

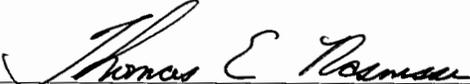
FINDING OF NO SIGNIFICANT IMPACT

Beaty Butte East-West Gulch Projects EA# OR-010-2004-08

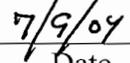
The Bureau of Land Management, Lakeview District, Lakeview Resource Area, has analyzed several alternatives to stabilize the incised channel in East Gulch and to provide faster vegetative recovery in the riparian areas along East Gulch and West Gulch within the Beaty Butte Allotment (0600). The need for action pertains to the continuing incision (down-cutting) of the channel in East Gulch and the need for faster recovery of the riparian areas in the both gulches to proper functioning condition. Stabilizing the channel banks and improving riparian conditions would promote better habitat conditions for wildlife and plant species.

The proposed projects are in conformance with the Lakeview Resource Management Plan/Record of Decision (2003). Though not specifically identified, the proposed projects are consistent with the goals and objectives of the Record of Decision for the Beaty Butte Allotment Management Plan and Final Environmental Impact Statement (1998), and would amend this plan. There are no special management areas, fisheries, known hazardous waste areas, or prime or unique farmlands in the immediate project area. No significant or disproportionate impacts would occur to low income or minority populations. The risk of noxious weed infestation would be low. Neither adverse nor beneficial impact is anticipated to air quality, lands, paleontological resources, or minerals and energy resources. Surveys found no threatened or endangered plants or animals in the project areas. The fence construction would disturb soils and vegetation in about a 10-15 foot wide swath and there would be some livestock trailing along the new fence routes. The new pipelines would sit on the surface and result in almost no ground disturbance, however there would be surface disturbance around the troughs caused by cattle congregation. The ground disturbance could potentially impact cultural resources in some of the area, but this would be minimized by avoidance or other mitigation measures. Impacts to wildlife, rangelands, and water are discussed in detail within the attached EA.

On the basis of the analysis contained in the attached EA and all other available information, my determination is that none of the alternatives analyzed would constitute a major federal action which would adversely impact the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) is unnecessary and will not be prepared.



Thomas E. Rasmussen, Manager
Lakeview Resource Area



Date

BEATY BUTTE EAST – WEST GULCH PROJECTS
Environmental Assessment
(EA#OR-010-2004-08)

CHAPTER 1 - INTRODUCTION

Purpose and Need for Action

The Record of Decision for the Beaty Butte Allotment Management Plan and Final Environmental Impact Statement (AMP/ROD; 1998) guides management activities within the Beaty Butte Allotment (0600). Goals 1, 2, and 3, and Objective 1 of the AMP/ROD specifically direct management actions to benefit riparian habitat within the allotment (page Appendix 1-1). The purpose and need for the proposed action is to move the existing riparian habitats within East Gulch and West Gulch areas toward healthier functioning condition. Specifically, bank stabilization and riparian vegetation recovery are needed in East Gulch. Riparian vegetation recovery is needed in West Gulch.

Aerial photos indicate the channel has been incised (down-cut) for at least four decades. Checkdams were installed along West Gulch in the 1980's to partially address this problem. In 1998, a rangeland health standards assessment was conducted for the allotment. In this assessment, East-West Gulch was described as being in "functional at risk condition with a downward trend". The channel was described as a "G" channel according to the Rosgen Rating System, meaning the channel is incised. In order to achieve proper functioning condition (PFC), the channel will need to widen and form a new floodplain. By definition, a "G" channel will go through this process no matter what type of vegetation currently exists. At the time of the assessment, it was determined that continued livestock use in the area would neither impede nor supplement floodplain development and was not considered to be a significant factor for not meeting the riparian/wetland standard (page Appendix 2-2).

Since the assessment was conducted, some conditions in the area have changed. The riparian vegetation in portions of the area was set back by a wildfire in 2000. Though natural recovery of desired riparian vegetation communities (dominated by perennial grasses, rushes, or sedges appropriate to the ecological site) has been progressing since 2000, it has been hindered in localized areas by concentrated cattle use during permitted years of cattle grazing.

East Gulch is still actively incising, which continues to pose a management concern: hindering development of a healthy riparian system. The unimproved road alongside the incised channel and in the upper watershed drainage of the East Gulch exacerbates the down-cutting effects by concentrating and accelerating water flow from rainfall and snowmelt discharging into the East Gulch channel.

These changing conditions led to the development of an "Action Plan" (Draft dated

January 2004) to address these problems, as well as assist in settling an on-going appeal (in 1998) related to the adoption of the Beaty Butte AMP/ROD. The projects evaluated in this EA would implement part of the “Action Plan” by promoting the stabilization of the incised channel and the recovery of riparian vegetation conditions in both gulches is needed to move towards better functioning riparian areas and habitat conditions for wildlife and plant species.

Location

This analysis area includes the North Pasture of the Beaty Butte Allotment, specifically the East Gulch and West Gulch of Beaty Butte. The Beaty Butte Allotment is in the southeast corner of the Lakeview Resource Area and is in both eastern Lake county and western Harney county. The legal description is T.27S., R28E. sections 13 &14 and & T.27S., R29E. Sections 2,3,4,9,16,17, &18 and T36S., R29E., Section 35 (see Maps 1-6).

Plan Conformance

The proposed project has been analyzed and determined to be in conformance with the following existing BLM plans:

Lakeview Resource Management Plan/Record of Decision (2003)
Proposed Jurisdictional Land Exchange Between Hart Mountain National Antelope Refuge, Fish and Wildlife Service, and Lakeview District, Bureau of Land Management – Warner Lakes Management Framework Plan Amendment/EA (1998)
Integrated Noxious Weed Control Program (2004)
Rangeland Reform ‘94 FEIS and ROD (1995)
Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (1997)
Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (1998)
Interior Columbia Basin Strategy (2004)
Action Plan to Address Concerns Identified in 2003 in Beaty Butte Allotment (draft; 2004)

In addition, the proposed project, though not specifically envisioned within the Record of Decision for the Beaty Butte Allotment Management Plan and Final Environmental Impact Statement (AMP/ROD; 1998), it does meet or conform to Goals 1, 2, and 3, and Objective 1 outlined within the AMP/ROD. The final decision on this proposal would also automatically amend the AMP/ROD with regards to approval of a new project.

CHAPTER 2 - ALTERNATIVES INCLUDING THE PREFERRED PLAN

Introduction

Four alternatives were analyzed in detail: the no action alternative and three action alternatives. In addition, two additional alternatives were considered, but dropped from detailed analysis. These are described in the following section.

Alternative Considered But Eliminated from Further Study

A “No Grazing” alternative was considered, but was eliminated from further study because it had already been addressed in both the Lakeview RMP/FEIS (2003) and the Beaty Butte AMP/FEIS (1998) and was not consistent with the final decisions of both of those analyses.

A second alternative that relied solely on the use of more riders to herd cattle from sites of concern was considered, but was eliminated because it did not meet the Council on Environmental Quality’s (CEQ’s) definition of a “reasonable alternative” (ie. “those that are practical or feasible from the technical and economic standpoint...” (*Federal Register*, Vol. (46) 55:18027)).

Alternative Considered in Detail

Alternative 1 - No Action

The No Action Alternative is defined as continuing current management as described within the Lakeview RMP/ROD (2003) and the Beaty Butte AMP/ROD (1998). Current grazing management would continue without any additional modifying actions. In brief, the Beaty Butte AMP/ROD (1998) allows cattle grazing in the North Pasture of the Beaty Butte allotment on a rotation system consisting of one-year of use followed by one year of rest. This alternative would not provide additional actions to help stabilize the gully incision in East Gulch or promote faster natural recovery of riparian vegetation.

Alternative 2 – Action Plan

This alternative was developed in response to the “Action Plan” (Draft dated January 2004). This alternative is comprised of the following actions that would modify the current grazing management (see Maps 2 and 3):

East Gulch

1. To aid in stabilizing the gully in East Gulch, the road in East Gulch would be:
 - a. Closed and rehabilitated from East Road Springs northeasterly for about 1.2 miles to and including the wet meadow.
 - b. This closed portion would be realigned to the ridgeline descending northeasterly from Mustang Spring Road (roughly ½ mile north of Mustang Spring) and tying back into the East Gulch Road (below the point that the East Gulch Road would be closed). The road realignment would be implemented as a two-track road with minimal ground disturbance. Minimum ground disturbance

means there would be no need to use heavy equipment to create the two-track. Removing some larger rocks, mowing any specific sites of taller vegetation, and passage of vehicles would establish a two-track road.

c. The portion of East Gulch Road that would remain open (from East Road Springs to saddle between East and West Gulches) would have rolls and dips constructed to drain rain and snowmelt water off the road and reduce the concentrating effect of water running long distances down the roadway.

2. To aid in natural recovery of riparian vegetation in East Gulch, the reach of the gulch (about 2.2 miles) that is experiencing active gully incising, would be included in a riparian pasture fence. The intended purpose is to exclude cattle use until the riparian vegetation has achieved a mid-seral condition with an upward trend. (Mid-seral vegetative condition is defined as a site that is dominated by a diverse assemblage of perennial grasses, rushes, or sedges appropriate for the ecological potential of the area). Thereafter, the area within the fence may have regulated use as a riparian pasture. The riparian pasture fence would include a portion of the saddle between East Gulch and West Gulch and encompass the full gully length down to, and including, the wet meadow. The wet meadow exists where the drainage from Mustang Spring joins with the main drainage of East gulch.

The riparian pasture fence would encompass all springs and seeps in East Gulch, including Mustang Spring, and an area of about 2.2 miles in length by about 1 mile in width at maximum; approximately 1,400 acres. The riparian pasture fence's overall length would be about six miles. The fence would be a three wire fence with a smooth wire on the bottom 18" above ground and 12" spacings on the top two wires to accommodate wildlife passage. In the area where the fence crosses the gulch, the fence would be a 4 wire fence for ¼ mile in each direction to reinforce it. Cattle guards would be installed where the fence crosses open roadways. Cattle guards are intended to alleviate the potential for gates to be inadvertently left open.

3. Water from the two springs in East Gulch (Mustang Spring and East Road Springs) would be piped, via two pipelines (about four miles) to four troughs outside the riparian pasture described above. This action has two purposes. The first is to provide alternate water sources when cattle are excluded, by the riparian fence, from current access to troughs at the springs. The second is to promote distribution of cattle for better forage utilization in the North Pasture and reduce cattle pressure against the riparian fence. The water diverted to the troughs would be regulated to ensure adequate water remains at the spring areas to maintain riparian conditions surrounding those springs.

From East Road Spring one pipeline would extend eastward about one mile before dividing, with one segment of pipeline going south about 0.75 mile to a trough and another segment going east about a mile to another trough. From Mustang Spring a pipeline would extend northeast about two miles to two separate troughs, which would be located about a mile apart.

West Gulch

1. The road in West Gulch would have rolls and dips placed to divert water off the roadway to alleviate potential for high discharge of water runoff into the stream channel.
2. One pipeline would be extended about 1.5 miles westward down the gulch from the existing stock pond, onto public domain lands, to a new water trough located about ¼-mile north of the gulch. From that trough, the pipeline would continue southwestward to another trough on a terrain flat south of the West Gulch Road. The intended purpose of these new water troughs would be to promote distribution of cattle use and reduce high, concentrated cattle use around the West Gulch Springs area and the adjacent riparian areas.

Alternative 3

This alternative is similar to Alternative 2 with similar actions relating to:

1. Closing and rehabilitating a segment of East Gulch Road.
2. Realigning that road portion to the ridgeline descending from Mustang Spring Road.
3. Providing rolls and dips to divert water off the remaining roadways in both East Gulch and West Gulch.
4. Providing water distribution from East Gulch and West Gulch, via pipelines, to water troughs in the same locations.

However, this alternative differs from Alternative 2 in that it would not involve fencing the reach of East Gulch that is actively incising. Instead, this alternative would provide a pasture division fence (drift fence) aligned to the south and east of the two gulches (see Map 4). The purpose of this division fence would be to control the cattle use at different periods of the permitted grazing season. This division fence would divide the North Pasture into two areas of use, a predominately lower elevation northern area and a predominately higher elevation southern area.

The grazing plan would be to use the northern half of the pasture (low elevation country) early in the season (April-June) and use the higher elevation southern half of the pasture during the hotter and drier period of the season (July-September). The riparian areas associated with the two gulches would be within the northern half of the pasture and available for early season cattle use.

During the later period of the season (July-September), the cattle would be herded to the opposite side of the division fence. The riparian areas of East Gulch and West Gulch would be north of the fence and would not be available for cattle use during this latter period of the season.

The new division fence associated with East Gulch would be aligned to the south and east of the gulch and extend from the north side of Mahogany Butte in a northeasterly direction for about 3 miles, then loop back to the southeast for about 1.2 miles and tying to a butte.

The new division fence associated with West Gulch would use the natural barriers on the south rim of West Gulch with 2 segments of gap fence totaling about 1.5 miles to keep the cattle south of the Gulch. A one mile segment above the springs in West Gulch would keep the cattle out of the gulch, but allow them access to the higher spring and therefore, use of the higher elevation area west of Mahogany Mountain and south of the gulch. The second ½ mile segment would be constructed to close a potential gap on the west side of Shirks Lookout to keep cattle on the south side of the fence from dropping down into the gulch. On the western end of West Gulch, about 2 miles of fence would run from the west side of Shirk Lookout along the south side of the gulch to the West Beaty Butte Loop Road. From the West Beaty Butte Loop Road the fence would run about 1.5 miles northwest to a canyon. This canyon is a natural barrier and combined with the fence would prevent cattle from moving back north and into West Gulch once the cattle were herded south of the fence.

Alternative 4

This alternative is similar to Alternatives 2 and 3 in many respects, with the same proposed actions relating to the roads and the water distribution, via pipelines and troughs, and would include the pasture division fence of Alternative 3 (see Maps 5 and 6). This alternative also would provide a riparian enclosure fence to encompass most of the gully reach of East Gulch. The segment of East Gulch gully enclosed in this fence would be from East Road Gulch Spring to, and including, the meadow; roughly 1.2 miles.

This riparian enclosure fence would be smaller in size than the one proposed in Alternative 2. The fence would enclose East Road Springs and East Road Gulch Spring; Mustang Spring would not be within this enclosure fence. The enclosure width at the area of the springs would be roughly 1/3 mile and thereafter taper to less than ¼ mile to encompass the meadow (see Maps 5 and 6).

The riparian enclosure fence would run from west of East Road Springs eastwardly down the gulch past East Road Spring on the lowest rim on both sides of the gulch for about 1 mile. The enclosure fence would protect East Road Gulch Spring, East Road Springs, and the Gulch directly below them for about 1 mile. The existing trough outside the current East Road Gulch Spring enclosure would be left accessible to cattle on the west edge of the enclosure fence and another pipeline and trough would be added using a spur pipeline from the proposed East Gulch pipeline coming from East Road Springs. This spur would be add about ¼ mile below East Gulch Spring and would run about ¼ mile to the north across the enclosure fence to the bench that separates East Gulch from Mustang Basin. These proposed troughs would provide water in the higher elevation areas and should reduce the animal density around Mustang Spring and

Mustang Basin.

Mitigation Measures Common to Alternatives 2, 3, and 4

1. Alignment of fences, road work, and placement of water troughs would be surveyed and adjusted to avoid adverse effects if hereto unknown cultural resources of significance are found. The same mitigation would apply to avoid adverse effects to special status species hereto unknown.

Whereas the road realignment down the ridgeline north of Mustang Spring has two known sites of cultural materials, mitigation measure that would be applied to those sites would be either by surface retrieval of the material or by coverage with protective soil. Installing rolls and dips described for West Gulch Road and portions of east Gulch Road, including the portion described for closure and rehabilitation, would be preceded by cultural surveys and adjusted to avoid adverse effects to hereto unknown sites of cultural materials.

Any work at spring sites, to redevelop the collection devices and/or to install pipelines, which require ground disturbances beyond or outside of the existing disturbances of the original development would first be surveyed by an Archaeologist and adjusted to avoid additional effects if cultural materials are found.

All cultural surveys would be conducted and/or overseen by a qualified Archaeologist prior to any implementation of the above actions. All surveys for special status species would be conducted and/or approved by qualified specialists prior to implementation of above actions.

2. To minimize noxious weed introduction to sites of ground disturbances, standard procedures for weed prevention and management , e.g. cleaning equipment, inventory and monitoring, would be followed as prescribed in the Intergrated Weed Management Program, Environmental Assessment OR-010-2004-03.

3. All spring developments on public lands and piping of water to troughs from those springs would be regulated to ensure sufficient water retained on site to maintain a riparian vegetation condition and associated habitat around those springs.

4. All new water troughs common to Alts 2-4 would be equipped with ramps or other devices so birds and other small wildlife get trapped and drowned in the troughs.

5. All new fencing common to Alts. 2-4 would be designed and built to accommodate safe passage by wildlife. The specifications require 12 inch spacing between top two wires to minimize or eliminate deer and pronghorn getting their legs wrapped up and trapped in top wires. The fence needs to be maintained to preserve the 12 inch spacing and tighten loose wires that could entangle deer. Also important is a top wire height of less than 42 inches to allow unimpeded deer movement over the fence and smooth

bottom wire height of 18 inches off the ground to allow movement of pronghorn, bighorn sheep, and young animals under the fence. Also critical to all wildlife, especially sage grouse and wild horses is to build the fence in full view and adhere to post spacing of 16 to 20 feet with two stays to increase visibility and reduce mortality from low flying birds, such as sage grouse.

6. Water troughs associated Mustang Spring would be operational every year during the mid/late spring through early fall, for purpose of providing water for wild horses and wildlife.

7. Gates associated with new fences will be locked open during years that the north pasture is rested from permitted cattle use, for the purpose of providing passage for wild horses.

CHAPTER 3 - AFFECTED ENVIRONMENT

Introduction

The Affected Environment includes the area of East Gulch and West Gulch of Beaty Butte in the North Pasture within the Beaty Butte Allotment. Most of this area was burned in the wildfire of 2000.

General Environmental Conditions, Land Use, Climate, Air Quality and Lands are described for the Beaty Butte Allotment in the Affected Environment Chapter of the Beaty Butte Allotment Management Plan and Final Environmental Impact Statement (1998).

Land Status and Water Rights

Within East Gulch, one 40-acre parcel of private ownership exists. East Road Springs lies within this private ownership. Water rights to the springs are held by the private owner. The remaining lands within this portion of the project area are in public domain and administered by the Bureau of Land Management (BLM). Water rights to Mustang Spring are held by the BLM. Water rights to East Road Gulch Spring are held by a private owner.

Within West Gulch, one 80-acre parcel is of private ownership. West Gulch Springs and a stock pond (dirt tank) lie within this 80-acre parcel. Water rights to West Gulch Springs are also held by private ownership. The remaining lands within this same area are in the public domain administered by the BLM (see Maps 2-6).

Hydrology and Groundwater

Little is known about the groundwater resource of the Beaty Butte area. Specific

information about the aquifer that supports the springs is unknown as is the recharge route, water age and depth. However the surface water and groundwater processes are influenced by fault zones and volcanic center geology at Beaty Butte. The butte is a silica volcanic center along the Eugene-Denio fault zone. Beaty Butte forms a cone from layers or strata of silica flows that stands out among the tilted block fault ranges. To the northeast along East Gulch the silica strata grades to lake deposits of pluvial Catlow Lake. The most recent silica strata flows south across West Gulch and the recent strata forms a contact with the prior strata along East Gulch. The distribution of springs along East Gulch illustrates the natural tendency of ground water flows to concentrate along strata contacts and faults.

Surface water processes are influenced by the geology as well as the basin sensitivity to channel incision. The north facing draws on Beaty Butte have more developed snow pockets than the south facing slopes. The combination of more snow moisture and more slope relief on north facing East Gulch gives it greater sensitivity to incision than the south facing West Gulch. The head of East Gulch has an equant shape for faster surface water collection relative to the elongate head of West Gulch. Contact geology and basin sensitivity contribute to the deeper road side incision of snow pocket landscape in East Gulch. The water flowing down the roads in the draws exacerbates the basin sensitivity to channel incision. There are currently no rolling dips to moderate and dissipate water acceleration from the gulch roads.

Water Quality

The water quality within the Beaty Butte area has not been identified by the state as being water quality impaired.

Soils

The soils for the Beaty Butte Allotment are described in the Beaty Butte AMP/FEIS (1998) in the Affected Environmental section on page 27 and in greater detail in Appendix F.

The soils most likely to be affected by alternatives are the ones found at trough sites and along fence lines described in Alternatives 2 - 4, and in the gulch bottom and around the spring sites (Alternatives 1 – 4). The Rutab very gravelly sandy loam soil is found at one trough site in West Gulch, one trough site on the East Gulch pipeline, and both trough sites on the Mustang Spring pipeline and the entire site of road realignment in is this soil type. The Rutab soil is a very gravelly sandy loam, very deep, well drained, with moderate permeability and has a slight or moderate water or wind erosion hazard. The other trough sites in West Gulch would be on the Felcher-Rock Outcrop complex, which is a very stoney clay loam that is moderately deep, well drained, with moderately slow permeability. The other trough sites on the East Gulch pipeline would be on the Robson-Felcher Complex, which is a cobbly clay loam and stoney clay loam, with both soils being moderately deep, well drained, moderate to moderately slow permeability. The East Gulch trough site identified north of the riparian exclosure fence (Alternative 4)

would be in the Felcher-Westbutte Association, a very stoney clay loam on the south slopes and an extremely stoney clay loam on the north slopes.

The proposed riparian exclosure fence (Alternative 4) and about 1.25 miles of the riparian pasture fence (Alt. 2) would cross the Rutab very gravelly sandy loam that was described above. About 2 miles of the riparian pasture fence (Alternative 2) would cross the Felcher-Westbutte Association, a very stoney clay loam on the south slopes and an extremely stoney clay loam on the north slopes. Both soils are moderately deep, well drained, with moderate to moderately slow permeability. About 1.5 miles of the riparian pasture fence (Alt.2) would cross the Lambring Rockoutcrop Complex, which is a very gravelly loam that is deep, well drained with moderate permeability. The riparian pasture fence would also cross 0.5 mile of the Robson-Felcher Complex, which is a cobbly clay loam and stoney clay loam, with both soils being moderately deep, well drained, moderate to moderately slow permeability. The remaining 0.75 miles of the riparian pasture fence would cross the Fitzwater extremely stoney loam, which is very deep, well drained, with moderately rapid permeability.

The soils in the gulch bottoms and around the springs were too small to map separately. The soil and ecological survey staff working on the correlation at Lake and Harney survey boundaries suggest a likely inclusion of the Jesse Camp soil and loamy bottom vegetative site that supports basin and creeping wildrye. And at the wet meadow on the current road alignment a likely soil is the Bicondoa series with a wet meadow vegetative site that supports tufted hairgrass, Nebraska sedge, and Baltic rush. These inclusions are riparian and wetland components.

The proposed division fence associated with East Gulch in Alternatives 3 and 4 would cross some of same soils as the riparian pasture fence (Alternative 2) and would include 2 miles of Robson-Felcher, 2 miles of Felcher-Westbutte, and 0.25 mile of Fitzwater extremely stoney loam.

The gap fences of the division fence (Alternatives 3 and 4) associated with West Gulch would cross 1 mile of Fitzwater extremely stoney loam and 0.5 mile of Ninemile-Westbutte Complex. The Ninemile is a very brown very cobbly loam that is shallow to bedrock, well drained, with very slow permeability and a moderate water erosion hazard. The Westbutte soil is a very dark grayish brown extremely stoney loam, is moderately deep, well drained, with moderate permeability and slight to moderate water erosion hazard.

The remaining West Gulch division fence would cross 2 miles of the Rutab very gravelly sandy loam, described earlier and 1.5 miles of Raz-Brace Complex, which is a loam to cobbly loam, is shallow to hardpan or moderately deep, well drained, moderately slow permeability and with a slight to moderate erosion hazard.

Vegetation

Riparian, Wetlands and Aquatic Vegetation

Riparian habitats in East Gulch and West Gulch are associated with loamy bottom soils with basin and creeping wildrye communities. The silver wormwood is giving way to the rye grasses in West Gulch for stability. The deeply incised upper East Gulch continues to have ground water sapping. In lower East Gulch a wet meadow occurs on the current road alignment that supports tufted hairgrass, Nebraska sedge, and Baltic rush. There are sufficient riparian plants present for timely recovery, if given road dips, realignment, fencing and regulated grazing.

Riparian habitats are identified with the springs and channels associated with the springs. In cooperation with the MC Ranch and ODFW, most of the springs in the Beaty Butte area were fenced in 1988 to exclude cattle. These enclosure fences encompassed relatively small areas around the springs. The enclosures were initially effective and the fenced areas were improving as evidenced by increased ground cover, less hummocking, and head cut stabilization. Over the past years, maintaining these small enclosures around the springs has been costly and difficult due cattle pressure against and occasionally breaking within the enclosures (1997, 1998, 2003).

The vegetation along the East Gulch gully and along the West Gulch channel was burned during the Beaty Butte wildfire of 2000. Though the vegetation along these gulches has been recovering, cattle use of 2003 has slowed that recovery. The wildfire destroyed the enclosure fences around East Road Springs and East Road Gulch Spring and killed most of the above ground stems of the willows at East Road Gulch Spring. The East Road Springs enclosure fence was rebuilt. Some cattle penetrated the fence in early 2003 and the fence again repaired later that year. East Road Gulch Spring enclosure was not rebuilt totally. Cattle and deer use in 2003 slowed the recovery of the willows. The enclosure fence at Mustang Spring was not burned in 2000 and has been functioning since.

While the development of the springs to pipe water to troughs has had some impact to the associated riparian vegetation, the effect has been small because overflow water is returned to the channel to maintain riparian communities.

Terrestrial Vegetation

The vegetation types in the area of East Gulch and West Gulch and north pasture are described in the Beaty Butte AMP/FEIS (1998) in general on page 29 and more specifically in Appendix E (page 99). The vegetation around the six sites identified in Alternatives 2-4 for proposed placement of water troughs in East Gulch area are in areas that burned in the Beaty Butte wildfire of 2000 and, therefore, the sagebrush component is currently absent.

Three sites for troughs in the East Gulch area are mapped as big sagebrush-Thurber's needlegrass, but currently only contain the Thurber's needlegrass and associated plants such as bottlebrush squirreltail and Sandberg's bluegrass. The remaining 3 sites identified for troughs in Alternatives 2-4 were mapped as big sagebrush-blue bunch

wheatgrass, low sagebrush-Idaho fescue and big sagebrush-Idaho fescue. Only the grass and forb components of these types are present. The areas that currently receives little vegetation use by livestock and wild horses show the slowest rate of sagebrush recovery. The two sites identified for troughs in West Gulch (Alternatives 2-4) are outside the burn area and are in the big sagebrush-Thurber's needlegrass vegetation type.

The small riparian exclosure fence (Alternative 4) would cross 1.5 miles dominated by Sandberg's bluegrass and Idaho fescue and 0.25 mile would cross both a bluebunch wheatgrass type and a Thurber's needlegrass type. The large riparian Pasture fence (Alternative 2) would cross 1.5 miles of a Sandberg's bluegrass and Idaho fescue community and 1 mile of a Thurber's needlegrass type. The East Gulch division fence (Alternatives 3 and 4) would cross a Sandberg's bluegrass and Idaho fescue type for 1.5 miles, a Thurber's needlegrass type for 0.5 miles, a bluebunch wheatgrass type for 1 mile, a mixture of blue bunch wheatgrass and Idaho fescue type for 0.5 mile and a cheatgrass dominated site for 0.5 mile. The West Gulch division fence (Alternatives 3 and 4) would be outside the wildfire and would cross big sagebrush dominated sites with Thurber's needlegrass being the dominate understory on 4 miles, Idaho fescue on 1 mile and a mix of bluebunch wheatgrass and Idaho fescue on 0.5 miles.

The full pasture division fence proposed in Alternatives 3 and 4 would divide the north pasture approximately in half. About 88% of the northern half contains low elevation vegetation. Low elevation vegetation is defined here as plant communities with grass plants that green up early in the spring and have often achieved seed ripe by June. The most common plant communities in the northern half are big sagebrush/bottlebrush squirreltail (55%), big sagebrush/cheatgrass (11%) and hopesage/bottlebrush squirreltail (8%). Other understory grasses seen in the low elevation areas include Thurber's needlegrass, Sandberg's bluegrass, prairie junegrass and about 1,500 acres of crested wheatgrass.

About 43% of the southern half of the north pasture contains high elevation vegetation. The high elevation communities contain grass plants that green up later as the weather warms up and don't produce seed until July most years. The big sagebrush/bluebunch wheatgrass community occupies about 19% of the southern half the north pasture, with big sagebrush/Idaho fescue occupying about 5% and low sagebrush/Idaho fescue about 6%.

The area of East and West Gulches is a considered a high elevation area, but would be fenced in with the low elevation communities found in the northern part of the pasture. The road realignment (Alternatives 2-4) would cross the big sagebrush/Thurber's needlegrass community.

A native plant commonly called long-flowered snowberry (*Symphoricarpus longiflorus*) is found along the course of East Gulch. This snowberry is classified by the BLM Oregon/Washington (OR/WA) State Office as a Bureau Special Status Species with the designation as a Bureau Assessment (BA) species. This designation (BA) applies to

plant and wildlife species which are not presently eligible for official federal or state status but are of concern in Oregon or Washington and may, at a minimum, need protection or mitigation in BLM activities. By BLM State Office policy, impacts will be determined and recommendations for the species will be considered on a case by case basis through NEPA process and in balance with other resource considerations. Where possible, measures should be taken in project planning to protect the species. This snowberry is not federally-listed as Endangered or Threatened under the Endangered Species Act of 1973, and is not designated as a Bureau Sensitive (BS) species.

Noxious Weeds

Noxious weeds are present in the area of East and West Gulches. Canada thistle (*Cirsium arvense*) and bull thistle (*Cirsium vulgare*) exist around Mustang Spring, east Road Springs, East Road Gulch Spring, and at West Gulch Springs and associated dirt tank. Russian knapweed (*Acroptilon repens*) has been noted in the past at Mustang Spring and is present on the road in West Gulch near the dirt tank. White top (*Cardarina spp.*) is present along the West Gulch Road in the vicinity of the sites designated in Alternative 2-4 for water troughs in West Gulch area.

The BLM Lakeview Resources Area's weed program is addressing weed infestations across the full Resources Area, which includes the weed sites identified above.

Rangelands

Cattle Grazing

Cattle grazing is authorized under the Beaty Butte Association grazing permit which allocates 26,121 Animal Unit Months (AUMS) between April 1 and December 15. The grazing plan for the entire allotment is outlined in the Beaty Butte AMP/ROD (1998). The grazing plan specific for the north pasture of the allotment is to graze the area every other year and use riders to move the cattle around the north pasture throughout the spring and summer and have most of the cattle on Shirk Ranch and Guano Lake Pasture by September.

Most of the water available to cattle and wild horses is from natural springs and constructed dirt tanks. Most of the springs have small enclosure fences immediately around them and troughs outside the fences for watering the cattle. Most of these spring developments are on private lands. Except for West Twin Springs, the water is kept flowing to the troughs to assure water outside the enclosures for wildlife and wild horses when cattle aren't in the north pasture. At West Twin Springs the water is turned off to the trough when cattle aren't in the north pasture, however, springs flow beyond the enclosure fence and is available to wildlife and horses. Most of the cattle use occurs within a few miles of available water. Away from the available water sources there are vast areas that cattle make very little use of, despite the availability of forage

The use of riders to move the cattle around the pasture, using the different springs for a

period of time and then moving to a new area, has been partially successful. Some springs have proved difficult to keep cattle away from, as with the springs associated with the East Gulch and the West Gulch. The size of the north pasture (200,000 acres) and the rugged terrain, particularly around the Beaty Butte area, have made herding more difficult than anticipated. While the overall utilization levels in the pasture have been light, a small number of cattle returning to graze around a spring site can substantially reduce the growth recovery of the vegetation. Cattle breaching these small enclosure fences around spring sites have occurred occasionally.

Wild Horses

The project area is within the Beaty Butte Herd Management Area (HMA). The HMA totals 437,120 acres, extending from the Oregon/Nevada state line northward to the boundary between the BLM Lakeview District and the BLM Burns District, roughly eight miles north of Beaty Butte. The HMA is managed for 100-250 horses.

The HMA is relatively free of restrictions to horse movements, with the exception of small enclosure fences around some springs, which have available water troughs outside the enclosure fences, and the Buckaroo fence that partially separate the southern portion of the Beaty Butte Allotment from the northern portion. Traditionally the majority of horses have been found in the eastern and northwestern portions of the HMA. However horses have used the entire HMA and have migration route throughout the HMA and project area.

Wildlife

Aquatic, Riparian and Wetlands

There are no fish bearing streams in the area of Purpose and Need. Tree and chorus frogs have been observed in the riparian areas, but no other amphibians have been observed. No aquatic macroinvertebrate studies have been completed.

Terrestrial

There are numerous wildlife species that occur within the area around Beaty Butte. Most of the species are common to the sagebrush-steppe. There are some bird species are occasionally known to migrate through riparian areas but do not use the area for nesting.

Water available to wildlife within the Beaty Butte allotment is limited to a few natural sources, water developments for cattle (waterholes, reservoirs, and seeps and springs) and guzzlers constructed specifically for wildlife. Wildlife guzzlers (water catchments) have been constructed in areas where natural water is limited for wildlife use. Competition for water can occur between wildlife and cattle and horses in areas where water is scarce. However, in the area of East Gulch and West Gulch, the existing water sources are springs which provide relatively persistent flows. In the area of the gulches,

the interaction between wildlife and cattle and horse would be more indirect competition for space when cattle and horses are concentrated at water sites. Wildlife generally wait for the cattle and horses to disperse away from the water sources. Wildlife guzzlers (water catchments) have been constructed in areas where natural water is limited for wildlife use.

Fencing can impede wildlife movement and cause direct mortality if not designed to minimize effects. Where needed for wildlife passage, fences on the Lakeview resource Area are designed to minimize effects to wildlife. The springs in the two Beaty Butte gulches have sufficient water flow outside the small enclosure fences, as well as troughs at some, to ensure available water for wildlife.

The Beaty Butte area lies within the 2,507 square miles Beaty Butte Deer Herd Unit identified by the Oregon Department of Fish and Wildlife (ODFW) Mule Deer Management Plan. Of this Herd Unit, the area immediately around Beaty Butte provides spring-fall habitat for mule deer, including fawning habitat each spring.

The area around the butte also provides habitat for pronghorn antelope. Pronghorn populations fluctuate yearly due to environmental conditions and coyote predation. As with deer, the area around the butte is used more during the spring-fall period and is not considered as pronghorn winter range. The larger general area is used as a migratory corridor for animals moving between Hart Mountain and Sheldon Antelope Refuges. The springs and riparian areas in the two gulches are used by pronghorn antelopes and by mule deer.

Other terrestrial wildlife species known or suspected to occur within the Beaty Butte allotment are those common to the sagebrush-steppe environment. The list includes Western big-eared bat, pacific pallid bat, small-footed myotis, long-eared myotis, fringed myotis, ferruginous hawk, loggerhead shrike, Swainson's hawk, western bluebird, desert horned lizard, short-horned lizard, northern sagebrush lizard, white-tailed antelope ground squirrel, and western burrowing owl. All or most of these can be expected to occur within the area around the butte.

Threatened, Endangered, and Sensitive Species

Plants

Within the project area, there are no known locations of plants classified as federally-listed Threatened or Endangered, under the Endangered Species of 1973, and no known locations of plants designated as Bureau Sensitive (BS). Species designated BS includes species that could easily become endangered or extinct in a state. They are restricted in range and have natural or human-related threats to survival.

Animals

The north pasture, including the area around Beaty Butte, provides habitat for the

Greater sage-grouse, a Bureau Sensitive species. There are no grouse leks within the area of this assessment. There are approximately 25 sage grouse leks across the full Beaty Butte Allotment, of which one lek lies within ½ mile of the area of under this assessment. The area lies within spring/summer/fall sage grouse range and is used for nesting and brood-rearing. The wet meadows and perennial water found in the area are crucial for young sage grouse survival.

The allotment provides habitat for pygmy rabbits, another Bureau Sensitive species. Pygmy rabbits prefer habitat islands (dense stands of big sagebrush in deep loose soils) and avoid areas of dense herbaceous understory, especially cheatgrass stands. There is one known occupied pygmy rabbit site within ¼ mile of the area and others within 5 miles.

The allotment provides habitat for California bighorn sheep, a Bureau Sensitive species. These sheep are known to occur on Shirks Lookout, just to the south of West Gulch. The bighorns were re-introduced into the area in 1993 and ODFW describes habitat as adequate for future population expansion. The only limitations in bighorn habitat within the Beaty Butte Allotment are the restriction of perennial water sites and unrestricted movement to and from these water sources.

Ferruginous hawks are also a Bureau Sensitive species that can be found foraging over the general area of Beatty Butte. There are no known nesting sites within the area. Prey of Ferruginous hawks consists mostly of small mammals, as ground squirrels, gophers and rabbits.

There are no other Bureau Sensitive wildlife species that inhabit or depend on the area around Beatty Butte. There are no federally-listed Threatened or Endangered species that inhabit or depend on the area around Beatty Butte.

Special Management Areas

There are no designated Wilderness or Wilderness Study Areas, Research Natural Areas (RNAs), Areas of Critical Environmental Concern (ACEC), or designated/suitable Wild and Scenic Rivers within the project area.

Recreation

The primary recreational activities occurring within the area include hunting, sight seeing, and general enjoyment of the high desert environment.

Visual Resources

The project area is designated as Visual Resource Management Class IV. Class IV objectives allow for major modification of existing character of the landscape. The level of change to the characteristic landscape can be high. Management activities may dominate the view and be the major focus of viewers' attention. However, emphasis

should attempt to minimize the effects through careful location, minimal disturbance, and repeating the basic elements.

Cultural Resources

Several source flows of obsidian exist around Beaty Butte. These sources of obsidian were extensively used by Native Americans for making stone tools. From archaeological records, Native American occupation of the region existed over 10,000 years. While the Middle Archaic Period around 4,500 years ago appears to have been a high point of use in the area, there is evidence of Clovis use from 12,000 to 10,000 years ago. More recent, the Northern Paiute oral history talks about the significance of Beaty Butte. Field surveys in June and July of 2004 confirmed the significance of the Beaty Butte area as an obsidian source area and the presence of archaeological sites. Taken in the context of a landscape feature, the Beaty Butte area can be considered as one archaeological site, within which various activities and site uses occurred. In that context, the area has significance for obsidian use studies and land use pattern studies.

From field surveys in June and July of 2004, areas of concentrated Native American cultural materials appeared at two primary types of sites. One type of sites is on the source areas of obsidian, where the obsidian was collected and worked. The other type is around the spring areas of both East and West Gulches. The spring locations were focal points of occupation while procuring obsidian and hunting and collecting plants in the area. In both West Gulch and in East Gulch, the occupation sites spans across both private and public lands

Beyond these two primary types of sites, varying densities of obsidian flakes and worked stones and of varying importance were noted in areas surveyed for actions associated with Alternatives 2-4. Some areas associated with the actions of Alternatives 2-4 still remain to be surveyed, mainly the areas associated with the fence lines described in those three alternatives. Survey work will be completed prior to project construction.

Past effects to cultural materials and sites would include such things as natural weathering, wildfires, trampling by concentrations of large hooved animals, road construction, water developments, and collections. Damaged to some cultural materials around the spring exclosures in both gulches has occurred due trampling from concentration of cattle, and wild horses to the extent they use the two gulches. Within the spring exclosures, past placement of water collection devices have also caused some damage, as well as from cattle that have breached the exclosure fences and became penned within the exclosures. The road system, as Mustang Spring Road, East Gulch Road, and West Gulch Road, have each passed through sites of concentrated cultural materials with resulting damage to cultural materials within the existing road alignment through the sites.

CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

The following resource values or issues either are not present in the area or would not be significantly affected by any of the alternatives considered: fisheries, areas of critical environmental concern, research natural areas, wilderness, air quality, paleontology, prime farmlands, wild and scenic rivers, forests, land tenure, minerals or energy, minority or low-income populations, or hazardous wastes. These resource values or issues are not discussed further.

Hydrology and Groundwater

Alternative 1 - No Action

As the spring heads are grazed, trampling and the resulting compaction may continue to further reduce flows from the springs. Alternative 1 (No Action) would sustain incision forces on snow pocket landscape in East Gulch. Without road dips, water flows down the roads in the draws would continue to exacerbate the basin sensitivity to channel incision.

Alternative 2

The pipeline to water troughs would distribute the spring flows from West Gulch springs and the contacts springs along East Gulch. The natural tendency of wild and domestic animals to concentrate along groundwater contacts and faults would be dissipated. Protection of the spring heads in the area may increase flow from the springs over time as the spring becomes more functional. The better distribution of livestock afforded by the pipelines and troughs would improve watershed level ground cover, although soil compaction and ground cover removal effects would increase around the new troughs.

The riparian pasture fence in Alternative 2 may better facilitate snow pockets for vegetation recovery on the north facing head of East Gulch. With recovery, the wood rose will give way to golden current and snowberry in the snow pockets. The riparian fence in Alternative 2 is apt to more quickly improve gully wall water seepage and less sapping or piping erosion in the upper East Gulch. This fence encompassing the loamy bottoms, including the wet meadow, in lower East Gulch would facilitate timely plant recovery.

Adding rolling dips to dissipate water acceleration from the gulch roads would moderate the basin sensitivity to channel incision in West Gulch and upper East gulch. Closing the road below East Road Spring and realigning such along the ridge top about 2.5 miles before tying back into the East Gulch Road (Alternatives 2-4) would reduce channel incision process. The realignment would allow for timely recovery of loamy bottom habitats for better expression of basin wildrye and moist to wet meadows on the current road. The road realignment to the ridgeline would necessitate minimum ground disturbance and alignment would be sloped to shed water off the roadway. Road

realignment was considered in upper East Gulch. However, as a first step, rolling dips and pace of gulch gully wall vegetation recovery with fencing would be monitored to determine whether realignment of the upper portion of the road would be needed to achieve the gully stabilization of this reach of the gully.

Alternative 3

The effects would be the same as described for Alternative 1 (No Action), although some improvements in compaction may be seen on sites that would be allowed to rest in the later part of the growing season. The division fence in Alternative 3 would facilitate more timely grazing and better recovery of ground cover than Alternative 1.

The effects from realigning the road would be the same as for Alternative 2.

Alternative 4

The effects would be the same as the Alternative 3, except for the better protection provided by the riparian exclosure fence that would encompass East Road Springs, East Road Gulch Spring and the East Gulch channel below East Road Gulch Spring. Protection of the spring heads may increase flow from these two springs over time as the spring becomes more functional.

The effects from realigning the road would be the same as for Alternative 2.

Soils

Alternative 1 - No Action

There would continue to be significant adverse effects on the soils from the heavy grazing around the spring sites and existing waterholes every other year. The soils in the gulch bottom, Jesse Camp silt loam and Bicondoa silty clay loam, are both vulnerable to trampling from heavy grazing and soil movement if the vegetation is removed. The road remaining near the gulch would continue to contribute wateroff runoff into the gulch, with resulting significant erosion. The existing road would also disturb the loamy soils and wouldn't allow for the complete recovery of the meadow vegetation that would be present, if the road were absent.

Alternative 2

The riparian pasture fence, in conjunction with pipelines and troughs, would eliminate the trampling effects around three spring sites, including the wet soils in the gulch bottoms that include the Jesse Camp and the Bicondoa series, with a wet meadow vegetative site that supports tufted hairgrass, Nebraska sedge, and Baltic rush. These inclusions are riparian and wetland components.

Road rolling dips installed to dissipate water acceleration from the gulch roads would

moderate road erosion and channel incision forces. The realignment of the lower portion of East Gulch Road to the ridge from Mustang Road should moderate the potential for road erosion, comparatively to the existing alignment. The rockier rangeland soils are less apt to gully than Jesse Camp loamy bottom stringer adjacent to the existing East Gulch Road. Closing the existing road below East Road Spring would advance the recovery of the loamy bottom habitats by limiting traffic on the Bicondoa soil series which supports the meadow vegetation.

There would be some effects on soils around the proposed troughs as described in the Beaty Butte AMP/FEIS (1998) on pages 45-49, where trampling around a water source does result in some soil compaction. However, rock is a major part of the soils found in the area and around the sites identified for placement of water troughs. At four of the seven sites identified for new troughs, the soil type present is the Rutab very gravelly sandy loam which has substantial rock content, is very deep, well drained and only a slight to moderate erosion hazard. Therefore this soil would be quite resistant to trampling impacts. The remaining three troughs sites are found in the Felcher-Rock Outcrop complex, the Robson-Felcher Complex and the Felcher-Westbutte Association, all are stoney or cobbly soils which are moderately deep, well drained and the substantial rock content would reduce their susceptibility to impacts from trampling.

The small amount of soil disturbance along the 6 miles of riparian pasture fence would be insignificant.

Alternative 3

This alternative would have some of the same effects as described for Alternative 1, as there would be some grazing in the loamy bottom soils in the gulch. However, with the new water troughs, and the division fence limiting the grazing period (April-June), the effects from cattle utilization and trampling would be less and the recovery period longer.

The effects of the troughs and the road actions would be the same as in Alternative 2.

Alternative 4

The riparian exclosure fence, working in conjunction with the troughs, would eliminate the trampling effects around the two spring sites in East Gulch. There would be some effects of grazing around Mustang Spring, but they would be less than in Alternative 1, because the division fence would keep cows off the spring site in the summer months when cattle are most likely to use this higher elevation spring. The rest period in the summer combined with the full year of rest every other year would allow the vegetation to recover fully and any effects on soils would be minimal.

Increasing the fence length, from 6 miles in Alternative 2 to 13 miles in Alternative 4, would increase the area affected by both short term construction activities and long term trailing effects. However, the area affected (1 acre/mile) by the 13 miles of fence would

still be insignificant, when compared to the long term benefits of more soil conservation made possible with the better grazing management using the division fence and the riparian exclosure fence.

The effects from the road realignment would be the same as described for Alternative 2.

Vegetation

Aquatic, Riparian and Wetlands

Alternative 1 - No Action

With continued traffic on the existing East Gulch Road, there would be continued adverse effects to the wild rye, loamy bottom riparian habitats.

Under this alternative, the potential recovery of riparian vegetation outside the spring exclosures, in the spring channels and in the main gulch channels would continue to be impeded. Concentrated cattle grazing around the spring areas and wet channels would continue to remove protective vegetation, promote bank cutting, and encourage hummocking of the wet soils.

Alternative 2

Realigning the road (Alternatives 2-4) would improve channel conditions by removing the constricting effects of the road on the channel and the concentrating effect of water runoff from the roadway before discharging such into the gully of East Gulch.

The large riparian pasture fence of this alternative, with exclusion of livestock until development of mid-seral riparian vegetative conditions, would provide the best opportunity for recovery of riparian vegetative conditions around the springs and associate channels in East Gulch. The size of the riparian area supported by the springs will be less as a result of piping water to outside troughs, however, because of the protection from grazing the effect of removing water would be less. The amount of riparian area reduction cannot be determined based on the information available. However, the spring systems in this area are not characterized as a single point emergence of water flow but of broad emergence which ensures that there would still be free flowing water around the collection devices to sustain riparian vegetation. The riparian pasture fence would help distribute cattle use away from the springs and channels in the East Gulch area and should help assure rest on the springs and channels within the riparian pasture fence.

Alternative 3

Over all, condition would be marginally better for riparian vegetation in the northern pasture with Alternative 3 over the effects of Alternative 1 (No Action). Realigning the road (Alternatives 2-4) would have the same beneficial effects as described in

Alternative 2.

Permitted cattle grazing through June would still result in concentrated use on the riparian vegetation. However, with spring use only, the anticipated number of cattle that would gain access to the gulches would be lower than the high numbers experienced with Alternative 1 (No Action) during summer months. Removing the cattle during the drier and hotter months would allow some regrowth to occur on areas that maintain late season water flows. Without a full enclosure around the spring riparian area, East Road Gulch Spring would continue to lose soil and vegetation condition and the willows could potentially be lost.

The size of the riparian area supported by the springs would be less as a result of piping water to outside troughs. However, the overall effect to riparian vegetation by removing some of the water to troughs would be partially offset with the removal of cattle, with the division fence during the latter portion of the permitted season. The amount of riparian area reduction cannot be determined based on the information available.

Alternative 4

The effects of road actions would be the same as described for Alternatives 2 and 3.

The size of the riparian areas supported by the springs will be less as a result of piping water to outside troughs, however, because of the protection from grazing the effect of removing water would be less. The amount of riparian area reduction cannot be determined based on the information available.

Without the early season cattle use provided by Alternative 3, the riparian enclosure fence of alternative 4 in East Gulch would provide faster recovery for the riparian vegetation associated with the East Road Springs and East Road Gulch Spring (same as Alternative 2) and most (roughly 2 miles) of the riparian area of East Gulch. A portion of East Gulch between the saddle (head of East Gulch) and the vicinity of East Road Gulch Spring would not be included in the riparian enclosure. Within this non-included portion, a reach of about 100 yards is wetted with potential for development of riparian vegetation. This reach would be immediately up stream of the enclosure fence.

The exclusion of this 100-yd reach would be based on the difficulty in effectively fencing across the deeply incised gully at a point to encompass this 100-yd reach. Crossing of the gully by the enclosure fence under this alternative would be at a point where fencing would be more effective.

This 100-yard wetted reach of gully, excluded from the enclosure fence, would receive concentrated use by the cattle that did access the East Gulch area during the early period of the grazing season. The consequence would be the loss of any recovery of riparian vegetation within this reach that would be gained during rest years of the north pasture. The nearby water trough provided from East Road Gulch Spring, the accessibility to this wetted reach of the gully, and the topography as the cattle drop

down into East Gulch would be contributing factors to the concentrated use.

Terrestrial Vegetation

Alternative 1 - No Action

On the rest rotation system with permitted cattle use every other year in the north pasture, the effect of cattle use on vegetation would be the heaviest in vicinity of existing water sources. This is acknowledged in the Beaty Butte AMP/FEIS (1998). In the area of the East Gulch and West Gulch, as occurred in 2003, cattle would tend to concentrate around spring areas and the wetted reach of East Gulch and use the saddle between the gulches as a bedding area to take advantage of the easy terrain and the breeze. Wild horses and native wildlife, as bighorn sheep, deer and pronghorn, also contribute to heavy use of the vegetation around the springs and riparian areas of the gulches. Heavy use of the vegetation at these sites, especially by cattle every other year, has the potential to eventually reduce the vigor and ecological condition of the vegetation at these sites.

While the vegetation at these sites receive concentrated and heavy use by cattle every other year, the vegetation in the majority of the area of the two gulches, away from the water sources and saddle, tend to receive little effect with minimal utilization.

This alternative would offer the less protection for the long-flowered snowberry in East Gulch. This snowberry would receive some browsing by cattle every other year, as it has for many years. The snowberry would probably be browsed the most during the summer months, as grasses and other forage begin to dry and become less desirable for cattle grazing.

Alternative 2

There would be adverse effects to the current vegetation immediately around the sites of water troughs from the increased utilization by cattle and wild horses that would use the troughs. However, the addition and the distribution of water troughs would improve animal distribution by drawing animals to areas that currently receive no use or slight use. This would reduce the use around the natural water sites in the gulches and reduce the use at the saddle between the gulches.

The large riparian pasture fence would eliminate cattle and wild horses in the upper part of East Gulch where the gully exists and around Mustang Spring, East Road Springs and East Gulch Road Spring. The relatively small areas of terrestrial vegetation (perennial grasses) that currently receives heavy utilization would be completely rested until the riparian vegetation recovers to a mid-seral condition, which might take several years. The rate of recovery of the mountain big sagebrush that was lost in Beaty Butte Wildfire would be slowed within the area of the riparian pasture fence, and enhanced in the areas of water troughs.

The saddle between East and West Gulch that would be within the riparian pasture fence and an area of perennial grasses (200-300 acres) that is grazed heavily every other year would show some improvement in plant vigor and cover.

The long-flowered snowberry in East Gulch would be offered the greatest protection with this alternative, with the riparian pasture fence excluding most or all of the plants from cattle and wild horse grazing. If the riparian pasture is used for limited grazing in the future, the limited grazing in the pasture would provide minimal effect to the snowberry.

The road realignment would affect about 3 acres of terrestrial vegetation. The vegetation in the gulch where the road would be closed would be improved.

Alternative 3

The effects of the pipelines, troughs and road would be the same as Alternative 2. The division fence, instead of the riparian pasture fence, would change the utilization pattern on the vegetation within the north pasture. With the division fence, the plan would be to graze the lower elevation vegetation in the northern part of the pasture early in the season (April-June) and use the higher elevation areas in the southern part of the pasture later in the season (July-August). The East-West Gulch would be in the northern part of the pasture, and cattle use would only be possible during the 3 early months, April thru June and the cooler weather during this period would limit the number of cattle and the time they would spend in the gulches or on the saddle. Currently the heaviest use occurs in July and August when the cattle prefer the higher elevations areas which are cooler and contain more green grass. Therefore this division fence would keep cattle south of the saddle and the gulches during the hotter summer months and allow the perennial grasses to produce seed and recover from any use they may have received.

The long-flowered snowberry in East Gulch would receive some grazing effect every other year with cattle in the area during the early part of the grazing period. This effect would be much less than the full-season grazing provided by Alternative 1 and more than Alternative 2. During the early season grazing of this alternative, other forage species, as grasses, would still be palatable for cattle.

Alternative 4

The effects of the pipelines, troughs and road would be the same as Alternative 2 and the division fence would be the same as in Alternative 3. The smaller enclosure would protect the East Gulch area below East Road Gulch spring and a small amount of terrestrial vegetation along the edges of the gulch that is currently grazed would achieve greater production and higher ground cover. The increased ground cover during the grazed years should help with the recovery of the Gulch by capturing and holding more sediment.

The snowberry within the riparian enclosure fence would receive full protection, more than with Alternative 1 which could allow limited grazing at a future time. The snowberry plants outside the enclosure fence, immediately up drainage from the fence and within a radius distance of cattle concentrating around the East Road Gulch Spring trough, would receive at very high level of damage from browsing and trampling, with many plants of this portion of the population possibly being eliminated from the population.

Noxious Weeds

Alternative 1

Noxious weeds in the Affected Environment are currently under treatment and are being monitored annually. Continued heavy cattle utilization around the existing water sources would increase the risk of introduction and establishment of additional species of noxious weeds and increase the potential for weeds to spread as the vigor of the desirable vegetation is reduced at sites of concentrated cattle use. The concern is more relevant to the riparian areas where the growth potential is greater and where the spread of weed seeds could be enhanced by water flow in the channels.

Alternative 2

The road realignment and rehabilitation, fence construction, and cattle use around water troughs would all result in ground disturbances. Such disturbance would create favorable situations for noxious weed introduction and establishment. Mitigation measures described for and common to Alternatives 2 – 4 would be implemented to reduce the potential for introduction of noxious weeds, to inventory for and to treat known sites of noxious weeds, and to continue monitoring treated and potential sites.

Alternative 3

The effects would be the same as Alternative 2.

Alternative 4

The effects would be the same as for Alternatives 2 and 3.

Rangelands

Cattle Grazing

Alternative 1 - No Action

The current grazing system would continue and as well as the permittee's problem of keeping the cattle from over using the riparian vegetation associated with the springs and gulch drainages of east Gulch and West Gulch. The small spring enclosures in the

two gulches would, on an occasion in some years, be breached by cattle. Continued monitoring and maintenance of these small spring enclosures would be necessary.

Alternative 2

The large riparian pasture fence would fence off three water sites in East Gulch area (Mustang Spring, East Road Springs, and East Road Gulch Spring) and exclude from cattle about 1,200 acres of upland forage for several years. In addition, forage on the upper slopes of Beaty Butte would be placed farther from available water, with the consequence of cattle distribution in that area being reduced and the forage on the upper slopes being made less available for utilization. Contrarily, the pipelines and water troughs would improve cattle distribution to other, larger areas that currently receive little or no use.

The distance of the riparian pasture fence away from the spring and riparian areas would lessen the potential for breaching the fence for purpose of accessing the riparian vegetation. However, the fence would make difficult the movement of cattle between the north side of Beaty Butte and the south side of Beaty Butte and from the south side to the area of East Coral Springs. Cattle trailing between the Mustang Basin area and the south side of the butte would be pressing the fence along that stretch. The size of this riparian fence would make maintenance difficult. The road access, with cattle guards, into the fenced area would remain from Mustang Spring Road to the butte saddle, via East Road Springs. This access would provide for maintenance of the springs East Gulch. If some cattle do breach into the riparian fence and concentrate around the springs and riparian areas, this same access would provide for detection of the cattle. Two disadvantages with cattle breaching the fence would be greater difficulty in herding the cattle out and detecting the point of breach with a large fenced area.

The road realignment would provide another trail for the cattle to use around the riparian pasture fence. The pasture fence would completely eliminate cattle trailing along the side of the East Gulch gully.

Alternative 3

The pipelines and troughs would have the same impacts on cattle grazing as Alternative 2. The division fence would allow the riders to better control animal distribution. They could keep the entire herd on the northern part of the pasture in the early months, then move the entire herd south of the fence in the hotter summer months. During the early months most of the cattle would be content to stay in the lower elevation areas but some grazing would occur in the East-West Gulch. The riders would have to monitor this use carefully to avoid heavy use in the gulch bottom. In July the cattle would be moving onto feed that had been rested for 21 months. The areas north of the fence including the spring and riparian sites then would have 21 months of rest before they were grazed again.

The road realignment would provide another trail for the cattle to use that should

reduce, but not eliminate, trailing along East Gulch. With the availability of the springs and riparian vegetation, trailing would still occur along the gulch. The shortened period that the cattle would be in the East Gulch and the lesser numbers of animals accessing the area during this earlier season, the trailing effects along the gulch would be much less than experienced with Alternative 1, and more than Alternative 2.

Alternative 4

The pipelines and troughs would have the same effects on cattle grazing as Alternative 2.

The two additional troughs in this alternative, combined with the smaller enclosure would improve animal distribution in the north pasture compared to alternative 2. The two additional troughs would provide water sources outside the gulch, but still in the higher elevation areas. This would allow cattle to use the slopes of Beaty Butte and Mustang Basin without having to trail several miles to water. The smaller enclosure would protect the riparian areas around East Gulch Road Spring and East Road Spring as well the loamy bottom areas of the gulch below East Road spring. The smaller enclosure would allow the cattle to use the high quality forage on the slopes of Beaty Butte and allow access between East and West Gulch. The division fence would have many of the small effects as in Alternative 3. However working in combination with the small enclosure, the division fence would allow some cattle to use the high elevation forage early in the season, while completely protecting the spring sites in East Gulch, the incised channel and the loam bottoms for about a mile below East Road Spring. The small enclosure would still be on a ridge line, but the smaller size would make maintenance simpler and detection of cattle in the enclosure easier.

The road realignment would provide another trail for the cattle to use instead of trailing along the small enclosure fence line. The enclosure fence would eliminate trailing along the lower portion of the gulch. The earlier season of use would allow the same amount of trailing along the upper portion of the gulch.

Wild Horses

Alternative 1

This alternative would have no new effects to wild horses. Wild horses do venture through the two gulches and Mustang Basin on occasions, though most the use areas are to the north and east of the buttes. The BBAMP & FEIS addressed the effects of this alternative to wild horses.

Alternative 2

Access for wild horses to the area within the East Gulch riparian fence would be precluded every other year by this alternative. During years that cattle are not in the north pasture, the gates to the riparian pasture would be locked open for those

occasions that the horses might venture into the area. Access to the three springs within the fenced area would be precluded from every other year. However, water piped to the trough would still be available every spring, summer and fall. During winter months, springs on the west and northwest side of the butte are available as would be West Gulch Springs.

The water troughs would be a beneficial effect for the horses, by providing water during the summers in a large area that current doesn't have available water. The area of the troughs would also be within the areas that the horses more frequently use.

Alternative 3

The benefits of the water troughs described in Alternative 2 would also apply to this alternative. Access to East Gulch would not be impeded.

The division fence would have an adverse effect on the movement, free roaming nature, of the horses within the Herd Management Area. This effect would be during every other year and therein during the period that the cattle are using the north pasture. During every other year that the cattle are in the south pasture, gates in the division fence would be locked open to allow horse movement within the full north pasture.

Alternative 4

The benefits of the water troughs would be the same as for Alternatives 2 & 4. Access to a portion of East Gulch would be excluded by the riparian enclosure fence.

The effects of the division fence would be the same as described in Alternative 3.

Wildlife

Aquatic, Riparian and Wetlands

Alternative 1 - No Action

Aquatic wildlife depend on functional riparian vegetation and the effects to riparian dependent species will be reflected in the conditions as described in the Riparian including Aquatic Vegetation section.

Alternatives 2-4

The effects would be similar to the no action alternative 1.

Terrestrial

Alternative 1- No Action

The effects to wildlife would remain the same as it has been in the last 20 years. This alternative would have the greatest negative effect to sage grouse and other wildlife species and the least benefits. Concentrated cattle use in the vicinity of the springs associated with the two gulches would be expected when cattle are authorized in the north pasture.

Competition between cattle and mule deer, pronghorn, bighorn sheep, and sage grouse for access to water would occur when cattle are concentrated around water sources.

Alternative 2

Alternative 2 would result in the least negative effects to wildlife and the greatest overall benefits of all the alternatives. This alternative would provide the greatest protection to riparian wildlife habitat within the East Gulch. Wildlife, as deer and antelope, would still have access to the spring waters and riparian areas while not impeded by concentrations of cattle. The riparian pasture fence would be designed and built to minimize adverse effect to wildlife movement and passage. Specifications for fence design to accommodate wildlife passage is found in the July 1988 BLM / USFS fencing manual 2400 – Range 8824 2803.

Concentration of cattle would still occur around the West Gulch Springs during years of authorized use in the north pasture, with the indirect effect of impeding, not excluding, wildlife access to the water source.

The size and location of the area within the riparian fence in East Gulch would be beneficial to wildlife habitat in that the wet meadow will be allowed to rehabilitate providing foraging, fawning, and hiding cover for wildlife species. Wildlife will also be able to water at the water troughs when cattle are not present and inside the fenced riparian fenced area when cattle are concentrated around the troughs.

Water troughs would be equipped with escape ramps for birds and other small wildlife.

Alternative 3

Alternative 3 would have similar types of effects to wildlife and habitat as Alternative 1, but of less magnitude, with the less numbers of cattle accessing the two gulches in the early season and the removal of cattle from that area during the latter part of the grazing period. The removal of cattle in the latter part of the grazing period, with the alternating rest years, would provide for better riparian vegetation and habitat conditions than Alt 1, though less than Alternative 2.

Though built to specifications for wildlife passage, the division fence would likely cause some shifts in wildlife (deer and pronghorns) movement patterns. This would not be a substantial effect.

The water troughs would be a beneficial effect, as in Alternative 2. The effect of concentrated cattle use around the West Gulch would be the same as in Alternatives 1

and 2.

Alternative 4

The water troughs would be beneficial to wildlife, same as for Alternatives 2 and 3. The effects of the division fence would be the same as for Alternative 3.

This alternative offers greater beneficial effects for wildlife and habitat than Alternatives 1 and 3 with the riparian exclosure fence, providing some water sources free of cattle concentration and recovery of riparian habitat within that fenced area. There would be a little less in beneficial effects than Alternative 2, with the Mustang Spring and a small wetted reach of the East Gulch still available to cattle during the early part of the grazing season.

Threatened, Endangered, and Sensitive Species

Plants

There are no federally-listed Threatened or Endangered plant species or any BLM-designated Sensitive plant species within the area covered by this assessment.

Animals

Alternative 1 - No Action

When cattle are concentrated around the water sources in the two gulches every other year there is competition for forbs and residual grasses to critical to nesting sage grouse and their broods. There would also be impedance in access to water for grouse and bighorn sheep.

This alternative and the following alternatives offer no effects to pygmy rabbits or to ferruginous hawks.

Alternative 2

This alternative would result in the least negative effects to sage grouse and the greatest overall benefits of all the alternatives. This alternative would result in the greatest protection to crucial riparian wildlife habitat within the East Gulch.

The size and location of the East Gulch riparian pasture fenced area would be beneficial to sage grouse habitat. The wet meadow at the northern end of the fenced area and along the riparian and spring areas of East Gulch would be allowed to develop fully, providing foraging and hiding cover for grouse.

Grouse and bighorn sheep would also be able to water both trough sites when cattle are not present and inside when livestock are concentrated around the troughs.

Alternative 3

The division fence would exclude cattle grazing in the East and West Gulches during the hot summer months, which would benefit sage grouse and their broods and benefit bighorn sheep. There would continue to be competition between cattle and sage grouse and bighorn sheep for access to water during the early grazing season every other year, and competition between cattle and sage grouse for forbs and grasses in the vicinity of the springs and riparian areas during the early season period of cattle grazing.

With the rest during the later period of the grazing period this alternative would allow the growth of residual cover for nesting sage grouse the following spring. There would continue to be competition between cattle and sage grouse during the nesting season for water, any available forbs, and residual grass nesting cover.

The division fence could potentially affect pygmy rabbits if constructed through a known pygmy rabbit colony. This effect would be minimized through adherence to fencing specifications and locations would be chosen for maximum visibility and modified to protect pygmy rabbit habitat. Fence-lines would be cleared for pygmy rabbits and minimal mowing would be utilized to allow fence construction.

Alternative 4

The anticipated effects to wildlife would be greater than alternative 2 and less than alternative 3 due to the decreased size of the enclosure and the lack of protection of the ½ mile wet area downstream of East Road Gulch Spring.

Effects to pygmy rabbit impacts would be mitigated as in alternative 3 through clearances, fence location modification, and reducing mowing impacts.

Recreation

Alternative 1

This alternative would not promote any effects to current recreational use in the area of this assessment.

Alternative 2

The water distribution that would be provided by this alternative would promote greater use by wildlife (game and non-game species) in areas currently lacking water source, which could enhance the areas for recreational wildlife viewing as well as hunting. The large riparian fence area would help to improve riparian vegetation in the East Gulch riparian area, with improved wildlife habitat and better opportunities in that area for wildlife viewing.

Alternative 3

The effects of the water distribution would be the same as for Alternative 2. The effects of riparian vegetation and consequential wildlife viewing would be similar to Alt. 2, though the recovery of the riparian vegetation and benefit to wildlife viewing would be slower to achieve.

Alternative 4

The effects of this alternative would be very similar to the effects of Alternative 2.

Visual Resources

All alternatives would meet the objectives of the VRM Class IV.

Cultural Resources

Alternative 1

Effects of this alternative would be limited to continuing trampling every other year by heavy concentrations of cattle, and wild horses to some extent, around the spring enclosures in both gulches. Continued damage to cultural materials at these sites would further reduce usefulness of these sites for potential future studies relating to Native American past use of the area.

Alternative 2

The large riparian pasture fence of this alternative would initially alleviate the damage caused by concentrated cattle and horse use to cultural materials around the Mustang Spring, East Road Springs, and East Road Gulch Spring. At a later date when the riparian vegetation has recovered toward a properly functioning condition the riparian pasture may be used for limited cattle grazing. Though the cattle use would be limited, their concentration around the springs water source and along the gulch's riparian area would still cause some damaging effects to cultural material.

West Gulch Springs would retain the small spring enclosure fence, which would not encompass cultural materials outside the existing enclosure fence. Cultural materials outside this small enclosure fence would still receive comparable damage from concentrated cattle use as would occur under Alternative 1.

Fencing of the riparian pasture and placement of water troughs would have minimal to no effects to sites of cultural materials, as layout of the fence route and placement sites for troughs would first be surveyed for cultural materials and adjusted to avoid adverse effects at important cultural material site, as provided for in the mitigation measures made a part of and common to Alternatives 2 – 4. The sites for water troughs in West Gulch have been surveyed for cultural materials and adjustments made.

The road realignment to the ridgeline north of Mustang Spring has been surveyed and two sites of cultural materials were located along this alignment. Mitigation measures made a part of and common to Alternatives 2 -4 would apply to avoid adverse effects. Installation of rolls and dips to the roads in both gulches and the rehabilitation of the lower portion of East Gulch Road would likewise have the common mitigation measures applied to avoid adverse effects to important sites of cultural materials.

Alternative 3

Any potential adverse effects of road work, most of the division fence alignment, and water distribution system would have the same common mitigation measures applied as for Alternative 2.

This alternative differs in effects from Alternative 2 in two aspects. First, the spring areas in the East Gulch area and in West Gulch would retain their small enclosure fences which would permit continued trampling effects of cultural materials around the spring areas outside the enclosure fences, similar to Alt. 1, even though the number of cattle would be less with early season use and the duration would be less with the division fence excluding cattle during the later in the season.

Secondly, a portion of the division fence which would include part of the West Gulch Springs system, on private land, to provide available water to the south side of the fence would also incorporate part of the cultural site associated the spring area. This incorporated portion of the cultural site includes both private and public lands and would be subjected to concentrated cattle use and trampling above the current level.

Alternative 4

Any potential adverse effects of the road work, division fence, and placement of all but one water trough would be avoided with the mitigation measures made a part of and common to Alternatives 2-4.

The small spring enclosure fences around West Gulch Spring and Mustang Spring would be retained and the effects from concentrated cattle use would be similar to Alternative 3, with similar numbers of cattle and for the duration of the early season.

The riparian enclosure fence that encompasses East Road Springs, East Road Gulch Spring, and a large portion of the East Gulch main channel would offer protection of cultural materials within that enclosure. However, roughly 3/4 -mile of this enclosure fence would cross through the center of a known, large cultural site. The trampling effects once incurred around the small enclosure fences of the two spring areas would be shifted to a trailing width just outside the riparian enclosure fence within this cultural site and to a larger concentrated cattle use area around the one water trough, also within this cultural site. This is a known cultural site and mitigation measures made a part of and common to Alternatives 2-4 would not apply. An effective realignment of this

riparian enclosure fence to avoid the large cultural site would result in a fenced area similar to that of the riparian pasture fence described in Alternative 2.

Secondary, Indirect, and Cumulative Effects

The cumulative effects of any of the action alternatives (Alternatives 2-4) would be to improve the condition of the riparian areas in East Gulch and West Gulch of Beaty Butte. The improved riparian conditions would reduce soil erosion in the gulches and increase the production and cover of riparian vegetation. This improvement would benefit many wildlife species, especially since riparian habitats are limited in the northern part of the Beaty Butte Allotment.

The additional water sources under Alternatives 2-4 would improve range and riparian conditions by improving cattle distribution. These water sources would also provide better distribution of available water for wildlife and for wild horse during the summer months when water is sometime in short supply in many areas.

The fences described in Alternatives 2-4 would improve overall range condition through better cattle management. To reduce effects to movements of wild horses and some wildlife species, namely pronghorn, fences would be built to specifications designed to minimize difficulty for wildlife and gates would be provided in numbers and locations and left open when cattle are not using the north pasture.

The cumulative impacts of other potential projects associated with implementation of the Beaty Butte AMP/ROD are described in detail in that document.

Irreversible/Irretrievable Effects

There would be no irreversible or irretrievable effects as a result of any of the actions associated with the alternatives.

LIST OF PREPARERS

Les Boothe	Rangeland Management Specialist
Theresa Romasko	Rangeland Management Specialist / Wild Horses
Robert Hopper	Supervisory Rangeland Management Specialist
Ken Kestner	Supervisory Natural Resource Specialist
Lucile Housley	Botanist
Vern Stoffleth	Wildlife Biologist
Alan Munhall	Fisheries Biologist
Bill Cannon	Archaeologist
Erin McConnell	Weed Specialist
Barbara Machado	Hydrologist
Gretchen Burris	Outdoor Recreation Planner
Desi Zamudio	Soil Scientist
Jim Platt	Engineer

East-West Gulch Project Area - Map 1

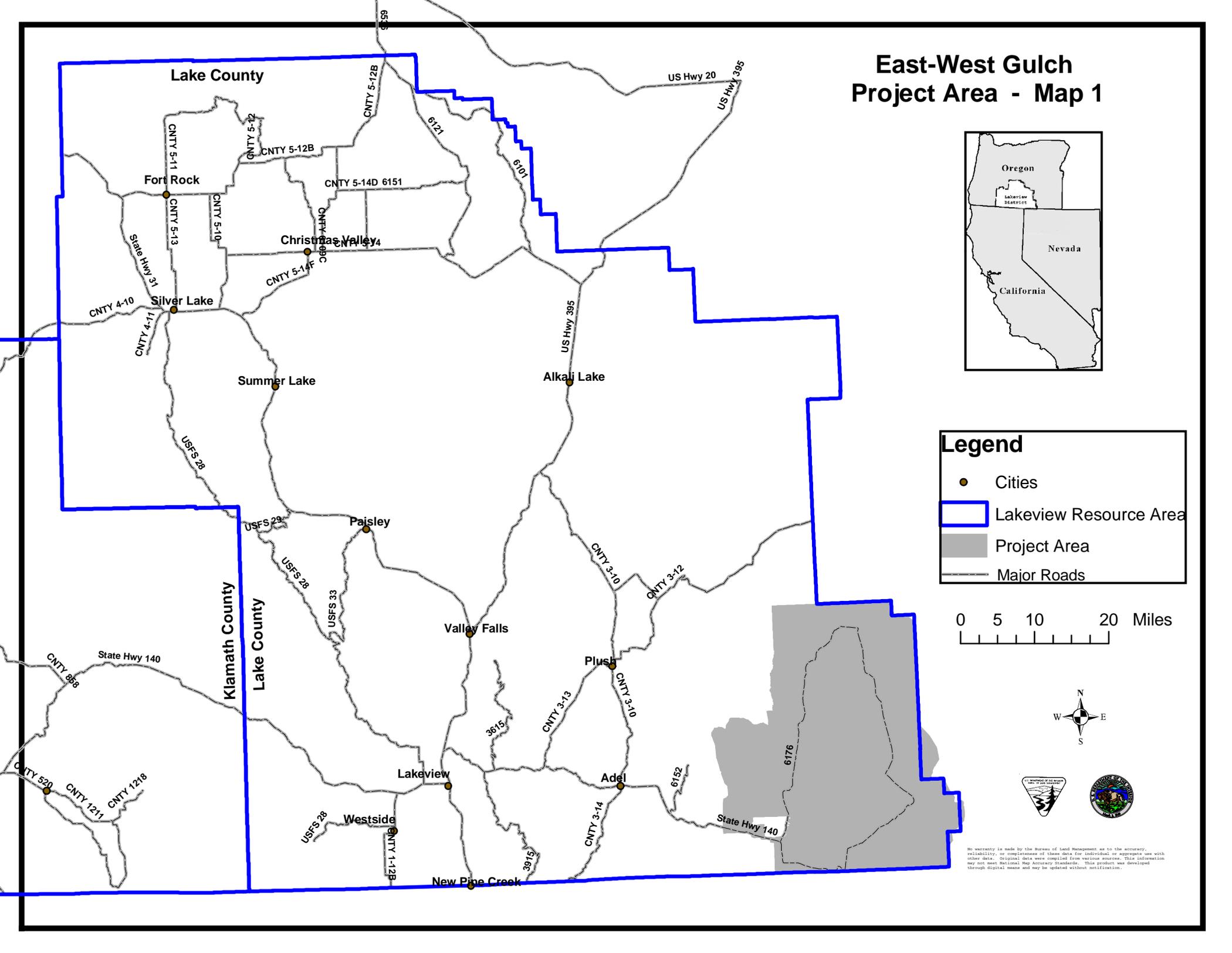


Legend

- Cities
- ▭ Lakeview Resource Area
- ▭ Project Area
- Major Roads

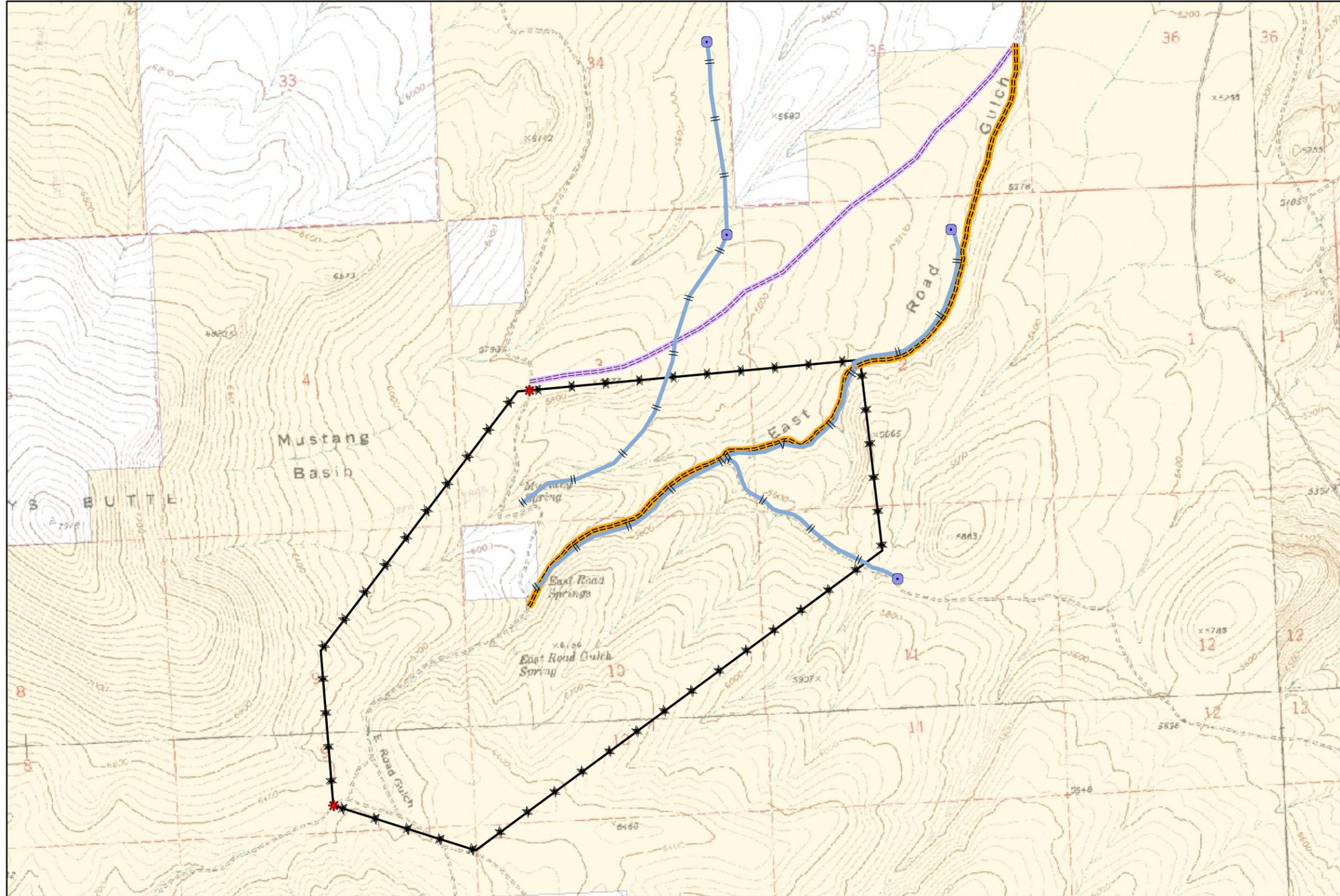


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Beaty Butte East-West Gulch Projects

Alternative 2 Map 2



Legend

Proposed Road Status

- New Road
- Road Closed
- Proposed Fence
- Cattle Guard
- Trough

Ownership

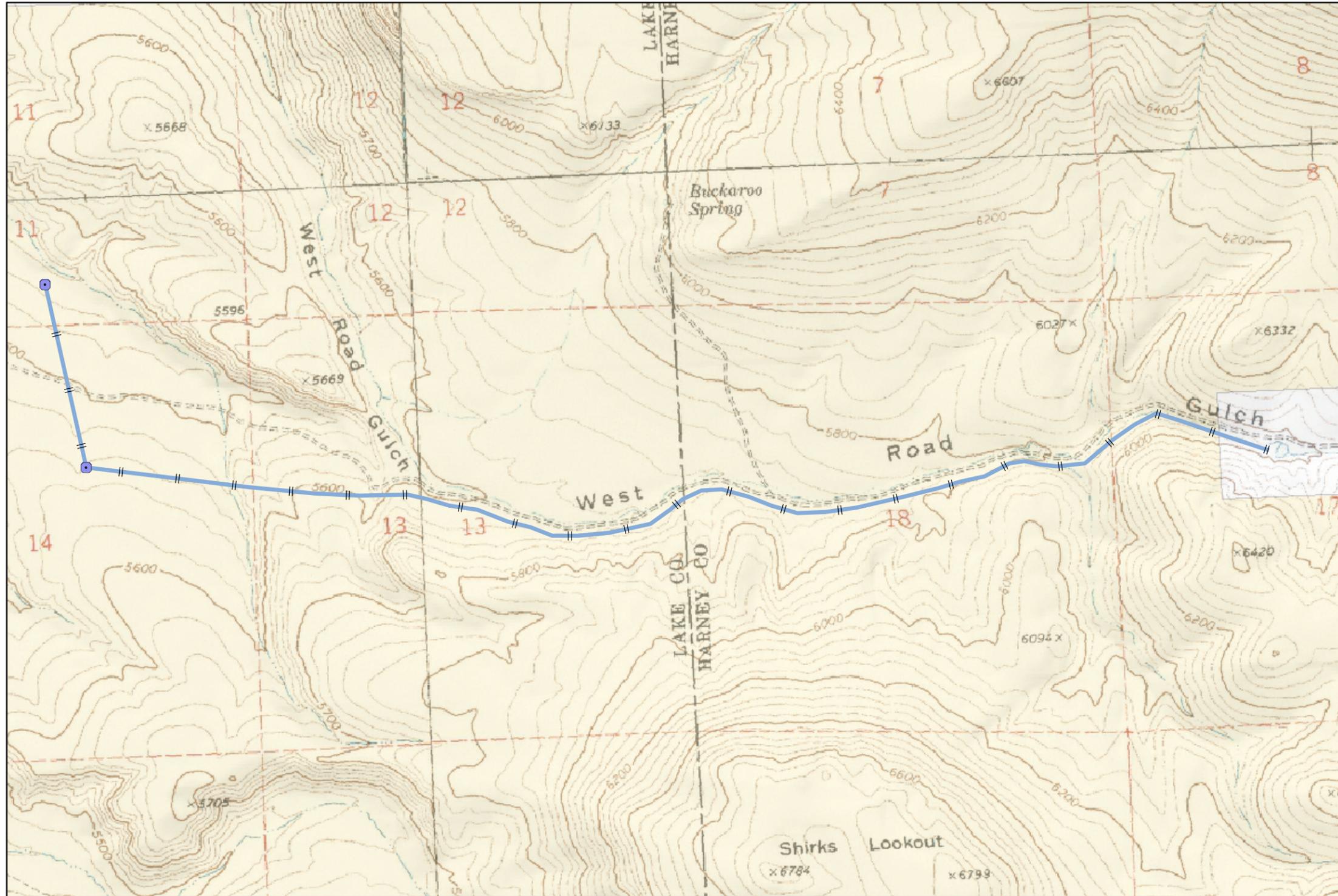
- Bureau of Land Management
- Private
- Proposed Pipeline selection



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Beaty Butte East-West Gulch Projects

Alternative 2 - Map 3



Legend

- Trough
- |—|—| Proposed Pipeline

Ownership

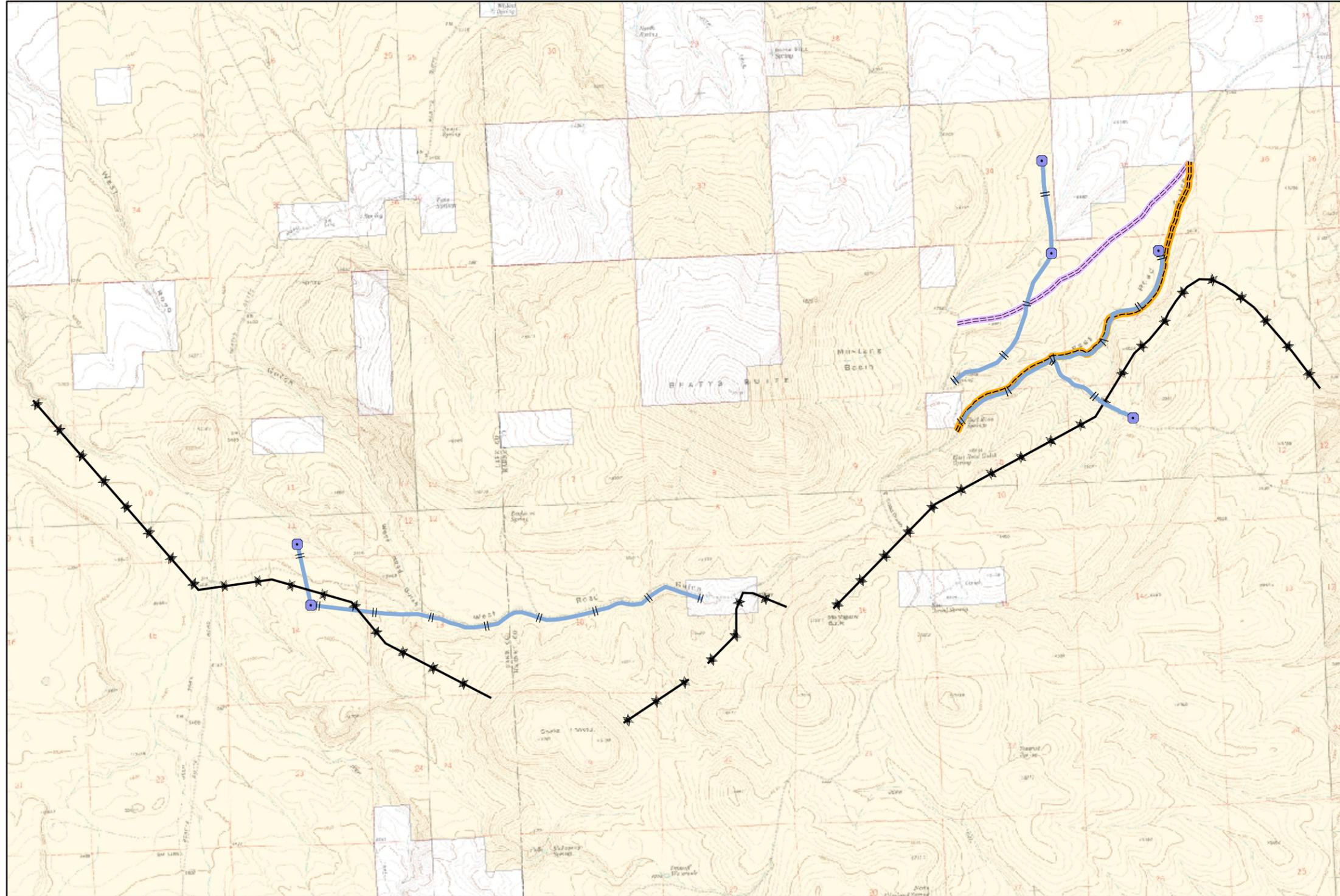
- Bureau of Land Management
- Private



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Beaty Butte East-West Gulch Projects

Alternative 3 - Map 4



Legend

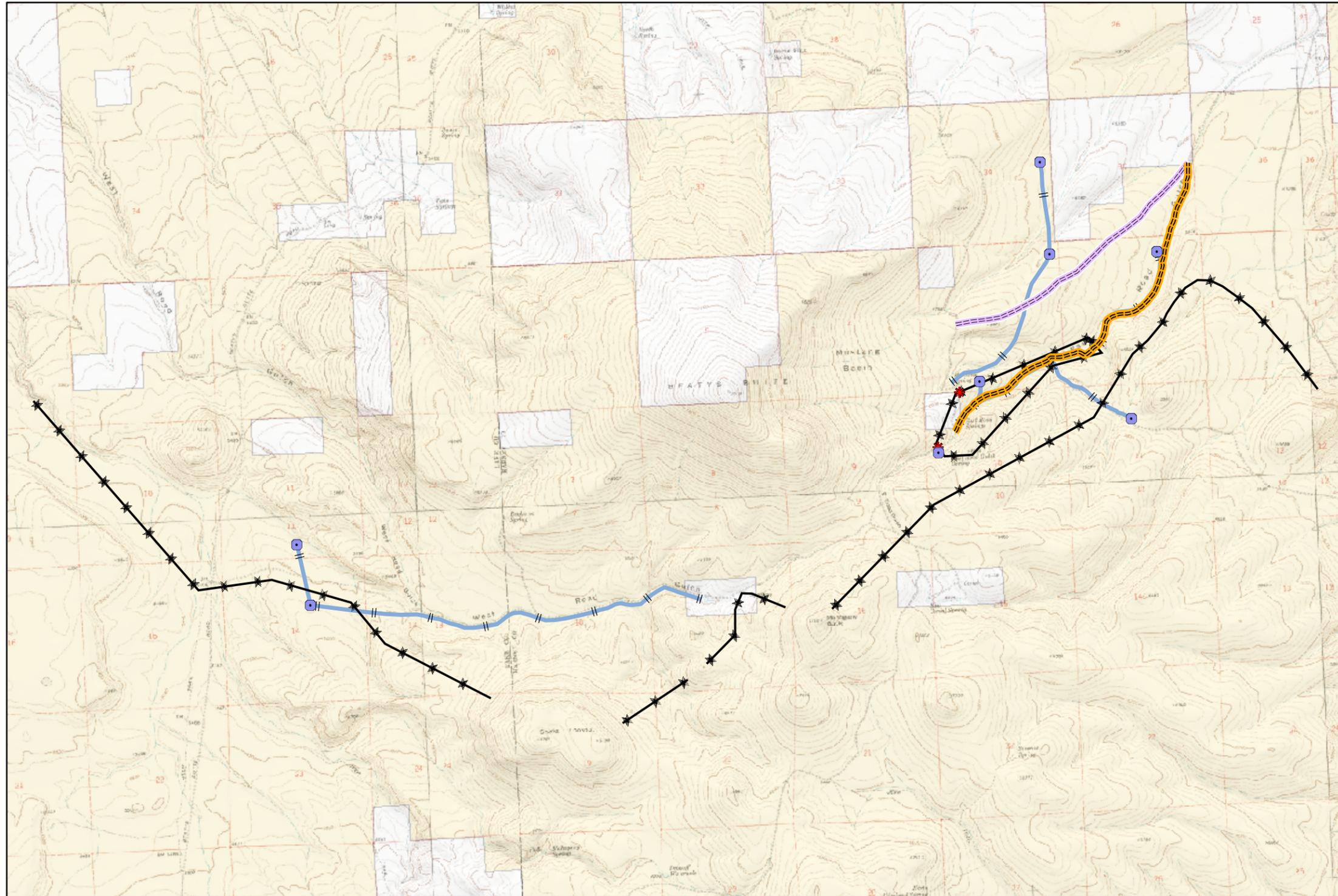
- Proposed Pipeline
- Proposed Road Status**
- New Road
- Road Closed
- Proposed Fence
- Proposed Pipeline
- Trough
- Ownership**
- Bureau of Land Management
- Private



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Beaty Butte East-West Gulch Projects

Alternative 4 - Map 5



Legend

Proposed Road Status

-  New Road
-  Road Closed
-  Proposed Fence
-  Proposed Pipeline

Ownership

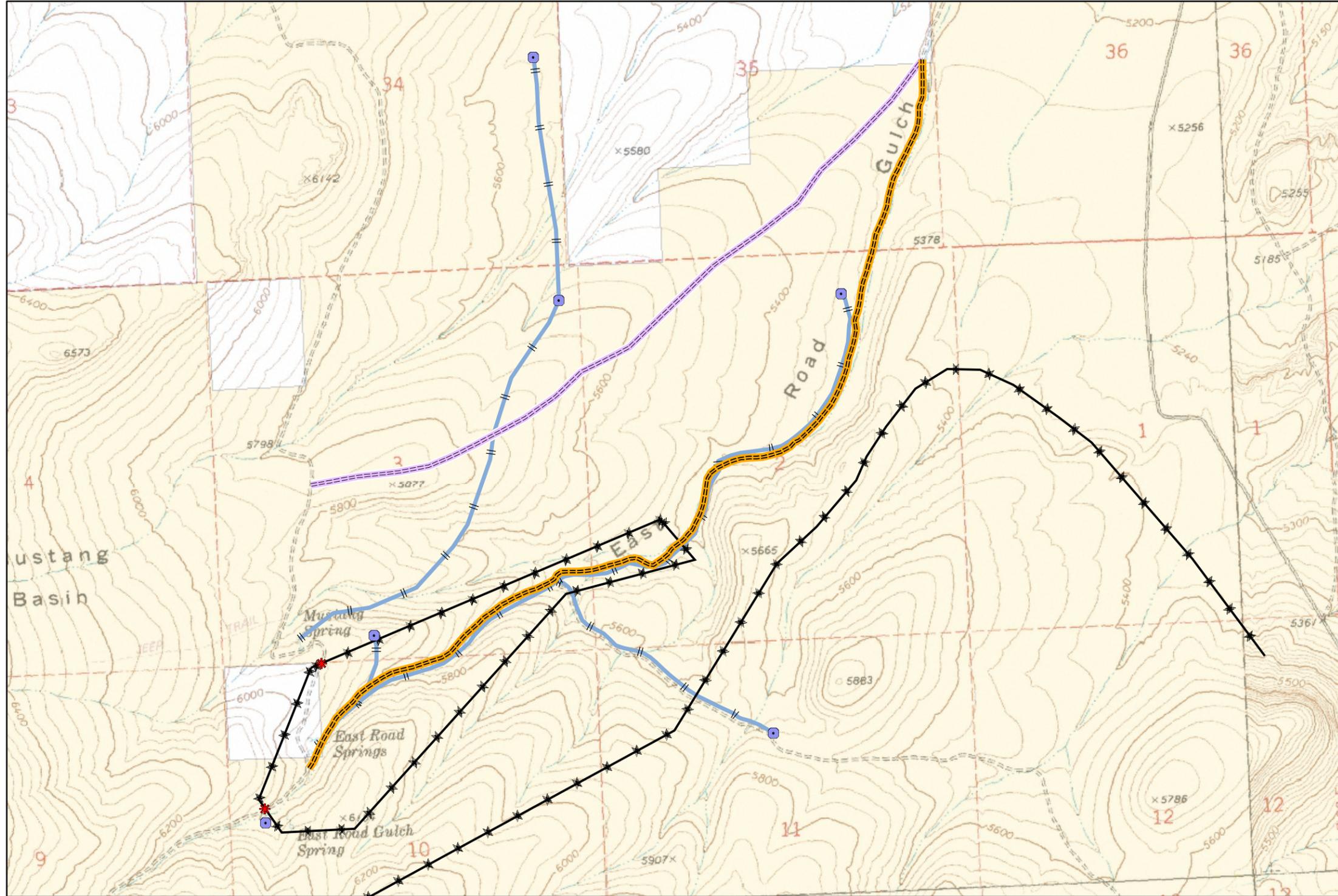
-  Bureau of Land Management
-  Private
-  Cattle Guard
-  Trough



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Beaty Butte East-West Gulch Projects

Alternative 4 - Map 6



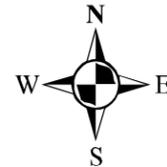
Legend

Proposed Road Status

- New Road
- Road Closed
- *-* Proposed Fence
- || Proposed Pipeline
- * Cattle Guard
- Trough

Ownership

- Bureau of Land Management
- Private



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