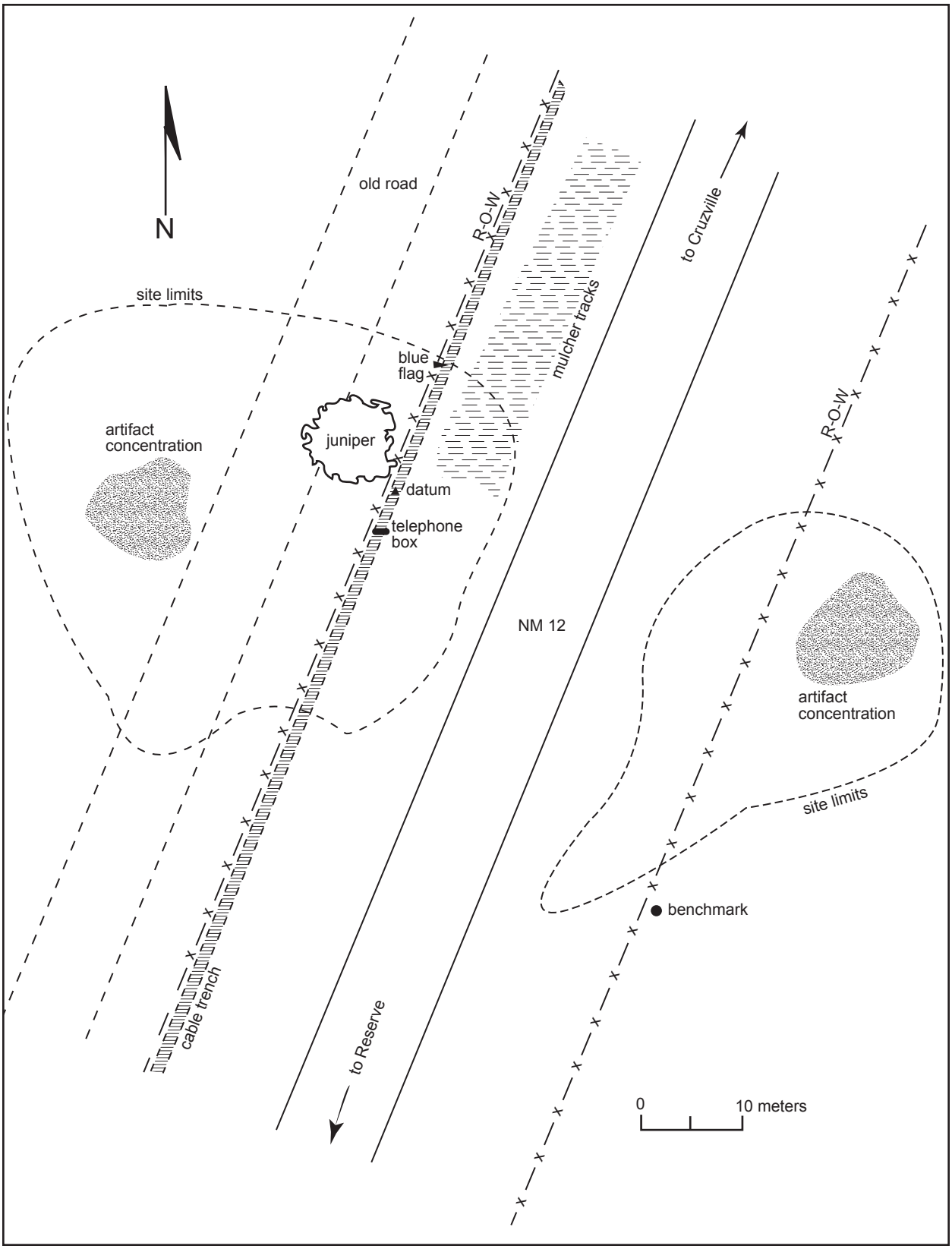

Figure 7. Site map of LA 143613, showing location of mulcher tracks.

Figure 8. LA 143613 before thinning.

Figure 9. North end of LA 143613, showing mulcher tracks.

area. Heavy rains earlier in the week caused the mulcher to leave heavy tire imprints on the northern18 ft of the site (Fig. 9). This activity by the mulcher was confirmed by NMDOT District 6 personnel.

A thin scatter of artifacts extends across the highway at the site. The tire tracks cut into the wet soil to a depth of 2 inches. No artifacts were broken by this disturbance. We believe that pithouses could be present in this disturbed area, but damage to the site was surficial, and an assessment of potential subsurface damage cannot be made.

LA 43884

Site Type: Large pueblo with possible pithouses.

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted]

Background: LA 43884 consists of a large Tularosa phase pueblo well outside of the right-of-way and several probable pithouses within the right-of-way. The site was recorded several times (e.g., Neely 1981; Nightengale and Peterson [ARMS files, 1994]). The USDA Forest Service considered the site a Priority 1 conservation site (Peterson 1987). It was recorded again by Marshall (1990) for the NMDOT and by Michalik (1997) for a USDA Forest Service fencing project. The Archaeological Site Stabilization and Protection Project recommended that the site be stabilized within the shoulder cut in the right-of-way on the west side (Oakes and Williamson 2001). LA 43884 was ranked eighth on the list of most endangered sites in New Mexico.

Effects of Tree-thinning Project: The archaeologist was not notified prior to tree thinning at LA 43884; however, no damage was done to the site during thinning. ATV trails run through the centers of both sides of the right-of-way. On the west side, this ATV trail runs over hundreds of artifacts and several probable pithouses. OAS noted recent tracks on these trails and very recent tracks running vertically up the road shoulders onto the site, directly over possible pithouses (Fig. 10). The thinning crew did not create these tracks. The installation of a fiber optics line left a cleared trail across LA 43884 and many other sites to the north along NM 12. This trail is now used extensively by ATVs and four-wheel-drive trucks. The site is in extreme danger of losing structural and artifactual integrity to erosion and vehicular traffic. A new site map was drawn with adjusted boundaries (Fig. 11).

Figure 10. Tire tracks at LA 43884 going up highway shoulder onto site.

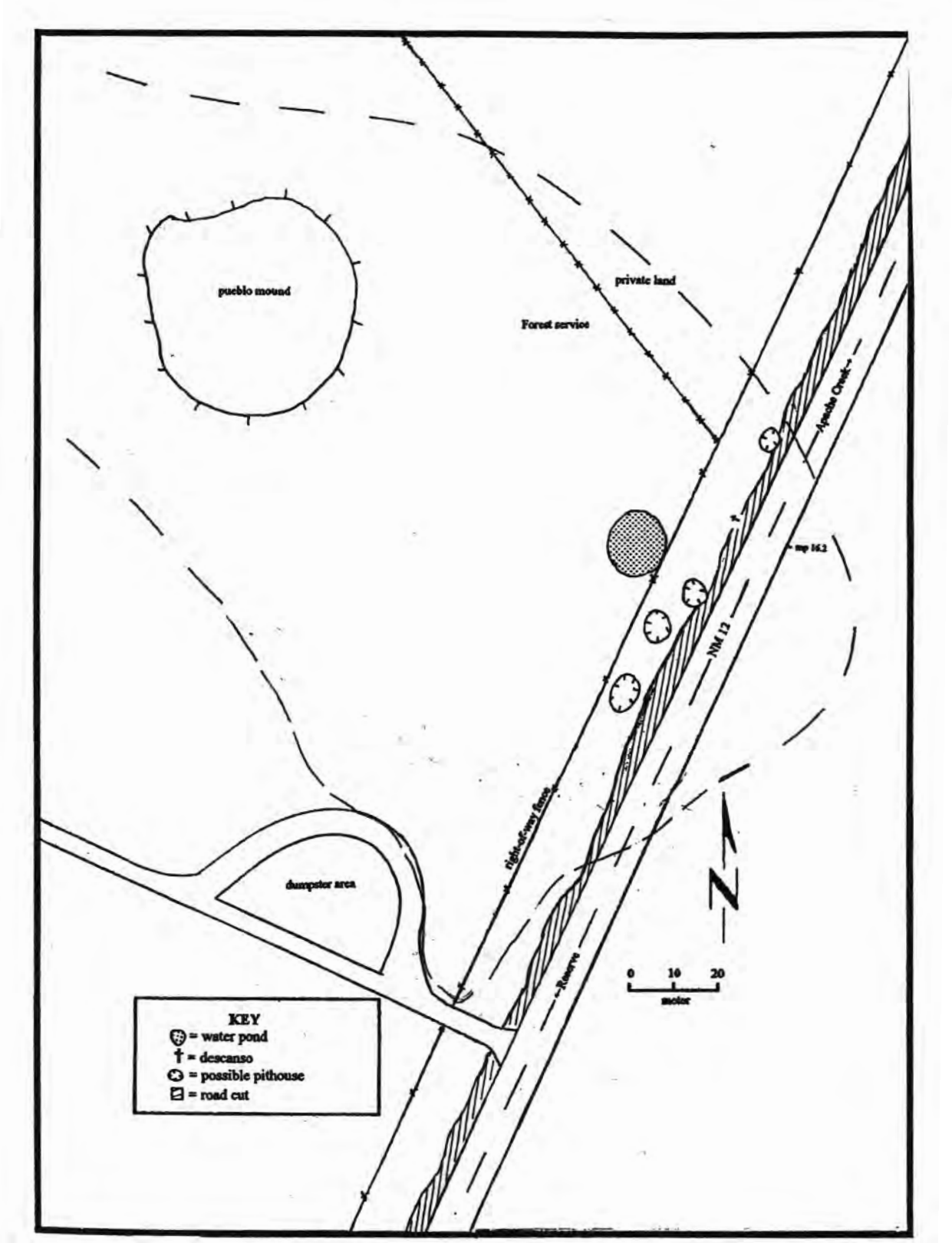

Figure 11. Site map of LA 43884.

LA 43896

Site Type: Pueblo roomblock, kiva, and possible pithouses.

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted]

Background: LA 43896 extends on both sides of NM 12. The north side of the site is on a high ridge above a treeless roadcut and contains a roomblock and kiva of the early Tularosa phase. The south side has an extensive artifact scatter that may derive from the hill site on the north or may indicate the presence of pithouses. Approximately 120 artifacts are within this right-of-way. Ceramics indicate a possible Late Pithouse period occupation (A.D. 800-900).

Paul Martin may have excavated the roomblock and kiva in the 1950s since he was active in this area at the time, and there is evidence of early excavation activity. The site was recorded by Neely (1981) and Marshall (1990). OAS mapped the site in 1995 as part of the Archaeological Site Stabilization and Protection Project (Oakes and Williamson 2001).

Effects of Tree-thinning Project: The OAS remapped the site (Fig. 12) and determined that only the south side of the right-of-way required monitoring. However, the thinning crew did not give notification prior to cutting trees on the site, so it was not monitored by the archaeologist.

An ATV trail runs along the fence (see description of LA 43884, above), and the tracks visible on the trail indicate that the mulcher and other vehicles used the trail to traverse the site (Fig. 13). There was no visible damage to the site, since the trail already existed, but thinning equipment should not have been permitted on the site, which was on the avoidance list and flagged.

LA 2949

Site Type: Large pueblo with roomblocks, pithouses, and kivas.

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted]

Background: LA 2949 (Apache Creek Pueblo) is a very large pueblo site with seven roomblocks, at least 29 pit structures, and a great kiva dating from the Reserve into the Tularosa phase (A.D. 1000 to pre-1300). It extends to both sides of NM 12, with masonry rooms and pithouses within both sides of the right-of-way. The site has been known since 1907 (Hough 1907) and was recorded and partially excavated by Peckham et al. (1956), Martin et al. (1957), and Reed (1957). Peterson (1990) conducted test excavations outside of the right-of-way for a USDA Forest Service interpretive trail. OAS mapped the site in 1995 and ranked it number four on the list of New Mexico's most endangered sites(Oakes and Williamson 2001). Oakes and Williamson also divided the site into five discrete areas, identified on the site map (Fig. 14).

Effects of Tree-thinning Project: The OAS did not remap LA 2949 because there had been no changes since 1995; therefore, the 1995 map is used here (Fig. 14). The thinning crew was to avoid the entire site as much as possible because hundreds of artifacts extend the entire length along both sides of the highway. However, notification was not given by the thinning crew before trees were cut on the site, resulting in disturbance to the site in several areas.

The previously mentioned ATV trail runs along the fence on the south side of the site. On the site map in Area A (see Fig. 14), the trail goes directly over a prehistoric masonry room and then north through a heavy artifact concentration. The mulcher used this trail for three-quarters of the length of the site, stopping at a tree cluster north of Datum B. The continuous compaction of soil over the room and the artifacts caused by vehicles in addition to the mulcher is stressing the walls of this unexcavated unit. It is also possible that continued use of the ATV trail could cause structural stress to any subsurface features that may be present. Trees were cut on the site, mostly east of Datum B and at the east end of Area C. In the Datum B area, mulcher tracks could be seen running down the slope from the tree cutting area (Fig. 15) and moving back and forth on the site in this area. Cut wood was apparently stacked in this area, because fresh tracks from other vehicles were seen entering and leaving the site in the cutting area (Figs. 16 and 17). Tracks of several vehicles were also visible on the north side of the site in Area C, where trees were cut and apparently stacked on site (Figs. 18 and 19). No mulcher tracks were seen here. Pithouses may exist in this area.

In 1995, in Area D, a small masonry roomblock threatened by erosion was noted within the right-of-way (Oakes and Williamson 2001). For this project, it was the intention of the archaeologist to prevent the cutting of a small tree directly downslope from the eroding rooms to prevent further channeling, which is just beginning to occur. With no archaeologist present, the tree was cut by the thinning crew. However, the stump was left in place and provides some degree of erosion

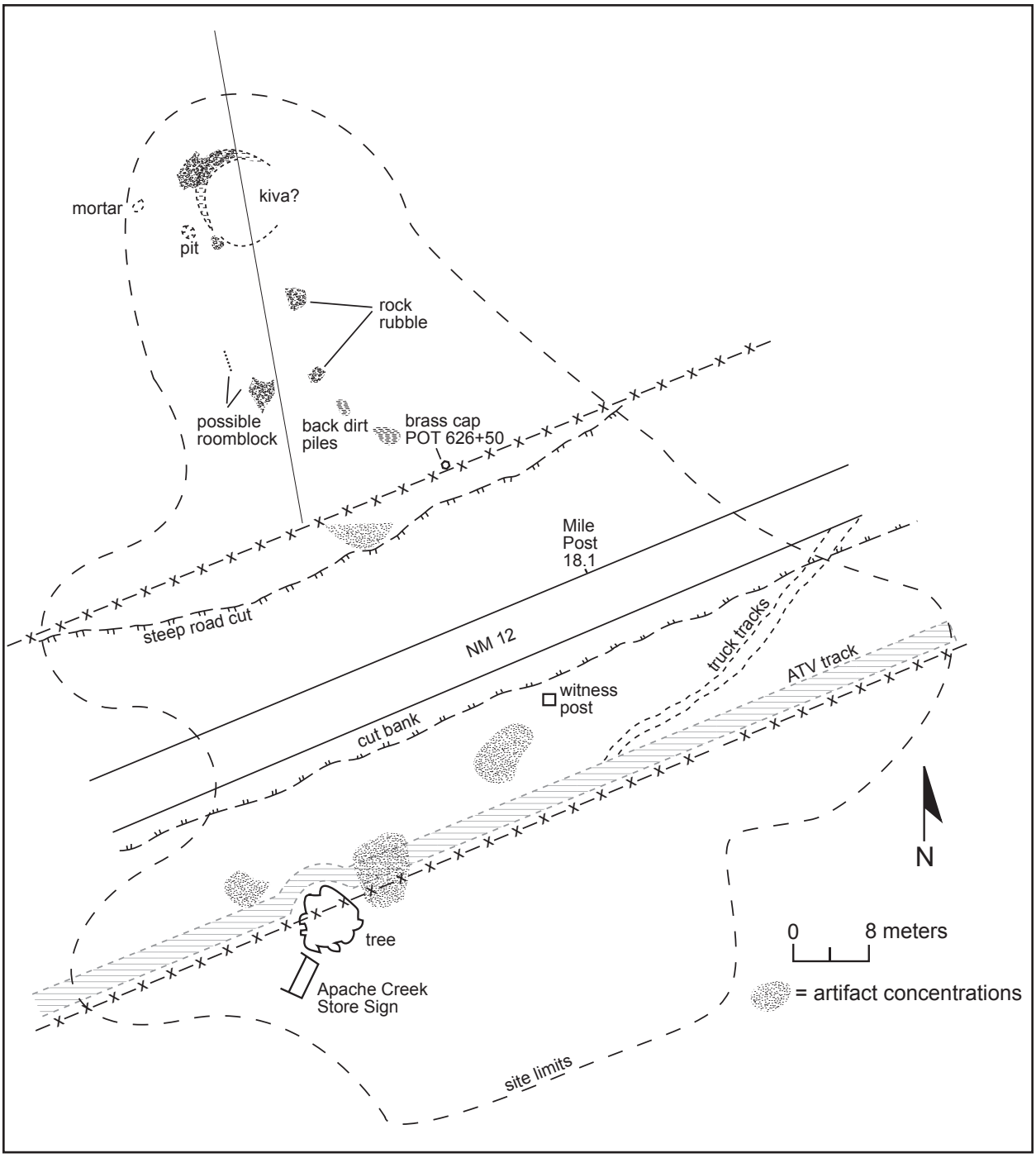

Figure 12. Site map of LA 43896.

Figure 13. LA 43896, showing ATV trail and mulcher tracks.

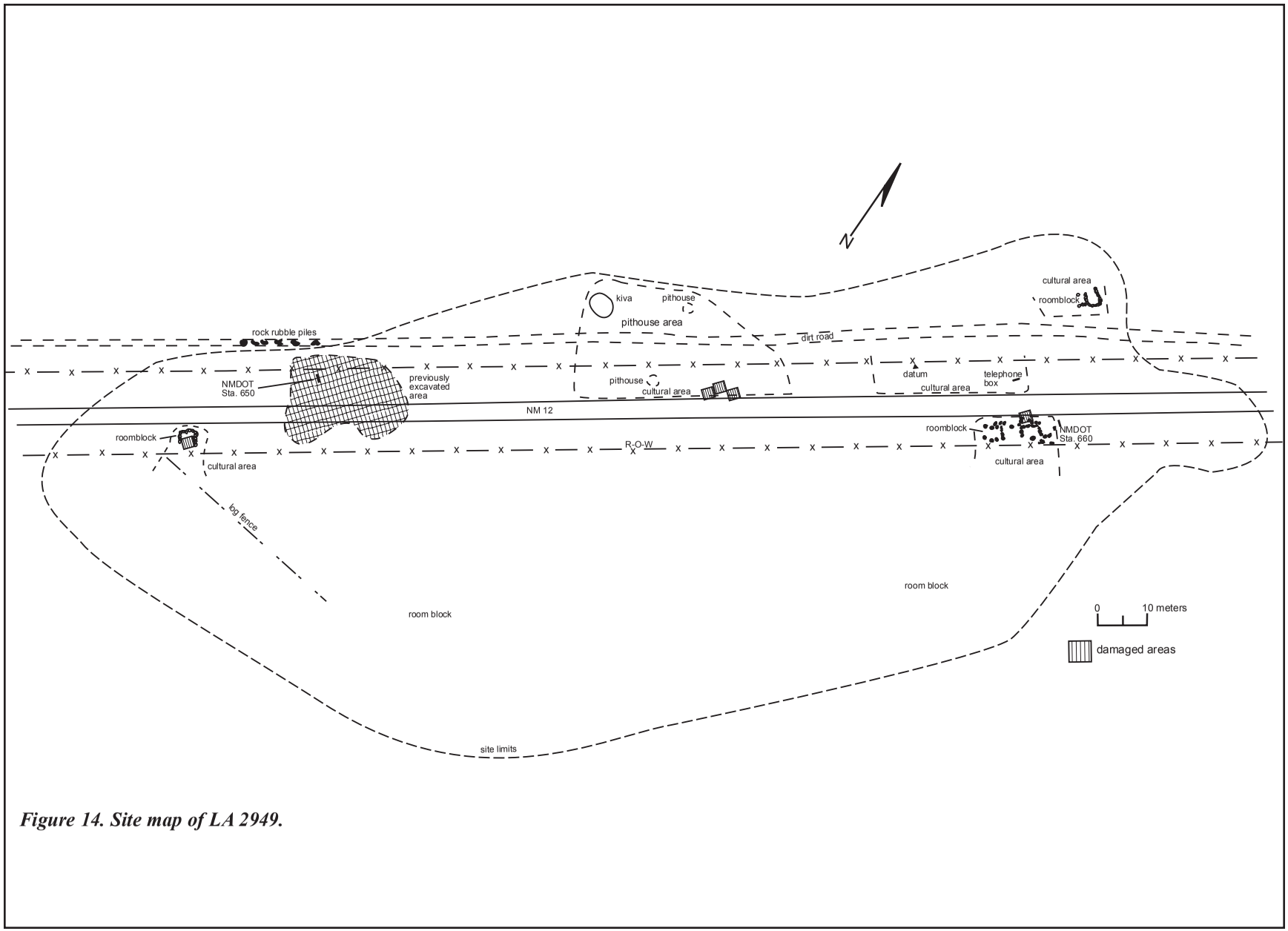

Figure 14. Site map of LA 2949.

Figure 15. Mulcher tracks going downslope at LA 2949, crossing other vehicle tracks. Cutting area can be seen at top of slope.

Figure 16. Vehicle tracks going onto LA 2949 near cutting area at Datum B.

Figure 17. Vehicle tracks at LA 2949, with cutting area in background.

Figure 18. Vehicle tracks at LA 2949 going to cutting area, where wood was stacked.

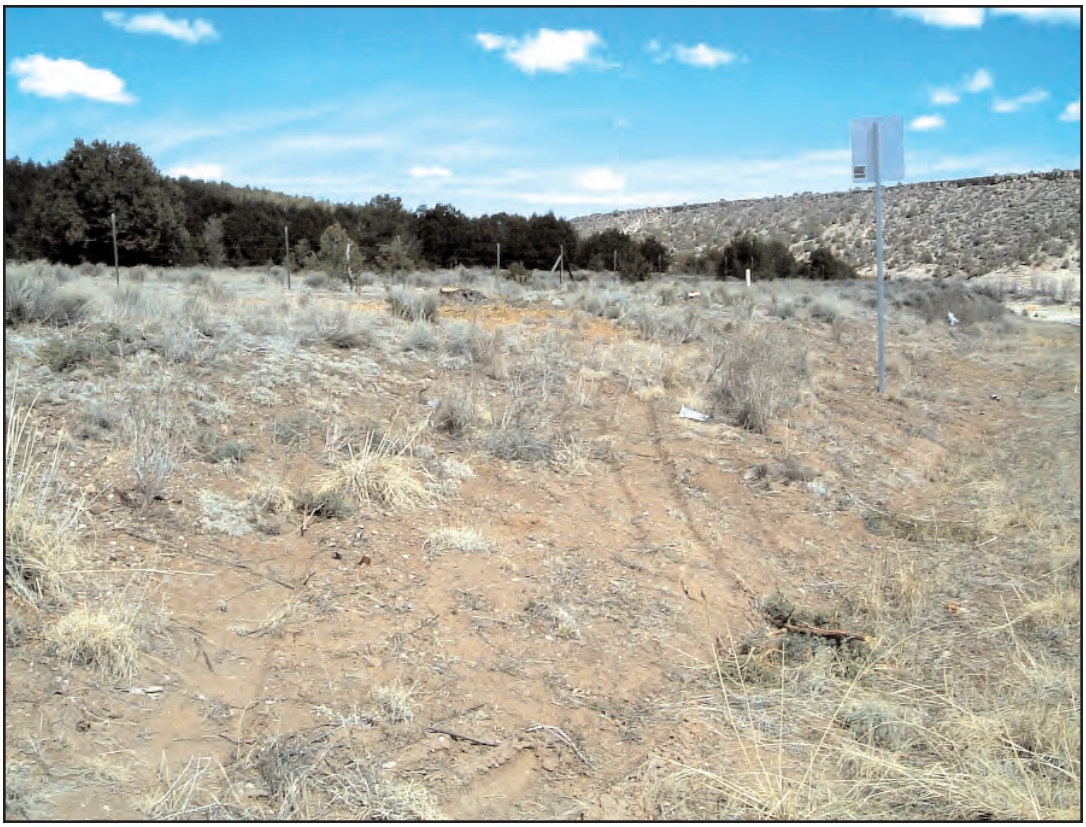

Figure 19. Vehicle tracks at LA 2949, leaving cutting area.

control.

Features within the right-of-way along Apache Creek Pueblo have suffered irreparable damage in recent years, mostly from vehicular traffic. Measures need to be taken to remedy this deterioration of the site and prevent further damage.

LA 3259

Site Type: Large pueblo with nearby pithouses.

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted]

Background: LA 3259 is a large Tularosa phase (A.D. 1000-1175) site with masonry roomblocks and pit structures extending to both sides of the highway. The roomblocks lie outside of the highway right-of-way and are heavily disturbed from excavation and pothunting. Charcoal-stained soil is visible in the steep roadcut on the west side of the right-of-way. In 1999 OAS conducted a limited testing program that revealed one pithouse eroding from the cut slope and the potential for more to erode (Oakes and Williamson 2001). Previously, portions of the roomblocks had been excavated by Schroeder and Wendorf (1954), Borhegyi (1956), and Neely in the mid-1980s (ARMS files). The site was recorded during the Highway Cultural Inventory Project in 1961 (Alexander 1964), by Nightengale in 1980 (ARMS files), and in 1995 as part of the Archaeological Site Stabilization and Protection Project. The ASSAPP recommendation was that the cultural features within the roadcut be stabilized or, more realistically, excavated. LA 3259 was ranked number one in the state in terms of its need for protection and stabilization (Oakes and Williamson 2001).

Effects of Tree Thinning Project: The thinning crew did not notify the archaeologist before cutting trees on the slopes of the site (Fig. 20). An inspection of the site showed that no damage had occurred to the eroding features. OAS utilized the map produced in 1999 for this report because no changes to the site were noted (Fig. 21).

LA 43910

Site Type: Pueblo with several roomblocks and a kiva.

Ownership: NMDOT land acquired from private sources.

Figure 20. East side of LA 3259 after tree cutting.

Location: NM 12, Milepost [redacted]

Background: LA 43910, a large Tularosa phase (A.D. 1175-1300) site, lies outside the highway right-of-way on the west side of the road. Numerous artifacts are within the right-of-way, but no prehistoric structures are visible. The pueblo, lying on private land, has been bulldozed in three areas, eliminating all traces of the previous structures (Fig. 22). The site was recorded by Neely in 1980 (ARMS files) and again in 1993 by Archaeological Research, Inc. (ARMS files).

Effects of Tree-thinning Project: The archaeologist was not notified by the thinning crew of the cutting schedule for LA 43910; therefore, the site was not monitored. Upon later inspection of the site by OAS, it was observed that tree cutting took place only on the slopes in a few areas (Fig. 23), and there was no damage to the site. The site was mapped (Fig. 24).

LA 43895

Site Type: Two pueblo roomblocks with a large artifact scatter.

Ownership: Gila National Forest.

Location: NM 12, Milepost [redacted]

Background: One roomblock lies at the base of a steeply sloping hill, and another approximately 35 m to the north on the crest of a ridge. They date to the Reserve-Tularosa phase (A.D. 1000-1200), and hundreds of artifacts are scattered throughout the right-of-way on the west side of the road. The two roomblocks lie mostly outside of the right-of-way fence (Fig. 25), and only small portions extend into the right-of-way. The site was recorded in 1980 by Neely (ARMS files) and Archaeological Research, Inc., in 1993 (ARMS files).

Effects of Tree-thinning Project: The archaeologist received no advance notification of the thinning schedule for the site, and therefore it was not monitored. Tree cutting involved only a single tree, and thinning activities did not disturb the site. The OAS photographed and mapped the site (Fig. 26).

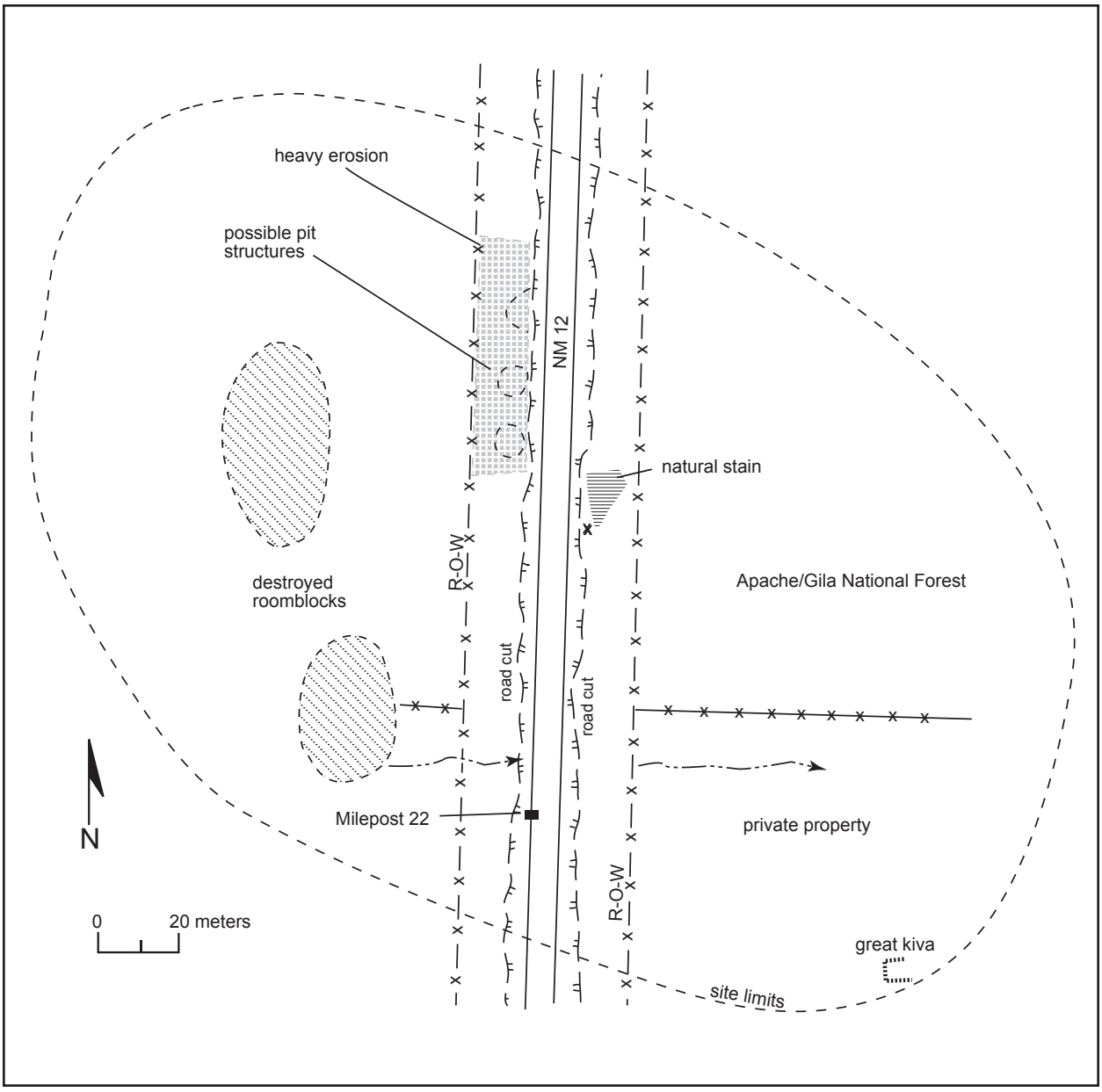

Figure 21. Site map of LA 3259.

Figure 22. Bulldozed pueblo at LA 43910.

Figure 23. Tree-cutting areas along slope of LA 43910.

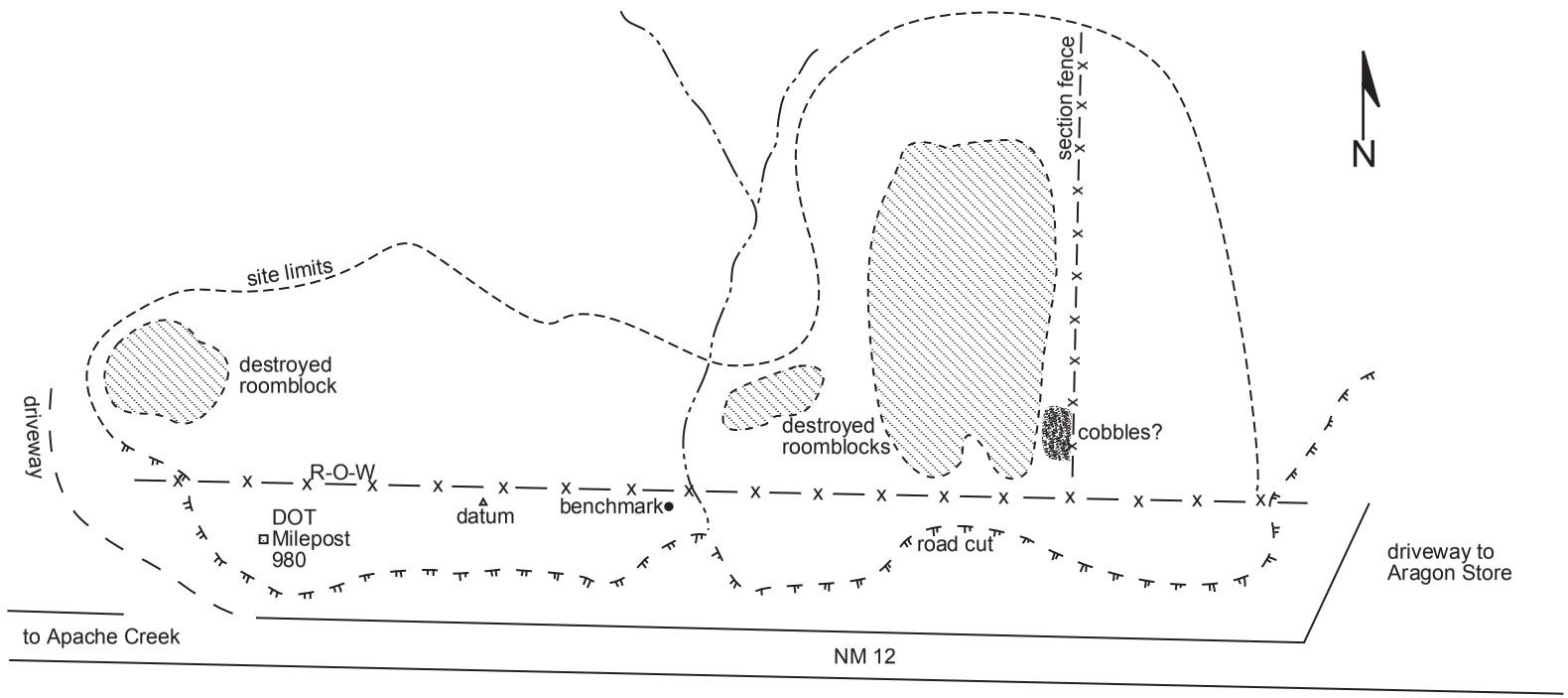

Figure 24. Site map of LA 43910.

Figure 25. LA 43895, with cobble roomblock just beyond right-of-way fence.

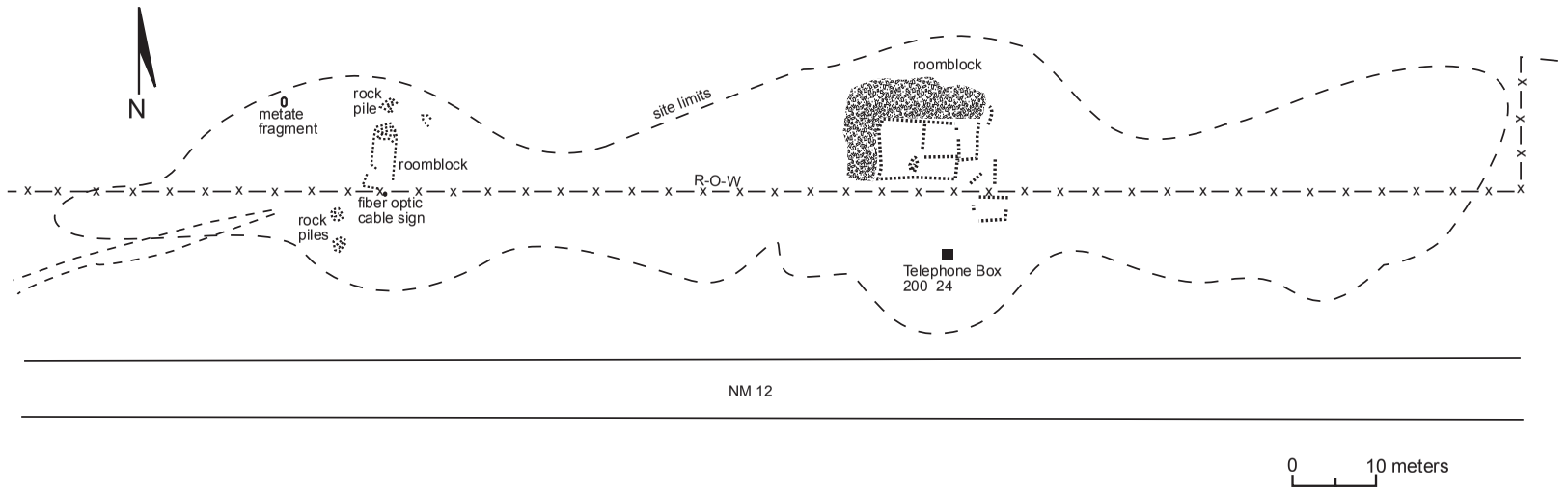

Figure 26. Site map of LA 43895.

SUMMARY AND RECOMMENDATIONS

Summary

The OAS was contracted by the NMDOT to provide cultural resource monitoring along federal and state highways in Catron County, where Elkhorn Construction, of Reserve, was to conduct tree-thinning activities. One hundred and nine archaeological sites were field checked to determine which sites in the various rights-of-way required monitoring. Site selection was based on whether tree thinning would occur at the site and whether the site had been previously excavated or cleared through the Historic Preservation Division.

Eleven sites needed monitoring. Two of the sites along NM 435 were dropped from the list because of the deletion of the roadway from the project area. The remaining nine sites were scheduled for monitoring. Only two sites were actually monitored, because the contractor failed to provide the archaeologist with advance notice as agreed before the start of work. Six of the unmonitored sites received no damage from tree-thinning activities (see Table 4); however, three sites (LA 143613, LA 43896, and LA 2949) saw varying degrees of surface disturbance. Most of the disturbance resulted from vehicular traffic such as the mulcher and private vehicles that were retrieving stacked wood. In one case (LA 2949), a tree was cut that the archaeologist was planning to leave in place to prevent site erosion and the loss of artifacts downslope.

At LA 143613, deep tread tracks resulted from tree removal at the north end of the site (see Fig. 7). Surface artifacts on the site in this area were not damaged.

LA 43896 has an ATV trail running the length of the site on the east side of the highway. The mulcher utilized this trail when approaching a tree to be cut at the north end of the site. The cut wood was apparently stacked near the tree because recent truck tracks are present, probably resulting from people retrieving the wood.

LA 2949 (Apache Creek Pueblo) received the most surface disturbance. An ATV trail runs along the south right-of-way of NM 12 for almost the length of the site, passing over a prehistoric roomblock and a large area of artifact deposition. The mulcher utilized this trail to reach an area of trees scheduled to be cut on the site. Mulcher tracks are also present in the tree area, showing movement back and forth on the site and then exiting the site down the 6 ft embankment to the highway. At the north end of the site, a tree was cut on the slope which the archaeologist was going to ask Elkhorn to leave in place to prevent further erosion of an already precarious masonry roomblock. Across the highway, on the north side, cut wood was stacked on the site immediately adjacent to the cutting area. Several different tracks from private vehicles used to retrieve wood are visible leading on and off of the site. This is a dense artifact area (in the hundreds), and pithouses may be present below the surface. Surface disturbance is restricted to areas in which vehicles ran over artifacts and the roomblock. Because an ATV trail already existed, damage along the trail was minimal.

Recommendations

It is difficult to determine why well-defined procedures for monitoring sites set in place by the NMDOT in written documents and a planning meeting were not carried out. The problems in monitoring were specifically the result of a lack of advance notification by the contractor that thinning activities were to occur at specific sites. The contractor's notification procedures worked well at two sites but then were inexplicably discontinued, creating a situation where trees at seven sites were thinned without monitoring and resulting in disturbance to three of the sites.

Communications had been very good between the contractor and the archaeologist until, as stated earlier, the contractor decided that the presence of the archaeologist was not necessary, since the contractor knew the locations of the sites. It cannot be stressed enough that monitoring of sites by an archaeologist is very important for the well-being of the sites on such projects. Compliance with the established NMDOT procedures promotes cooperation between the contractor and the archaeologist, and in that case monitoring does not delay tree-cutting activities.

Many of the problems caused by the mulcher would not have occurred had not a convenient and frequently used ATV trail existed on several sites in the project area (see Table 4). This extensive trail was left by fiber optic crews and has been heavily used at least since the early 1990s by ATVs and other vehicular traffic. Some corrective measures would be to close the trails, excavate limited portions of sites that are being compacted and destroyed by trail traffic, or fence the sites. None of these choices are optimal; some may be expensive, and some may have to take safety concerns into consideration. There may be other more effective methods for correcting the ongoing deterioration of these sites. All viable options should be explored to preserve the rich cultural milieu present in the Cruzville and Aragon areas.

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