

**Sand Canyon Pueblo Sign Installation
within
Canyons of the Ancients National Monument**

**ENVIRONMENTAL ASSESSMENT RECORD
CO-SJFO-010-29EA
DRAFT of June 21, 2002**

LEGAL DESCRIPTION:

**T.36N., R.18W., Section 12, N1/2 NE1/4
New Mexico Principal Meridian
Montezuma County, Colorado**

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SUMMARY DESCRIPTION OF THE PROPOSED ACTION:

Seven interpretive signs are proposed for installation at Sand Canyon Pueblo for visitor education and cultural site enhancement. Additionally, the wooden posts with routed numbers that are currently located at obsolete interpretive stops along the trail, will be removed.

Acknowledgments

This project began in 1994 through efforts of Bruce Bradley, the late Ian Thompson, the Crow Canyon Archaeological Center and a dozen Native American consultants who originally asked to remain anonymous. Their goal was to improve the public understanding and respect for Sand Canyon Pueblo. Both Kristie Arrington and Tom Vaughan nurtured the project during its beginning.

Michael J. Williams wrote the interpretive text, and selected and pursued written permission for each of the individual quotations. Renee Garfias designed the sign layout. Mary Beath created the Canyons of the Ancients logo; Pete Petersen created the reconstructed architectural drawings of Sand Canyon Pueblo. Chris Zeller contributed greatly to the description of the general setting in the Environmental Assessment. LouAnn Jacobson found the funds, tracked the progress and persevered for years to see this sign project completed.

Special thanks to Harlan Mahle, Vernon Lujan, Petuuche Gilbert, Tito Naranjo, Delford Leslie, Esther Martinez, and Joe Dishta who agreed to share their words for the benefit of all.

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I. NEED FOR PROPOSED ACTION

Sand Canyon Pueblo (5MT765) is located on public land within Canyons of the Ancients National Monument. Although this place has been known by locals for generations, outside visitation has substantially increased in the last ten years. The installation of interpretive signs will offer visitors an opportunity to connect with the direct words of modern Native Americans, while being offered an archaeological description of this important place. Education is one of the most successful methods of combating site destruction and vandalism.

Additionally the wooden posts with routed numbers that are currently located at obsolete interpretive stops along the trail, need to be removed.

II. PLAN CONFORMANCE REVIEW

A. San Miguel/San Juan Resource Management Plan and Environmental Impact Statement

The proposed action is subject to, and in conformance with this plan. The final date of approval is December, 1984, with the Record of Decision signed September, 1985. All page references are from the final plan.

Page 2-43

“Sand/East Rock Canyons ...contain a large number of late Anasazi cliff dwellings that are in a good state of preservation and are unique to the planning area. Combined with the area’s recreation potential, this creates an opportunity that requires special management considerations.”

Page 1-41

“Provide for cultural management of ...Sand...and East Rock canyons.”

Appendix V (page 5-37) includes the following general guidance for the cultural resources of the Anasazi Culture Multiple Use Area of Critical Environmental Concern: “Manage the prehistoric or historic values where appropriate. Provide intensive protection of cultural resources from vandals and pot hunters through increased surveillance and law enforcement. Intensify public education for interpretation and recognition of the sensitivity of the resource.”

Furthermore, Appendix V states to:

“Emphasize cultural management on the following areas: Sand Canyon.”

**B. Anasazi Cultural Multiple Use Area [ACMUA] of Critical Environmental Concern
Plan, Management Guidelines and Environmental Assessment (EA# CO-030-SJ-86-86):**

page 2

“It is the goal of the ACEC Plan to provide intensive Management for the valuable and varied cultural resources in the ACMUA. The objectives are to identify, evaluate, preserve, develop, interpret, and utilize these resources ...”

page 5

“J. Sand/East Rock Canyons may be developed and protected for a low level of public visitations as a primitive non-motorized archaeological recreation area. ...Interpretation will be coordinated with the Anasazi Heritage Center.

Page 6 (Patrol)

“Patrol activities will be complemented by public education and awareness programs in cooperation with the Anasazi Heritage Center.”

Page 7 (Other protection)

“b. Sensitive sites may need to be signed to inform the public of the potential impacts of their actions. Interpretive signs should be used.”

Page 8 (Development and Interpretation)

“b. Develop new sites and area for controlled visitation with various levels of interpretation. Sand Canyon Ruin and Painted Hand Ruin have the highest priorities since they have potential recreational uses.”

Page 11 (ACMU ACEC Interim Actions for Cultural Resources)

1-c: “Interpretive facilities at Sand Canyon Pueblo (signs, register box, trail barriers and parking.)”

page 26 (Recreation)

“Recreation potential within the ACEC is focused on interpretation and information opportunities provided by the many, varied cultural resources scattered throughout the area.”

Page 34 (Important Cultural Resource Sites or Areas)

“Based on present data, the following sites or areas are considered to be of probable national importance and represent cultural resource properties with the planning area.At the head of Sand Canyon is one of the largest and best preserved Anasazi pueblo ruins in Montezuma County (Site 5MT765).”

C. The Sand and East Rock Canyons Cultural Resource Management Plan was approved in April 1987. It was prepared to provide guidance for the management of the important and unique cultural properties in these canyons. Sand Canyon Pueblo specific management actions listed in the plan's Appendix A include the installation of interpretive signs. (Page 55)

D. Standards for Public Land Health The proposed action only directly affects the immediate archaeological site area.

E. Relationship to Statutes, Regulations, or Other Plans

Sand Canyon Pueblo is part of the Canyons of the Ancients National Monument, created by Presidential Proclamation on June 9, 2000.

BLM State Director's Interim Guidance states:

“The following direction supplements the 1985 San Juan/San Miguel Resource Management Plan and the 1986 Anasazi Area of Critical Environment Concern Management Plan and provides interim management guidance for the Monument until long term guidance is finalized through completion of the Management Plan.”

...“Coordination with Tribal Interests:

Assure that activities do not negatively impact tribal uses and access to places of traditional cultural or religious importance.”

The Bureau of Land Management has filed a Notice of Intent in the Federal Register to prepare a Resource Management Plan with an associated Environmental Impact Statement for Canyons of the Ancients National Monument (CANM). Issues to be addressed include preservation of cultural and natural resources; balancing multiple uses such as recreation, livestock grazing, energy development, traditional and Native American activities; integrating Monument management with community, tribal, and other agency needs; visitor services; and access and transportation on public lands.

Public comments on these and other concerns have been requested to help identify issues, develop planning criteria, and evaluate existing planning regulations. In addition, public meetings will be held in Cortez and Durango throughout the process, and the public will be able to comment directly on the Draft EIS. Written comments should be sent no later than July 1, 2002.

III PROPOSED ACTION AND ALTERNATIVES

A. Description of the Proposed Action

The Bureau of Land Management (BLM), Canyons of the Ancients National Monument (CANM) is planning to install seven Novalloy interpretive signs at Sand Canyon Pueblo (5MT765). Sand Canyon Pueblo is a large Ancestral Puebloan site that has been determined to be eligible for inclusion on the National Register of Historic Places. The proposed signs will be located adjacent to the existing interpretive trail at the site. Installation of the signs will involve placement of seven single, 3 inch diameter, sign posts into the ground at a minimum depth of 18 inches. They will be set in concrete.

Prior to installation of these sign posts and signs, archaeological excavations will be conducted at each of the post locations. Excavations will be conducted in order to mitigate the effects of the sign installation on the site. Six excavation units will be located at Sand Canyon Pueblo, and one will be located at the existing trail head/parking area.

Additionally the wooden posts with routed numbers that are currently located at obsolete interpretive stops along the trail, will be removed.

1. Sign Location and Mapping

The signs will be located in previously excavated and backfilled areas within the site, and/or outside of known features such as walls, room interiors etc. See Figure 1 and Figure 2. One sign will be located in the parking area, 3 signs will be located in previously excavated and backfilled areas, two will be located outside the perimeter of the site enclosing wall, and one will be located near the plaza in an area of no known features.

It will be necessary to check field notes and maps of the site and/or excavated units to determine where previously excavated and backfilled areas occur. These maps and field notes are located at Crow Canyon Archaeological Center. The BLM will approve the final locations for the sign posts.

The existing mapping datum at the site can be used to determine the locations of the units within the site, and the units will be point located on the appropriate existing feature, excavation block, or area maps of the site prepared by Crow Canyon Archaeological Center.

2. Excavation Procedures

Excavation units will be placed at each of the proposed sign locations. Units measuring 30 cm by 30 cm by 50 cm will be excavated in previously excavated and backfilled areas. Units in unexcavated areas will be 50cm by 50cm by 50cm in size. Vertical control for the units will be maintained through reference to distance “below datum” or “below present ground surface”.

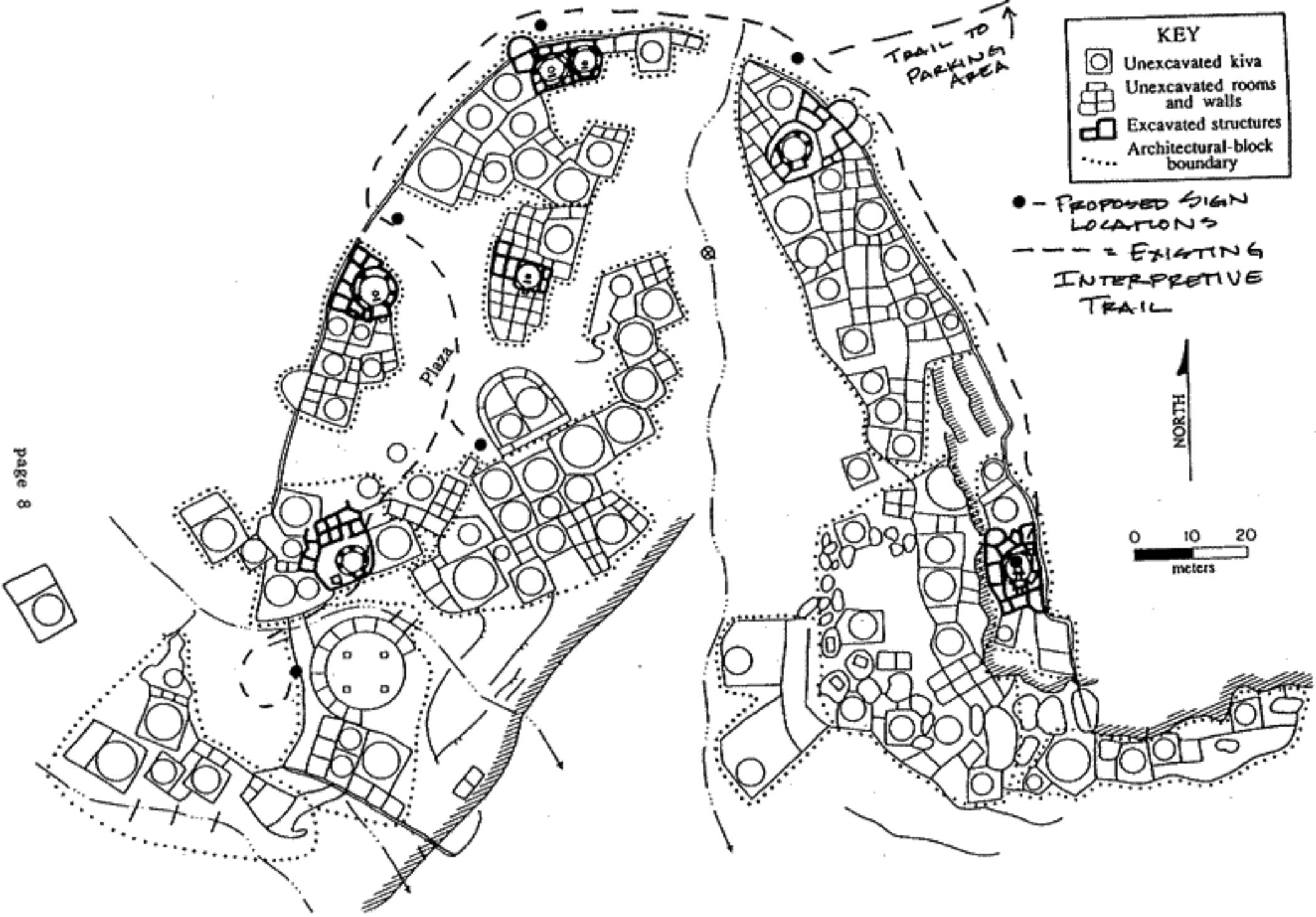


Figure 1. Locations of Proposed Interpretive Signs/Excavation Units at Sand Canyon Pueblo (5MT765).

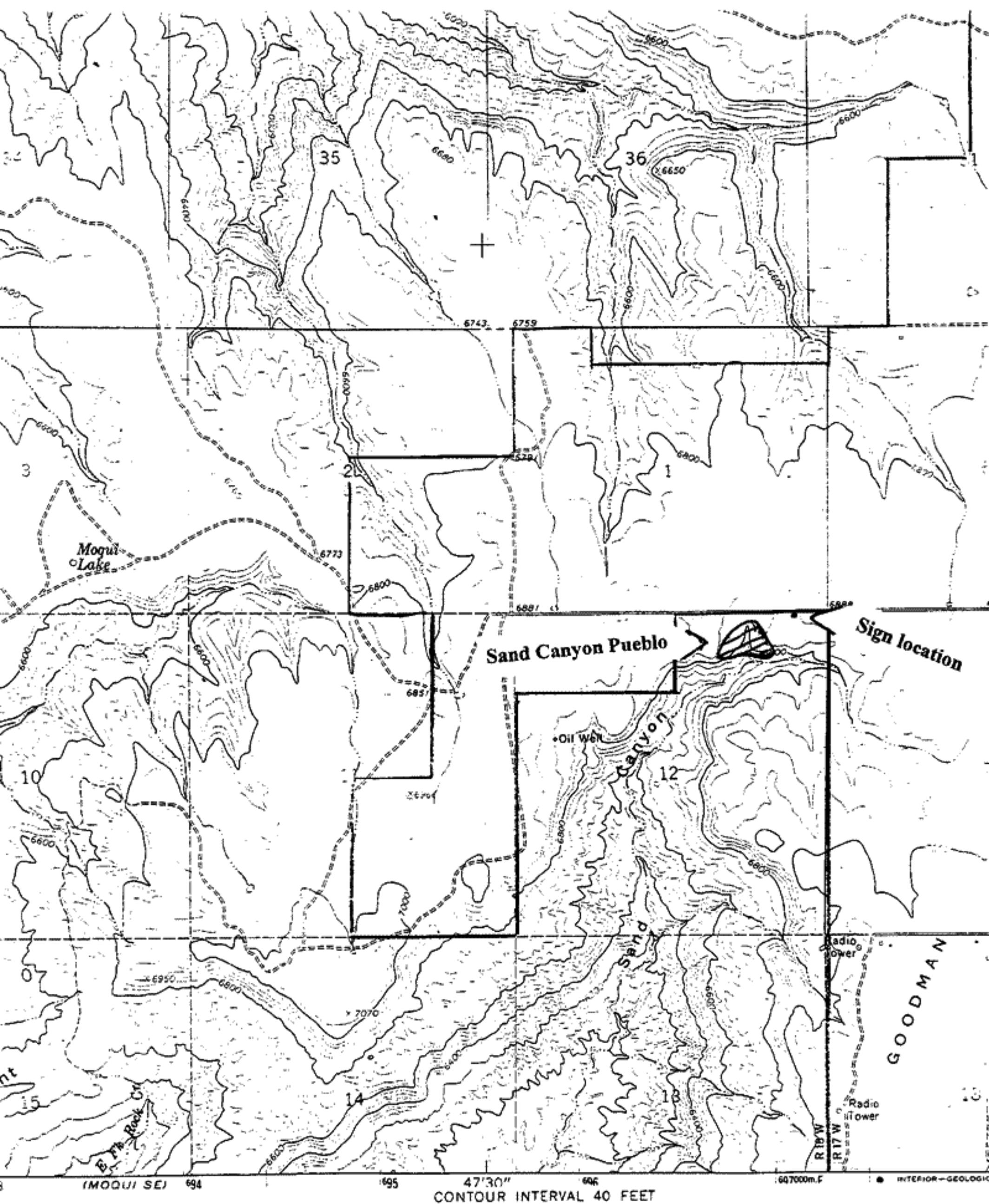


Figure 2. Location of proposed sign location/excavation unit at the existing Sand Canyon trail head/parking area. USGS Woods Canyon 7.5 minute quadrangle, dated 1965.

The method of depth reference may vary according to circumstances as determined by the excavation crew chief. Excavation will be by either arbitrary or natural/cultural stratigraphic levels. All excavations will be accomplished with hand tools ie. shovels and trowels. Plan drawings and stratigraphic profiles will be drawn for those units in previously unexcavated areas where features are encountered.

All fill from the units located within previously unexcavated areas will be screened through 1/4 inch mesh, and all recovered artifacts will be collected. No screening or artifact collection will be necessary for units located in backfill.

If bedrock, tree roots, or other obstacles are encountered in the excavation units, the unit may be reduced in size, but must be no less than 30 cm by 30 cm by 45 cm in order to provide sufficient room for the sign posts and concrete. If a unit cannot be excavated to sufficient size and depth, a new sign post location/excavation unit will be selected adjacent to the existing one.

If features are encountered in any of the units, the excavators will cease work in the unit and contact the CANM Archaeologist. The CANM archaeologist and the excavators will determine if work in the unit should be abandoned, or if the feature should be partially or completely excavated.

Excavation units will not be backfilled after excavations are complete. All fill from the excavation units will be placed/screened onto plastic so that it can be used during sign post installation. Installation of the sign posts will be done by the BLM as soon as possible after excavations are completed.

3. Artifact Collection and Curation

All artifacts recovered from the screened fill of the units will be analyzed by Crow Canyon Archaeological Center. The analysis results will be incorporated into the project report (as described below). The artifacts will be bagged, labeled, and packaged according to the Anasazi Heritage Center curation standards. The BLM will cover the fee for curation of these artifacts.

All field notes, maps, excavation records, and collected artifacts will be submitted for curation to the BLM, Anasazi Heritage Center.

4. Reporting

A report documenting the results of the excavations will be prepared by Crow Canyon Archaeological Center. This report will follow the Colorado State Historic Preservation Office guidelines for Archaeological Testing or Excavation Reports (see attached). Because there are already a number of reports addressing previous research and excavation activities at Sand Canyon Pueblo, it will not be necessary to provide extensive descriptions of the Effective

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Environment, Cultural History, or Previous Work in the excavation report. However, the report will provide the relevant references for that information.

Four copies of the final report will be submitted to the BLM, CANM. The BLM will submit a copy of the report to the Colorado State Historic Preservation Office.

B. Alternative A –No Action

The No Action Alternative means that the site will continue to get visitors and nothing will be available to explain its significance.

C. Alternatives Considered but Eliminated

Years ago an interpretive flyer was used along with numbered wooden trail posts. Ensuring availability was dependent on staffing, numbers of visitors, and funding. Lost or discarded flyers contributed to litter at the site and along the road. Perhaps most critical to eliminating this alternative is the fact that the old numbered posts were placed in areas that are no longer appropriate to interpret.

No other alternatives were considered.

D. Comparison of Alternatives

The proposed action addresses the need for public education and interpretation while anticipating the increasing visitation to the site by the public. The proposed Novalloy signs (although also subject to vandalism), have the addition of Native American interpretive contributions and will be consistently available for visitors year round.

The no action alternative ignores that visitors want information about the site, and may be more inclined to find out for themselves what is there, or be less protective of the site if they witness vandalism.

IV. AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

A. General Setting

The surrounding terrain is designated as the "Great Sage Plain" of the Canyon Lands section of the Southern Colorado Plateau Physiographic Province (Fenneman 1931). More specifically, the area is geologically located atop a gently rolling, dissected plateau at the southeastern margin of the Paradox Fold Belt, north of the Blanding Basin and west of the Four Corners Platform (Baars 1983).

The local landform appears as a high plateau, heavily dissected at the south margin by well established, narrow-bottomed canyons containing springs and intermittent drainages. The plateau, which contains the project area, is bounded topographically to the north and east by the Dolores River, the south by the Mancos and San Juan Rivers, and to the west by Montezuma Canyon. The exposed mesa caprock to the south consists of Upper Cretaceous age Dakota Sandstone, a highly carbonaceous cross-stratified, coarse-grained sandstone containing shale outcrops. Stones utilized for the construction of Lowry Pueblo are of the Dakota sandstone, presumably quarried nearby from Cow Canyon.

Soils within the project area consist of aeolian loess and alluvial residual decomposed sediments from sandstone and shale outcrops. Texture varies from sandy loam to sandy clay loam or silty clay loam. Generally, the narrow canyon bottoms contain a moderate to deep layer of medium to fine-grained silty sand.

Ecologically, Sand Canyon Pueblo is located within the upper limits of the Upper Sonoran Zone. Flora in this life zone is typified by a pinon-juniper overstory with desert shrub understory. A number of grasses, sedges, forbs and shrubs are found locally. Blue grama, western wheatgrass, Indian ricegrass, side oats grama, ephedra, saltbush, rabbitbrush, big sagebrush, prickly pear, Rocky Mountain bee plant, and greasewood have been noted.

Animal species within the area are congruous with the major life zone. Mammals include mule deer, mountain lion, rabbit, skunk, bats, raccoon, coyote, and black bear. A large number of birds, rodents, reptiles and some amphibians may also be found.

The local climate is semiarid continental with low relative humidity. The summers are mild with warm to hot days and cool nights. The average diurnal temperature variation may exceed 45 degrees Fahrenheit (25 Centigrade). The winters are moderate with the potential for sustained sub-freezing temperatures from November through March. Annual precipitation averages 12 inches (30.6 cm). Only approximately one-third of this moisture occurs in the summer months,

leaving springs and seeps within the canyons as the permanent natural water sources. Thus, the winter snowpack significantly contributes to the available moisture during the following growing season. The growing season extends from approximately April through September.

Lipe et al. (1999) have reconstructed the project area's paleoenvironment utilizing tree ring, sedimentary sequences, faunal remains, plant macrofossils and pollen records. Their research suggests that during the Puebloan occupation, the project area is near the northern and upper elevational limit for successful maize agriculture:

"Proxy records suggest that the ideal growing conditions have fluctuated in the past and these fluctuations undoubtedly affected where farming could be practiced and, ultimately, if it could be undertaken at all. At present...it appears that the Medieval Warm period (ca. A.D. 800-1200) and the Little Ice Age (ca. A.D. 1250-1850) were key elements in the Puebloan ability to dry-farm maize in the Four Corners region and the inherent climatic characteristics of each period may have produced environmental gradients of the proper proportions to contribute to population movements within the region and ultimately to the complete abandonment of the Northern San Juan River drainage in the thirteenth and fourteenth centuries" (Lipe et al. 1999:50).

B. Critical Elements

No significant impacts from the Proposed Action or the alternatives would significantly impact:

- ground or water quality/non-point source pollution;
- hazardous or solid wastes;
- Wilderness or Wildemess Study Areas;
- threatened or endangered species;
- disadvantaged economic or minority groups;
- prime or unique farmlands;
- wild and scenic rivers;
- paleontological resources; or,
- air quality.

The proposed action is located within an archaeological site considered eligible to the National Register of Historic Places, and is likely to have Native American religious concerns.

Affected Environment:

Cultural Resources

Sand Canyon Pueblo (5MT765) is located approximately 14 miles northwest of the city of Cortez in Montezuma County, Colorado. It is located on lands administered by the Bureau of Land Management, Canyons of the Ancients National Monument. The site is located at the head of Sand Canyon, and encompasses both sides of the drainage.

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The site consists of a large Ancestral Puebloan habitation containing at least 420 surface rooms and 90 kivas. It was occupied during the Great Pueblo Period, between A.D. 1250 and A.D.1275. It has already been determined to be eligible for inclusion on the National Register of Historic Places. Excavations were conducted at the site by the Crow Canyon Archaeological Center between 1984 and 1994. Approximately 7 percent of the site was excavated during that time.

Sand Canyon Pueblo is already minimally developed for public visitation. There is a graveled parking lot/ trail head located to the east of the site on County Road N, and an existing trail runs from the parking lot to the site. At the pueblo itself, there is an existing rock lined, native surface (soil and bedrock) interpretive trail that provides public access on both sides of the site.

Consultation with the Colorado State Historic Preservation Officer signed on May 16, 2002, resulted in a determination of no adverse effect for this project.

Native American Religious Concerns

Twenty-four Native American tribes have claimed cultural affiliation to the landscape that is now known as Canyons of the Ancients National Monument, in which Sand Canyon Pueblo is a part. Each tribe is being consulted individually through a formal request for comments of this draft environmental assessment. Comments and suggestions will be considered by the decision-making official prior to the finalization of this environmental document. Please refer to the Consultation, Coordination and Public Participation section for a complete list of contacts.

This interpretive sign project has been driven by Native Americans participation since its inception in 1994. Nine statements of personal interpretation by Native Americans are directly quoted on the actual signs, with the full written permission of the individuals.

C. Non-critical Elements

No significant impacts from either the Proposed Action or the alternatives are expected for the following Non Critical elements:

- access and transportation;
- forest management;
- geology and minerals;
- hydrology and water rights;
- land status or reality authorizations;
- noise;
- range management;
- soils;
- visual resources; or
- aquatic or terrestrial wildlife.

Affected Environment:

Recreation

Sand Canyon Pueblo is an active recreation destination point within the Canyons of the Ancients National Monument.

Monitoring of recreational impacts in the Sand Canyon area of Southwestern Colorado has occurred since 1975. This popular hiking, mountain biking and horseback-riding area lies about 12 miles west of Cortez along McElmo Creek just north of Sleeping Ute Mountain. Dispersed back country visitation to this area has dramatically increased since 1989 with significant increases over the past three years. The number of visitors to this area is estimated at 15,000 annually with most use occurring during the spring and fall months. With the recent designation of the Canyons of the Ancients National Monument, it is expected that the Sand Canyon area will receive even more visitation.

Although visitors may use the Sand Canyon Trail without directly going into the archaeological sites in the area, the historic significance of the buildings and their associated landscape provides important context.

D. Environmental Consequences & Mitigation:

1. Proposed Action: The proposed action will impact the surface and 50cm. below surface for seven small locations within or near an archaeological site that has significance for Native Americans, archaeologists and the general public. Removal of the old numbered posts will leave a small hole at each location.

Mitigation:

--Work with Native Americans from the beginning of the project to determine what cultural information is appropriate to share with the public about this important place.

--Work with archaeologists from the beginning of the project to determine what archaeological information is appropriate to share with the public about this important place.

--Make post holes as small as possible for the stability of the sign.

--Select sign locations carefully for the purposes avoiding any further disturbance of the site while interpreting specific features of interest.

--Use existing maps and notes from previous work at Sand Canyon Pueblo to ensure the sign locations are where we think they are in relationship to the architectural features.

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- Hire archaeologists to carefully excavate the sign post locations, just in case some unexpected features are discovered.
- Stop work if unexpected features are discovered until the Monument Archaeologist is able to assess the situation and/or find an alternative location.
- Document all work thoroughly and professionally and fulfill all conditions required by archaeological permit (analysis, curation, reporting, etc).
- Use interpretive text to increase public respect and understanding of Sand Canyon Pueblo, its people and its history.
- Use the educational opportunity in a positive way so as to increase advocates for cultural preservation and site protection.
- Backfill any holes left from the removal of the old numbered interpretive posts.

2. Alternative A: The No Action alternative is the most likely alternative to adversely impact cultural resources in the area because of increasing public visitation. Not installing signs prevents enhancing educational opportunities for visitors and limits opportunities for visitors to understand and gain respect for the significance of Sand Canyon Pueblo.

Mitigation:

The No Action alternative does nothing to mitigate the damage of visitation to the affected cultural resources, nor does it promote public respect and understanding of Native American perspectives at Ancestral Puebloan places, archaeological values, or resource protection laws.

V. CONSULTATION, COORDINATION AND PUBLIC PARTICIPATION

PERSONS/AGENCIES CONSULTED

Jim Green, Colorado Historical Society, Office of Archaeology and Historic Preservation.

Native American consultation:

The Northern Ute Tribe
The Ute Mountain Ute Tribe
The Southern Ute Tribe
The Navajo Nation
The Jicarilla Apache Tribe
The Hopi Tribe
The Pueblo of Acoma
The Pueblo of Cochiti
The Pueblo of Isleta
The Pueblo of San Felipe
The Pueblo of Santa Ana
The Pueblo of Santo Domingo
The Pueblo of Jemez
The Pueblo of Laguna
The Pueblo of Sandia
The Pueblo of Zia
The Pueblo of Zuni
The Pueblo of Nambe
The Pueblo of San Juan
The Pueblo of Picuris
The Pueblo of Pojoaque
The Pueblo of San Ildefonso
The Pueblo of Santa Clara
The Pueblo of Taos
The Pueblo of Tesuque
The All Indian Pueblo Council
The Eight Northern Indian Pueblo Council
The Five Sandoval Indian Pueblos, Inc.
Southern Pueblos Governors Council

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Bureau of Land Management.

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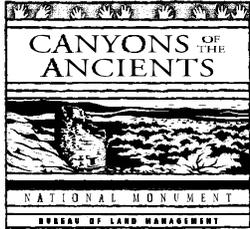
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1999 *Colorado Prehistory: A Context for the Southern Colorado River Basin*. Colorado Council of Professional Archaeologists, Denver, Colorado.

Appendix A
Sand Canyon Pueblo Interpretive Signs
with Text and Graphics



SAND CANYON Pueblo and Trail

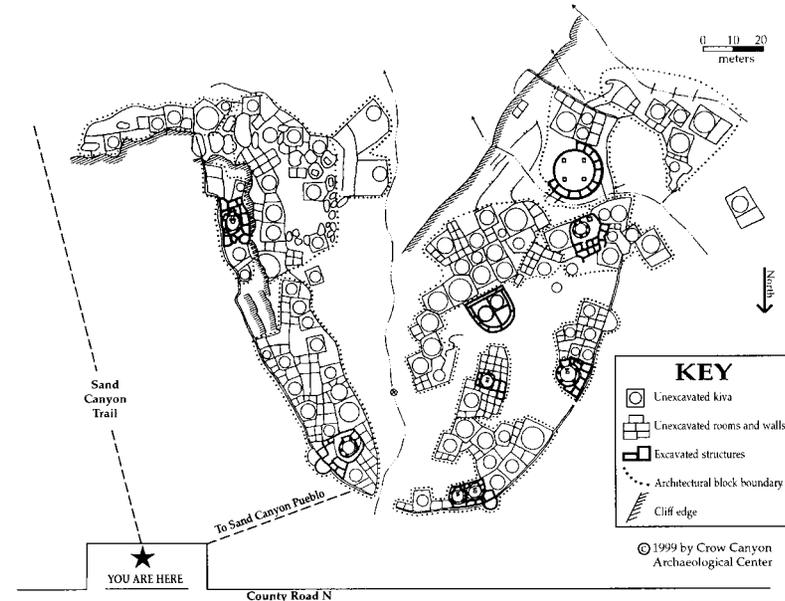
Welcome to the Sand Canyon Pueblo and Sand Canyon Trail

The Sand Canyon Trail is straight ahead, and leads toward McElmo Canyon, 6.5 miles (10 km) away. Sand Canyon Pueblo is to your right, 100 yards (31 m) west of here. Several hundred people lived at Sand Canyon Pueblo between A.D. 1245 and 1290. Some sections were excavated by archaeologists from 1983 to 1993, then reburied to preserve the site.

Today the pueblo looks like a rubble mound with few visible walls. But it remains very much alive for modern Pueblo people, whose ancestors lived in this region for centuries.

We have a Hopi word for this area, kiiseo, it refers to ancestral place in the northeast. Hopi people do return to some of these places; in that way the connection is maintained.... Many different Pueblo people are linked to these places.

— Harlan Mahle , Hopi



Modern Pueblo people always focus on mountains and water, our ancestors did too.... There were people here who called this place home.

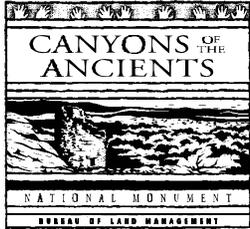
— Vernon Lujan , Taos Pueblo

Visitors here should be aware of the relationship of this community to nature.... When you look out from this place you see the mountains, the sky, the snow. The designs of petroglyphs, pottery, and buildings are symbolic of these things.

— Petuuche Gilbert, Acoma Pueblo

Thanks to Pete Peterson for the pueblo drawings and Crow Canyon Archaeological Center for conducting the Pueblo interviews.





When you are at these places you should leave a prayer to the ancient ones and the spirits. Springs are very, very sacred. Don't disturb them.

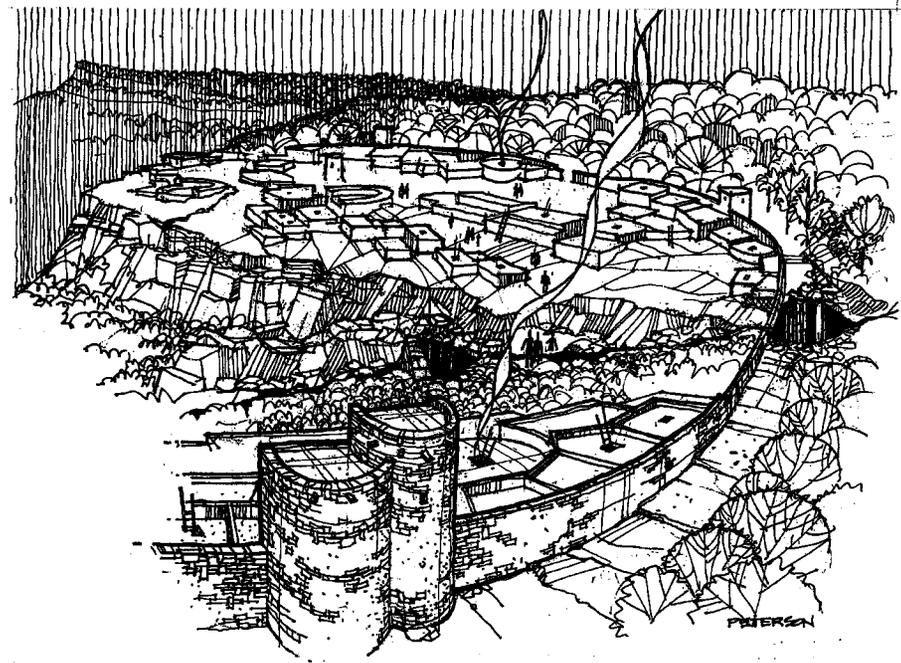
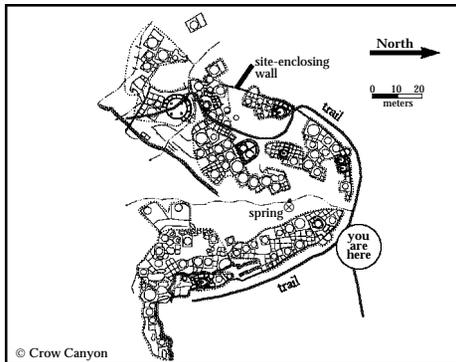
— Harlan Mahle, Hopi

You are standing at the northeast edge of the pueblo. Please stay on the trail, which branches to the right and left.

A low wall enclosed the village on three sides. The wall probably dammed seasonal rain and snow melt in the shallow drainage to your right, which may have helped recharge the spring inside the village.

The village was built in a U-shape surrounding a small spring. This spring was the spiritual heart of the village, and was one reason the people chose this location. According to Pueblo tradition, the human

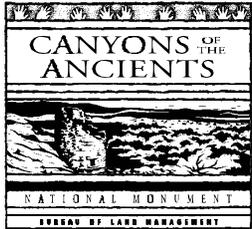
race entered our world through a spring or lake.



Our people emerged from the lake, and it is of great symbolic importance.... Each community has a physical center but there is a symbolic center, too; [The] centers of Sand Canyon Pueblo would have been in each kiva's nansipu, in the centers of the plazas, and definitely at the spring.

— Tito Naranjo, Santa Clara Pueblo





Sand Canyon Pueblo was a close-knit community. To build this place took collective decision making and strong leadership. Look at how the buildings are organized. There was a concern for the whole community, not just for the individual.

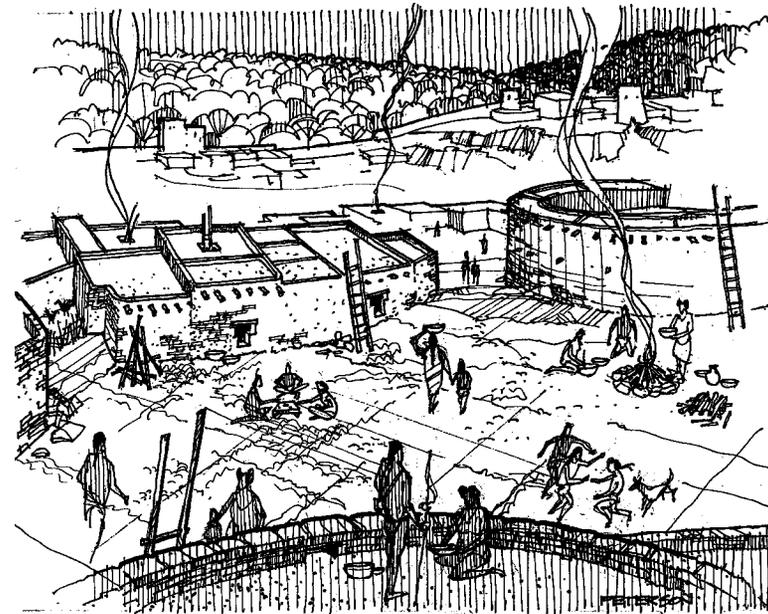
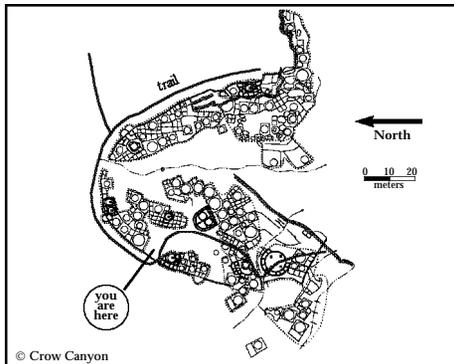
— Petuuche Gilbert, Acoma Pueblo

A few feet back, you stepped over the remains of a wall that surrounds the pueblo on three sides. The enclosing wall helped define the village by separating inside from outside space.

You are now on the west side of the pueblo in a plaza, an open area within the village. Plazas provide a focus for community activity. In Pueblo culture, community is a very strong concept— more like a family than a piece of real estate.

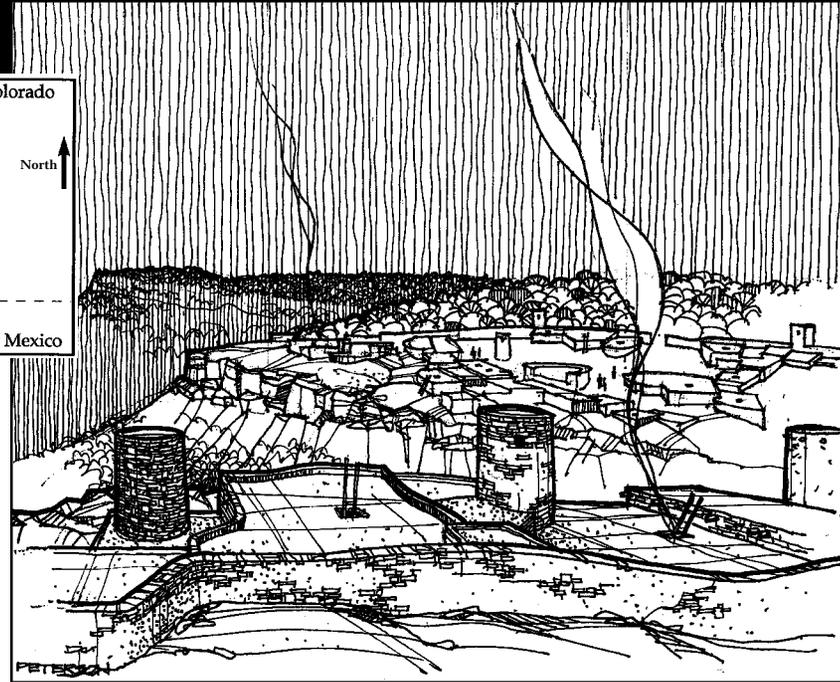
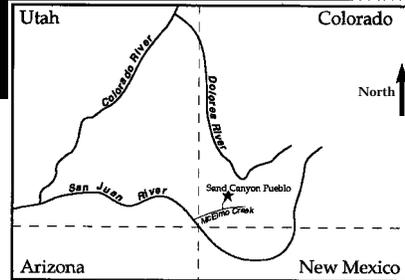
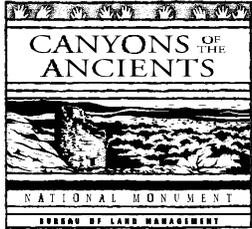
This side of Sand Canyon Pueblo contains most of its kivas and open areas. Perhaps most public activities took place here. The east side of the village, with fewer kivas and public spaces, may have served a different purpose. The architectural contrast may reflect a social division within the community. Many

modern Pueblo tribes divide themselves into two segments or moieties, each with distinct responsibilities for the benefit of the whole group.



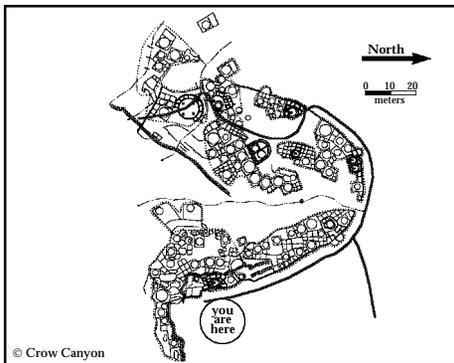
Living in a pueblo you get the feel of your neighbors, not only your family, but your neighbors— the whole community. You feel the love and understanding, the compassion that is needed in living in a group like that.

— Esther Martinez, San Juan Pueblo



Excavations showed that this room block was originally L-shaped and more rooms were added later. Tree-ring samples from the central kiva indicate it was built in A.D. 1262. However, many kiva roof beams were missing from the debris and were probably reused in other buildings. Throughout the village there is evidence that some rooms were dismantled while others were still being built.

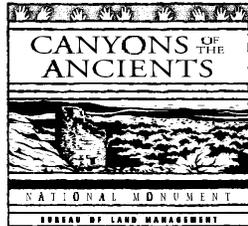
From here you can see the whole village site and the upper reaches of Sand Canyon. Sand Canyon descends into McElmo Canyon, which drains into the San Juan River. Many Ancestral Pueblo villagers lived along



tributaries of the San Juan during the 1200s. Fewer people lived in the upper Colorado and Dolores River drainage areas.

A tower, up to 15 feet tall originally, spanned a wide gap in the bedrock on the cliff edge, perhaps allowing entry from below. Sand Canyon Pueblo had at least 14 towers. Towers were not always built on the highest points, so they were probably not lookouts.

Examination of large public buildings of this village, and a study of smaller settlements in the canyon below, suggest that Sand Canyon Pueblo was a community center for a much larger area. But the extent of cooperation or competition among local communities is uncertain, and remains an important research question for archaeologists.

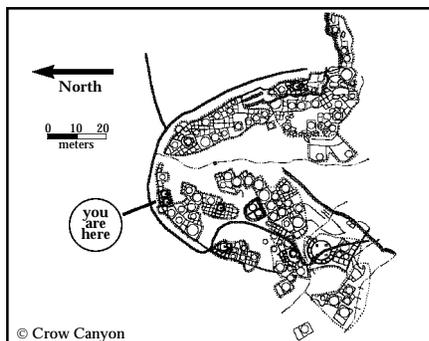
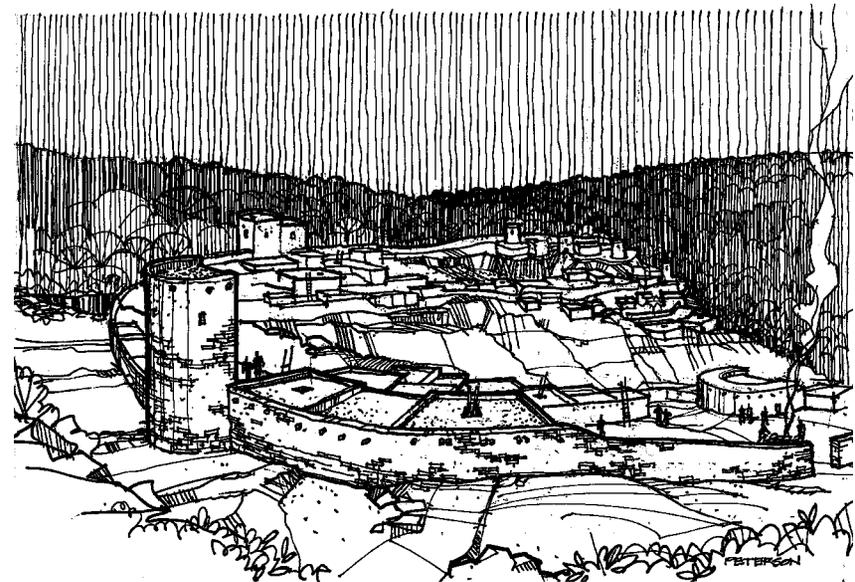


At Hopi, kivas are not as close to living areas as they are here. Thus, kivas here may have been used on a daily basis and not necessarily associated with ceremonial functions.... Kivas at home are not used in this way; they are sacred and not for living in.... [These] kivas may have been of more than one type, some less sacred and others used only by certain clans, families or groups.

— Delfred Leslie, Hopi

Sand Canyon Pueblo is one of several dozen large prehistoric villages in this area dating to the 1200s. With about 420 rooms, 100 kivas, and 14 towers, it is almost twice as big as Cliff Palace in Mesa Verde National Park. Thousands of smaller contemporary communities also dot the landscape.

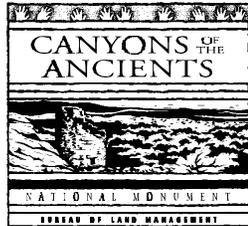
This pueblo contains 13 room blocks or clusters of joined rooms, which vary in size and layout. Some have many kivas; others have only a few. The size and number of the room blocks—and the order in which they were built—are clues to how the villagers organized themselves socially.



To a trained observer, aligned rocks and circular depressions reveal rooms used for sleeping, cooking, storage, or social events. Vegetation changes also help show the location of ancient buildings.

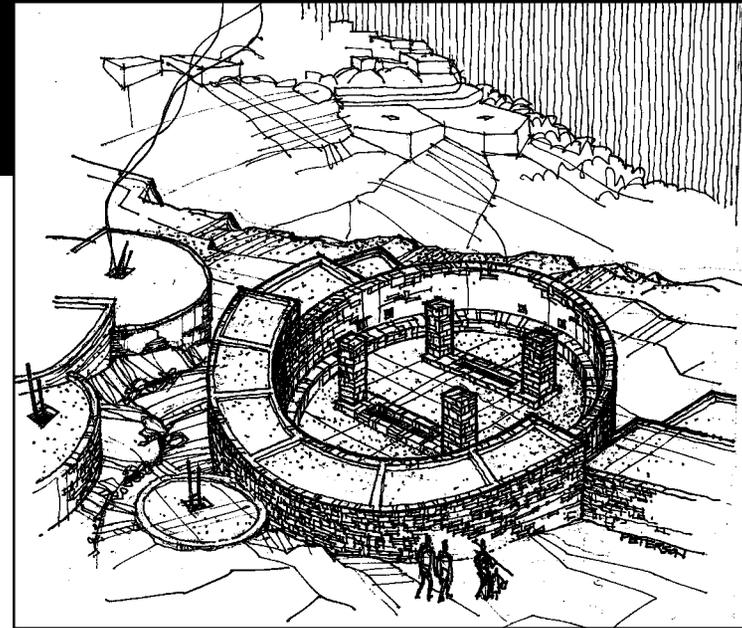
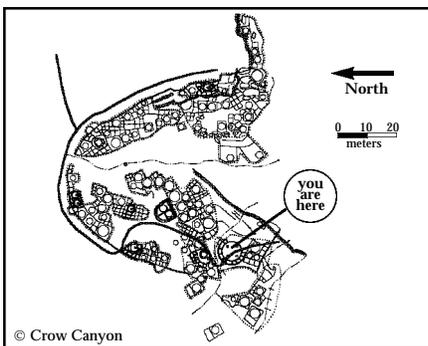
Most archaeological sites are left unexcavated to preserve them for the future. Excavated sites are usually reburied after study. If an excavated site is left open, it must be stabilized and periodically repaired or the exposed walls will collapse. Modern tools and techniques sometimes make excavation unnecessary.





This was the site of a great kiva, different in both size and architecture from all the other “household” kivas at Sand Canyon Pueblo. Great kivas were more common during earlier time periods, but were rare by the 1200s when Sand Canyon Pueblo was built. This great kiva and the D-shaped structure are examples of public buildings used by the entire community. Other, more intact, great kivas can be seen today at Lowry Pueblo, Chaco Canyon, and Aztec Ruins National Monument.

Although the architecture of great kivas has disappeared, their function may survive in modern Pueblo villages. Modern kivas do not belong to a single household, as seems to have been customary during the 1200s. Instead, they serve as gathering places for religious and social events.

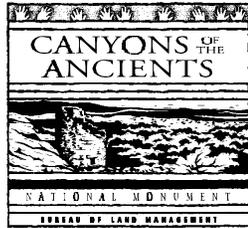


Four pillars of stacked stone helped support the great kiva’s roof. Footings for these pillars are visible on the ground surface.

An arc of second-story rooms may have opened onto a rooftop plaza. But hardly any roofing material was recovered during excavation, indicating that this structure may have had no roof at all during its final years.

This trail continues south a short distance, and ends at the cliff edge.





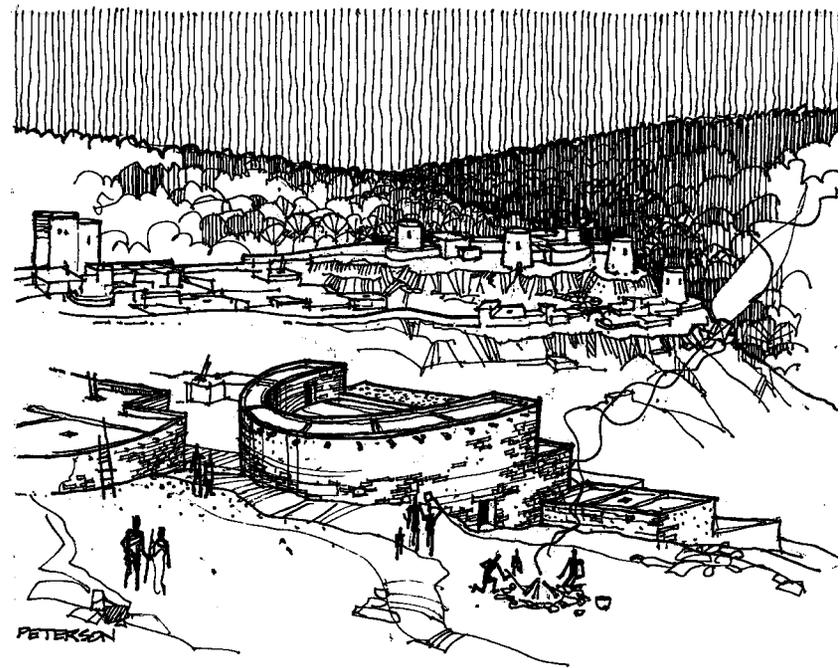
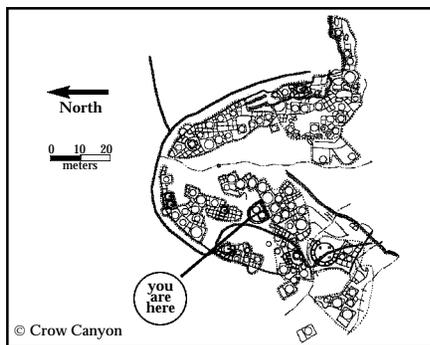
Many structures in pueblos are intended for ceremonial use. The contents of the ceremonial and ritual life hold great complexity in the pueblo setting. They display a sophisticated knowledge of architectural technology. Lunar and solar cycles have a great influence on our religious beliefs, and they influenced the architectural alignments and layouts found in these ancient places.

— Joe Dishta, Zuni Pueblo

This double-walled, D-shaped structure was one of the earliest and largest units in the pueblo (about 50 feet wide). It was probably built as a community project shortly after A.D. 1250. Places like this, called public architecture, indicates that Sand Canyon Pueblo was a gathering place for residents of smaller settlements nearby.

The long outer rooms originally surrounded two interior courtyards, and may have stood two stories high. In about 1261 and 1270, two kivas were built within the courtyards. The kiva rooftops formed a new, elevated surface. The D-

shaped structure was visible throughout the village, so it probably served an important social function.



Appendix B
State Historic Preservation Office Correspondence
for
Determination of No Adverse Effect