

MORTAR RIDDLE SITE EXCAVATION

ENVIRONMENTAL ASSESSMENT
OR-04-027-031

Bureau of Land Management
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CHAPTER I: INTRODUCTION: PURPOSE OF AND NEED FOR ACTION

A. Background

The Mortar Riddle Site was first recorded in 1992 by a contractor inventorying the prehistoric sites in the Riddle Brothers Ranch National Historic District. Since that time the site has been monitored frequently. It has a very rich array of surface artifacts and is in close proximity to public access. In 2002 the site was re-recorded and surface artifacts mapped and collected. The site was slated for limited subsurface testing in summer 2003. The 2003 field work yielded an enormous amount of data including numerous prehistoric tools, fish and mammal bones, charred seeds and wood, and evidence of fire hearths. The site appears to be a summer long-term camp where prehistoric people not only harvested the rich biotic diversity of the immediate area surrounding the camp but also accessed the summertime big game habitat of Steens Mountain. The 2004 field work is proposed in order to answer a number of archaeological questions such as:

1. Were there shelter or house structures in the camp and is there evidence in the site deposits?
2. What animals (including fish) were processed at the site?
3. What plants were processed at the site?
4. How old are the oldest deposits at the site? Radiocarbon dates of charcoal taken in the test excavations yielded a date of occupation from 500 to 1450 AD.
5. Is there any evidence at the site suggesting connections to other prehistoric people in the northern Great Basin?

Emily Mueller, anthropology graduate student at University of Wisconsin, is the main researcher at the site. She, and the Burns District Archaeologist Scott Thomas, are presenting the results of the 2003 testing at professional conferences in 2004 and would again team up reporting the results of the proposed 2004 excavations. Ms. Mueller is using the data from the site as a basis for her Master's thesis with a probable completion date of spring 2005.

B. Purpose

The purpose of the excavation is to fully describe the contents and condition of the Mortar Riddle Site with an attempt to answer questions posed above. The data derived from the field reports and Master's thesis will be used in public education and interpretive activities.

C. Need

Scientific excavation would produce data necessary to answer questions about how the Mortar Riddle Site fits into the prehistory of the Steens Mountain region and northern Great Basin.

D. Location

The Mortar Riddle Site (35HA2627) is located in Riddle Brothers Ranch National Historic District, at T. 33 S., R. 32³/₄ E., Section 31, NW¹/₄ of NE¹/₄. The Historic District access road bisects the site.

E. Proponent

The proposed research is a cost-share partnership between the Burns District Bureau of Land Management (BLM) and Emily Mueller of University of Wisconsin at Milwaukee.

F. Management Authority and Conformance with Land Use Plans

BLM is required by laws, regulations, and Executive Orders to manage cultural resources in such a way that they would be preserved and protected from destruction, and that appropriate uses would be made of such resources. The Antiquities Act of 1906 provides for the protection of archaeological resources on all public lands and requires permits for those who excavate or appropriate these resources. The Archaeological Resources Protection Act of 1979, as amended, defines and protects archaeological resources on public lands, establishes a permit system for resource users, and requires agencies to provide for public education and continuing inventory of public lands. Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended, provide a national policy for historic preservation, establish a National Register of Historic Places designation for important properties, protect sites from destruction without appropriate data recovery, and require that historic properties be utilized in agency missions, when warranted. Executive Order 11953 directs Federal agencies to inventory public lands and to nominate eligible properties to the National Register of Historic Places. Executive Order 13287 entitled "Preserve America" further requires Federal agencies to "prepare an assessment of the current status of its inventory of historic properties" and to "ensure that the management of historic properties in its ownership is conducted in a manner that promotes the long-term preservation and use of those properties." These laws, regulations, and Executive Orders further require that such management be coordinated with the appropriate American Indian Tribes and individuals.

The proposed action conforms with the various laws, regulations, and Executive Orders and to the Riddle Brothers Ranch Cultural Resource Management Plan/Environmental Assessment (CRMP/EA). The CRMP states in Appendix 1-6 that:

"Currently know (sic) prehistoric sites and those recorded during the Class III inventory will be subject to subsurface test evaluations as well, to determine the nature and extent of their data base and to facilitate use allocations for future management of the Historic District."

The proposed action is in conformance with State, local and Tribal land use plans, laws and regulations.

CHAPTER II: ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. No Action Alternative

The “no action” alternative is equivalent to existing management of the Mortar Riddle Site. Existing management includes site monitoring, periodic surface collection and mapping, and limited test excavation. Limited test excavation in this case refers to excavation units generally no larger than 18 inches by 18 inches in surface area and up to 3 feet deep. Limited test excavation units are backfilled after completion.

B. Proposed Action

The proposed action consists of the following:

1. Scientific archaeological excavation of up to five units, not to exceed 6 feet long by 3 feet wide by no greater than 5 feet deep. This activity is accomplished using hand tools such as shovels, trowels, soil augers, and wheelbarrows. Unit perimeters would be flagged to alert passersby of the hazard. Excavation activities would adhere to safety requirements set forth in 29 CFR 1926.652(a)(1)(ii) which states “excavations that are less than 5 feet (1.52m) in depth and examination of the ground by a competent person provides no indication of a potential cave-in.”
2. There is a possibility that prehistoric human remains could be found during the excavation. If such remains are encountered, the excavation involved would cease, the unit containing the human remains would be closed and the Burns Paiute Tribe would be contacted.
3. The proposed project would occur between July 6 and August 1, 2004.
4. The sediments from the excavation would be screened through 1/8-inch screen using water sprayed through common garden nozzles. Water would be furnished from the BLM administrative site well via 2-inch fire hose run cross-country to the site. This would eliminate the use of volume pump/water buffalo, used in the 2003 test excavations. It is expected that four nozzles would be operated approximately 4 hours a day, every day during the excavation. Each hose would discharge approximately 250 gallons of water a day as well as sediment less than 1/8-inch in size. Total water consumption a day would be 1,000 gallons and for the entire excavation 20,000 gallons. The water screening apparatus would be set up over a relatively gentle, eroded surface at the south boundary of the site. The screening station would be approximately 100 yards uphill of the access road.

Sediment would drop out below the screening stations and used to backfill the excavation units when completed. Water would percolate into the ground and is not expected to reach the access road. However, weed-free straw bales would be on hand to staunch the flow if it reaches the road.

5. A crew averaging 10 people would be working at the site every day. A certain amount of area of the site would be impacted by foot traffic to and from the water screening station/note-taking area and around excavation units. The development of trails would be minimized by flagging walking routes and asking the crew to use these routes in the back and forth traverse of the site. The ground around excavation units/screening and note-taking areas would be protected by covering the mineral soil and low vegetation with heavy canvas. Trails and other trampled areas would be rehabilitated by broadcast seeding with weed-free native species such as bluebunch wheatgrass and Great Basin wildrye and raking the seed into the soil.

All but two of the excavation crew would camp at South Steens Campground. The project proponent and her field assistant would be staying at the Riddle Brothers Ranch administrative site. The crew would not bring vehicles to the site. They would be transported via a single vehicle from the campground to the site every day.

6. Excavation units would be refilled at the end of the excavation with sediment stock piled at the screening stations and a weed-free silt/sand mixture purchased from a local sand and gravel company. Sediment would be wheeled to excavation units with wheelbarrows and dumped. Once units are overfilled and tamped, native seed such as Great Basin wildrye and Idaho fescue would be broadcast and raked in.
7. Parking along the access road within or adjacent to the site would be discouraged. A previously disturbed pull-out 40 yards to the north of the site would accommodate vehicles turning around and temporary parking. Other parking would be in the BLM administrative site lot 150 yards south of the site.
8. Human waste disposal would be accomplished by setting up a portable outhouse at the site during the excavation.
9. A botanical clearance would be completed prior to implementation of this project.

CHAPTER III: AFFECTED ENVIRONMENT

| CRITICAL ELEMENTS | AFFECTED OR NOT AFFECTED | EXPLANATION FOR NOT AFFECTED |
|---------------------------------------|--------------------------|---|
| ACECs | Not Affected | NA |
| Adverse Energy Impact | Not Affected | NA |
| Air Quality | Not Affected | Water screening would eliminate dust |
| Cultural Heritage | Affected | |
| Environmental Justice | Not Affected | NA |
| Farmlands (prime or unique) | Not Affected | NA |
| Floodplains | Not Affected | NA |
| Hazardous Materials | Not Affected | NA |
| Migratory Birds | Not Affected | NA |
| American Indian Religious Concerns | Not Affected | No American Indian traditional or religious uses of the area of effect are known. |
| Noxious Weeds | Not Affected | NA |
| Paleontology | Not Affected | NA |
| Special Status Species-Fauna | Not Affected | NA |
| Special Status Species-Flora | Potentially Affected | |
| Water Quality | Not Affected | NA |
| Wetlands and Riparian Zones | Not Affected | NA |
| Wild and Scenic Rivers | Affected | |
| Wilderness and Wilderness Study Areas | Not Affected | NA |
| | | |
| NONCRITICAL ELEMENTS | | |
| Fire Management | Not Affected | NA |
| Fisheries | Not Affected | NA |
| Forestry | Not Affected | NA |
| Lands and Rights-of-Ways | Not Affected | NA |
| Minerals | Not Affected | NA |
| Operations | Not Affected | NA |
| Livestock Management | Not Affected | NA |
| Reclamation | Not Affected | NA |
| Recreation | Affected | |
| Socioeconomics | Not Affected | NA |
| Soils | Affected | |
| Vegetation | Affected | |
| Visual Resources | Affected | |
| Wild Horses and Burros | Not Affected | NA |
| Wildlife | Not Affected | NA |
| Woodland Resources | Not Affected | NA |

Resources that have been identified as not affected resources are not discussed further in the document.

A. Critical Elements

1. Cultural Heritage

The focus of this EA is an archaeological site. Currently the site is in good condition and has been slightly damaged by erosion. Current management includes annual monitoring, surface collection, and mapping.

2. Special Status Species - Plants

Special Status plant species may occur near the project area. *Carex cordillerana*, a Bureau Assessment Species, occurs in the Blitzen River Canyon, near Blitzen Crossing. No other Special Status plant species have been documented near the project area.

3. Wild and Scenic Rivers

The Mortar Riddle Site is within the Riddle Brothers Ranch National Historic District and the Little Blitzen River segment of the Donner und Blitzen National Wild and Scenic River. The historic structures and features and associated meadows are an Outstandingly Remarkable Value (ORV) but the prehistoric sites within the District are not considered ORVs. The segment is designated as “wild,” although the site has an open road bisecting it and it is 150 yards from an actively used administrative site. The road is open to the public 2 days a week and gets a moderate amount of foot traffic when it is closed. BLM employees use the road at any time day or night.

B. Noncritical Elements

1. Recreation

The Mortar Riddle Site is within an area that receives about 500 recreational visitors a year. The site is about 1.5 miles from the South Steens Campground, the only developed campground along the South Steens Loop Road.

2. Soils

Soil in the proposed project area is sandy silt with a small amount of pea-sized gravels. Soil depth in the site area varies between 6 inches and 5 feet. Most of the archaeological deposit occurs in the deeper soils.

3. Vegetation

Vegetation within the proposed project area consists of big sagebrush, western juniper, sego lily, Great Basin wildrye, Idaho fescue, and bluebunch wheatgrass.

4. Visual Resources

The project area is classified as Visual Resource Management (VRM) Class I because it is in the Donner und Blitzen Wild and Scenic River corridor. The project area is a flat bench with scattered gray-green sagebrush and brighter green Great Basin wildrye. Soil colors are generally a light tan. Rock outcrops in the area are composed of very dark basalt.

The VRM Class I objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

CHAPTER IV: ENVIRONMENTAL CONSEQUENCES

A. No Action Alternative

Critical Elements

1. Cultural Heritage

Mortar Riddle Archaeological Site would not be substantially affected under the no action alternative. Although the access road that bisects the site is maintained by blading once every several years, this activity does not continue to affect the site. Previous blading has disturbed the site contents down to sterile, Pleistocene age gravels. The site would continue to be monitored and artifacts collected and mapped as they are uncovered. Archaeological data would slowly accumulate but some of the general questions such as time span of use, presence of living floors or structures, types of plants and animals collected and processed by the prehistoric occupants of the site would go unanswered.

2. Special Status Species - Plants

No effect on Special Status plant species would occur under the no action alternative because they probably do not exist in the site area. *Carex cordillerana*, a Bureau Assessment Species, is not part of the vegetative community at the site. The site is located on an abandoned, rocky stream terrace at least 50 feet above the Little Blitzen floodplain.

3. Wild and Scenic Rivers

No effect on Wild and Scenic Rivers would occur under the no action alternative.

4. Recreation

No effect to recreation would occur under the no action alternative.

5. Soils

Except for a slight loss of sediment due to erosion over the years, soils would be unaffected under the no action alternative.

6. Vegetation

Only slight affects on vegetation would occur under current management. Slight vegetation trampling during annual monitoring and surface collection/mapping would be expected.

7. Visual Resources

There would be no effects to visual resources. VRM Class I objectives would be met.

B. Proposed Action Alternative

1. Cultural Heritage

Mortar Riddle Archaeological Site would not be substantially affected under the proposed action. The proposed excavation would disturb less than 1 percent of the total site volume. The negative effects of the disturbance include total destruction of the stratigraphic context in the five proposed units. However, the positive effects of scientific excavation would include collection of data having bearing a number of archaeological questions such as time span of site use, presence of living floors or structures, types of plants and animals gathered and processed by the prehistoric occupants, and connections with other groups of prehistoric people outside the region. Careful notation, measurement, and analysis of artifacts and biological and environmental samples would occur under the proposed action. Additionally, full-scale reporting in the form of a Master's thesis and presented and published articles would result from the scientific study of the site. These documents would help form the basis for heritage education and interpretation on Steens Mountain and elsewhere in the region.

2. Special Status Species - Plants

The site is located on an abandoned, rocky stream terrace at least 50 feet above the Little Blitzen floodplain. No effect on Special Status plant species would occur under the proposed action alternative because they probably do not exist in the site area. *Carex cordillerana*, a Bureau Assessment Species, is not part of the vegetative community at the site. However, a Special Status plant inventory will occur in the proposed project area in June 2004. If Special Status plants are found in the inventory, the excavation units and activity areas would be placed to avoid the plants.

3. Wild and Scenic Rivers

Under the proposed action, activity in the Wild and Scenic River corridor, especially near the administrative site (Gray House) and in the site area, would increase for 1-month. The activity would be noticeable because visitors to the Riddle Brothers Ranch headquarters would pass through the site on the access road. Archaeological equipment such as hand tools, water screens, drying racks, hoses, shade cloth, portable picnic table and chairs, would also be visible from the access road for a month's time. The excavation units and associated ground disturbance would not be visible from the access road. A certain amount of trampling from the archaeological crew would be evident in the site area. This disturbance would be visible but not particularly noticeable. Excavation units would be backfilled, contoured, and seeded with native species occurring on the site. Within one growing season, evidence of the excavation and associated activities would be negligible.

4. Recreation

The proposed project would improve recreation opportunities in the Riddle Brothers Ranch National Historic District because it would enhance the visitors' recreation experiences. Most people are interested in prehistoric archaeology. Visitors to the Historic District would have the opportunity to see an archaeological excavation in detail and receive a guided tour of the operation.

5. Soils

Under the proposed action, up to five excavation units measuring 6 feet long, 3 feet wide, and up to 5 feet deep would be dug. This activity would negatively affect soil structure and stratigraphy within the units. The units would be backfilled to the original surface upon completion of the excavations.

6. Vegetation

Vegetation within the excavation units would be destroyed. Unit location would be selected to avoid as much sagebrush and Great Basin wildrye as possible. These two plants have extensive root systems that can negatively affect excavation activities. Moderate vegetation trampling outside the excavation units within the site would be expected under the proposed action. The backfilled excavation units would be seeded with a weed-free mixture of native grasses. Within one growing season, evidence of the excavation and associated activities would be negligible.

7. Visual Resources

There would be short-term effects to visual resources. Rectangular forms would be added to the landscape through the excavation of 6-foot by 3-foot units. Color contrasts would be created through fresh soil exposures. The excavation equipment would also add a variety of forms, lines, and colors to the landscape. In the short term, the activity and equipment would attract attention, but in the long term, the VRM Class I objective would be met.

8. Cumulative Effects

All of the above-mentioned effects are temporary, lasting from 1-month to a year. Thus cumulative effects, though minor, would be short lived and not persist beyond 1-year.

9. Mitigation Measures

Mitigation measures are either built into the proposed action or are mentioned above in the Environmental Consequences section.

10. Monitoring

Most visible evidence of surface disturbance at the site should disappear within a year of the end of the excavation. The site would be monitored for surface disturbance within a year of the end of the proposed action and then again in 2 years to ensure that full rehabilitation has occurred.

CHAPTER V: CONSULTATION AND COORDINATION

The Burns Paiute Tribe was contacted during the scoping phase of the EA preparation and again for comment when the Draft EA was completed.

CHAPTER VI: LIST OF PREPARERS

Darren Brumback, Fisheries Biologist
Jim Buchanan, Supervisory Range Management Specialist
Gary Foulkes, Planning and Environmental Coordinator
Joe Glascock, Rangeland Management Specialist
Rick Hall, Botanist
John Neeling, Wilderness Specialist
Matt Obradovich, Wildlife Biologist
Lesley Richman, Weed Coordinator
Scott Thomas, Archaeologist
Evelyn Treiman, Outdoor Recreation Planner

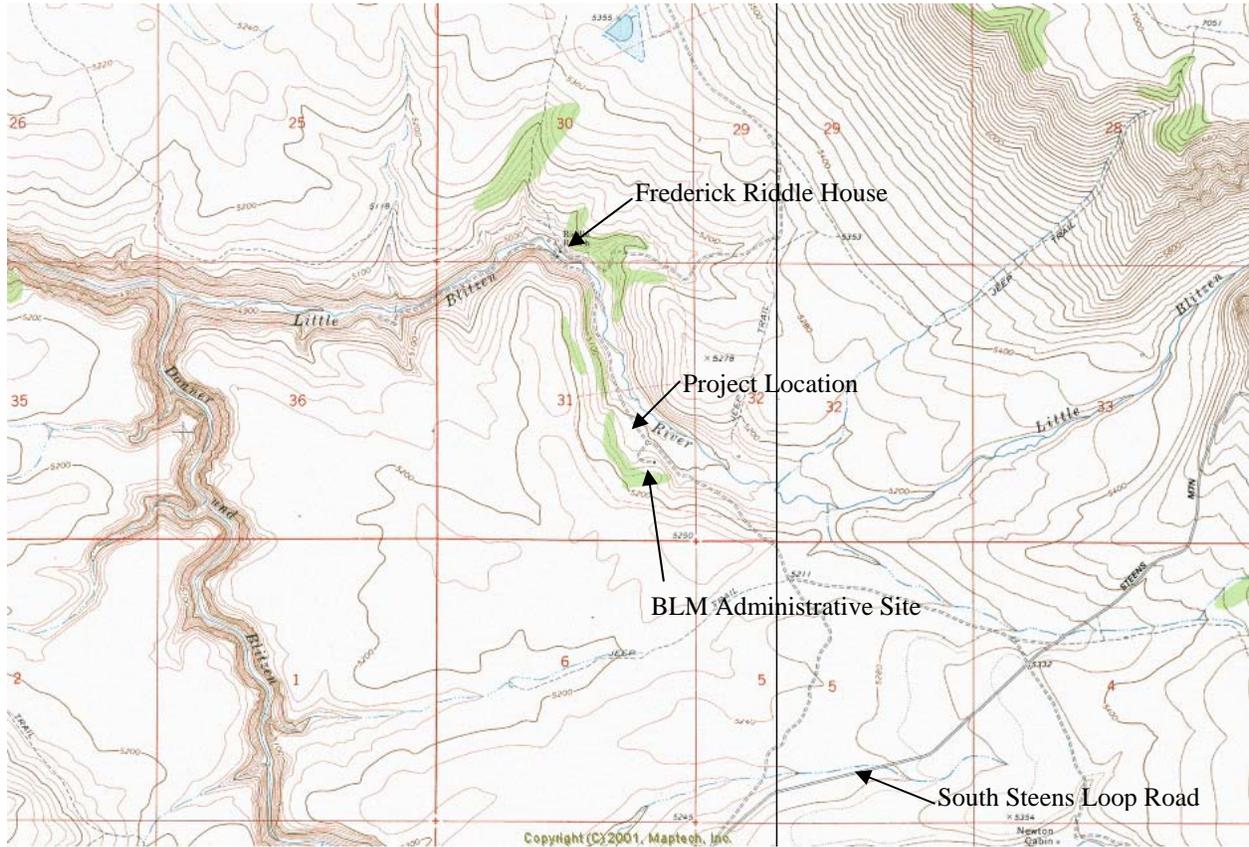
MAPS

Vicinity Map Mortar Riddle Site Excavation



Scale: 1 inch = 25 miles

Mortar Riddle Archaeological Site Excavation
Project Location Map



USGS Tombstone Canyon Quad| USGS Fish Lake Quad
Map Scale Reduced to 1 Mile = 1.5 Miles