

APPENDIX C
AGENCY CORRESPONDENCE

RECORD OF CONVERSATION

DATE: 28 November 2011 TIME: 12:30pm CDT JOB NO.: 15702511

RECORDED BY: Amy Cherko OWNER/CLIENT: FEMA

TALKED WITH: Mike Sherman OF Colorado Dept. of Wildlife

NATURE OF CALL: INCOMING OUTGOING VISIT MEETING PHONE: # 970-472-4345

ROUTE TO:	INFORMATION	ACTION
	<u>Quentin Bliss</u>	_____
	<u>Sue Volkmer</u>	_____
	_____	_____

MAIN SUBJECT: Boulder County Wildlife Mitigation Project

ITEMS DISCUSSED: A. Cherko described the Boulder County proposed project to M. Sherman and inquired if he would like a formal letter consultation. M. Sherman indicated he would prefer the formal letter process but letters should be directed to Steve Yamashita in the Northeast Regional Office at 6060 Broadway, Denver, CO, 80216.

M. Sherman commented Boulder County + City of Boulder have their own stringent standards as well as their own team of biologists.

RECORD OF CONVERSATION

DATE: 29 November 2011 TIME: 3:15pm CDT JOB NO.: 15702511

RECORDED BY: Amy Cherko OWNER/CLIENT: FEMA

TALKED WITH: Margaret Langworthy OF USACE - Denver Field Office

NATURE OF CALL: INCOMING OUTGOING VISIT MEETING PHONE: # 303-979-4120

ROUTE TO: INFORMATION ACTION

Quentin Bliss _____

Susan Volkmer _____

MAIN SUBJECT: Boulder County Wildfire Mitigation Project & CSFS State Forest Fuels Mitigation

ITEMS DISCUSSED: A. Cherko contacted M. Langworthy and described the proposed projects. She indicated in areas adjacent to water bodies where hand methods will be used, no consultation with the USACE will be necessary. If requesting a letter stating no waters of the U.S. or wetlands are located in a project area, contact Terry McKee at 303-979-4120.



FEMA

R8-Div

28 November 2011

Ms. Susan Linner
U.S. Fish and Wildlife Service
Colorado Ecological Services Office
134 Union Blvd, Suite 670
P.O. Box 25486 DFC
Denver, CO 80225

Re: Boulder County Wildfire Mitigation Project

Dear Ms. Linner:

On November 7, 2011, Quentin Bliss of URS Corporation spoke with Ms. Leslie Ellwood of your office regarding a Federal Emergency Management Agency (FEMA) wildfire mitigation projects in Colorado. This letter is in regard to the Boulder County Wildfire Mitigation Project located in Boulder County near Boulder and Nederland, CO. Activities will occur in four project areas: Betasso Preserve, Mud Lake Open Space, Nederland, and Kossler Reservoir. Exhibits 1, 2, 3, and 4 show the general project areas and Exhibit 5 shows photographs of each project area. Each area is described below.

Betasso Open Space (Latitude 40.01222, Longitude -105.34278)

Activities at Betasso Open Space would include the creation of defensible space, shaded fuel breaks, and thinning. These treatments will occur on approximately 90 acres. The goal is to reduce tree density by 50 to 70 percent of current densities. Due to the severe slopes at the Betasso Open Space project area, the trees would be hand cut and removed via helicopter or cable yarding system. In order to maintain wildlife habitat, clumps of trees will be left with an overall goal of approximately 25 to 30 percent of the area being open space. The tree clumps will be far enough apart to reduce overall crown density and the clumps will vary in size from as few as two or as many as 80 trees. The clumps of trees could be as large as one acre.

Activities around the Betasso Water Treatment Facility will include creating defensible space and shaded fuel breaks around the facility by thinning to increase canopy spacing on the south slopes below the Water Treatment Facility. The areas with severe slopes will be thinned via hand clearing (chainsaws) and areas with less severe slopes will utilize mechanical removal via feller bunchers with rubber-tired skidders for forwarding. Felled trees will be removed via helicopter.

Activities around the Boulder Canyon Hydroelectric Plant include creating a defensible space around a historic barn located west of the Hydroelectric Plant. The overall goal is to remove forest understory and open the canopy to break up continuity of fuels.



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Thinning activities at the hydroelectric plant will utilize existing fire breaks (a steep rock cliff and a road) as anchor points. Methods will include hand clearing (chainsaws) and removal via helicopter.

Mud Lake (Latitude, 39.97806, Longitude -105.50861)

Activities at Mud Lake include thinning approximately 70 acres of Upper Montane life zone to break up the continuity of fuels. The Upper Montane life zone includes lodgepole pine, ponderosa pine, Douglas fir, and limber pine as well as aspen but the focus will be on the removal of dead and dying lodgepole pines via group selection that will favor aspen and ponderosa pine. Shaded fuel breaks will be created along roadways. Large timber will be felled using feller bunchers on tracks (versus wheels). A feller buncher consists of a standard heavy equipment base with a tree-grabbing device furnished with a chain-saw, circular saw or a shear. The machine then places the cut tree on a stack suitable for a skidder or forwarder, or other means of transport (yarding) for further processing (e.g., delimiting, bucking, loading, or chipping). The feller bunchers will utilize existing roads within the Mud Lake properties. No new roads will be created. Once the timber is felled, it will be placed on a landing and chipped for use as fuel in Boulder County heating facilities. When the activities are completed the existing roads will be decommissioned (restoring the integrity of the road bed to be consistent with the surrounding environment).

Nederland (Latitude 39.97056, Longitude -105.51028)

Activities around the town of Nederland will focus on creating defensible space and shaded fuel breaks around critical facilities and residences. The facilities include Nederland Middle-Senior High School and Nederland Elementary School, as well as other city and county owned parcels. The parcels within in Nederland are relatively small (from 1 acre and to 34 acres) and surround populated areas within the town. Due to the size and proximity to the population, thinning and defensible space activities will be completed utilizing hand clearing (chainsaws).

Kossler Reservoir (Latitude 39.97972, Longitude -105.33222)

Kossler Reservoir serves as a regulating reservoir for the Boulder Canyon Penstock and flow through the Boulder Canyon Penstock is regulated by a valve that is located in the Valve House on the north side of Kossler. Activities around the Kossler Reservoir will focus on thinning to create larger canopy breaks by removing ponderosa pines in the four-to eight-inch diameter category. Activities will be completed using hand methods. No processing of the felled trees would occur on site and trees would be decked on the north side of the reservoir. All slash from the felled trees would be chipped in place.



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Felled trees will be temporarily decked near the north side of the reservoir and all slash will be disposed of via chipping. Work will be completed during the winter months and when the ground is dry to minimize disturbance.

Harvesting systems and related equipment will be specific to the topography and site considerations of each individual sub-project. Ground-based harvesting systems would include equipment such as chainsaws, mechanical harvesters, feller-bunchers, rubber tired skidders, forwarders, and chippers. Supportive equipment would include log loaders, log trucks, and chip vans which would be limited to landing/processing areas. It is anticipated that ground-based harvesting will be the primary means of extraction except for Betasso where the use of aerial harvesting (helicopter) maybe be utilized due to the severe terrain that comprises the project area.

Proposed activities will not include any prescribed burning. Material (woody biomass) generated from these projects will either be de-limbed and transported in log form to an off-site storage area for future chipping or chipped whole-tree at the landing area directly into staged chip vans. Ultimately, the vast majority of material will be utilized as fuel, in chip form, for Boulder County biomass heating systems located at the Boulder County Correctional Facility and Open Space and Transportation Complex.

Attached is a map that denoted the project areas and photographs of each project area.

The IPaC system was accessed on November 7 to obtain an official list of federally listed threatened and endangered species that have the potential to occur in Boulder County, Colorado.

IPaC indicated the following species could be affected by flow depletions in the Platte River basin.

- Whooping crane (*Grus americana*) - endangered
- Least tern (*Sternula antillarum*) - endangered
- Piping plover (*Charadrius melodus*) - threatened
- Pallid sturgeon (*Scaphirhynchus albus*) - endangered
- Western prairie fringed orchid (*Platanthera praeclara*) – threatened

Water depletions within the South Platte, North Platte, and Laramie River basins may affect each of these species and/or their critical habitat associated with the Platte River in Nebraska. Since the project area only involves the thinning of existing vegetation, it does not have the potential to contribute to flow depletions within the Platte River in Nebraska. Therefore, FEMA has determined the proposed project would have No Effect on these five species.



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IPaC indicates the following federally listed species have the potential to occur in Boulder County, CO:

- Canada lynx (*Lynx canadensis*)- threatened;
- Preble's meadow jumping mouse (*Zapus hudsonius preblei*) – threatened;
- Gunnison's prairie dog (*Cynomys gunnisoni*) – candidate;
- North America wolverine (*Gulo gulo luscus*) – candidate;
- Mexican spotted owl (*Strix occidentals lucida*)- threatened;
- greenback cutthroat trout (*Oncorhynchus clarki stomias*) – threatened;
- Colorado butterfly plant (*Gaura neomexicana coloradensis*) – threatened; and
- Ute ladies'-tresses (*Spiranthes diluvialis*) – threatened.

Habitat requirements and designated critical habitat for each of the threatened, endangered, or candidate species are discussed briefly in the following paragraphs.

Canada lynx. The lynx is found in dense sub-alpine forest and willow-choked corridors along mountain streams and avalanche chutes, the home of its favored prey species, the snowshoe hare. The Colorado Division of Wildlife (CDOW) indicates the Canada lynx appears to be restricted to extremely isolated areas of the mountains in the central portion of the state and that they generally occur at elevations between 9,000 and 14,000 feet. The CDOW reported that the lynx is known to occur in Boulder County, but are extremely rare. Canada lynx generally avoid human contact and the project areas are at elevations less than 9,000 feet. Therefore, there is a low potential for Canada Lynx to occur within the project area. Based on the low potential of occurrence in the project area, FEMA has made a determination of **may affect not likely to adversely effect** the Canada lynx.

Preble's meadow jumping mouse. The distribution range of the Preble's meadow jumping mouse includes the northern Front Range of Colorado and southeastern Wyoming. Typical habitat for the mouse is wet meadows and well developed riparian vegetation in the vicinity of a water source. Generally, their preferred habitat includes a relatively dense combination of grasses, forbs, and shrubs (Roth 2005). However, Preble's meadow jumping mice regularly range out from the riparian/wet meadow habitat into adjacent upland habitat to feed and hibernate. The mouse feeds on a wide range of vegetation depending on the habitat they are occupying and the season of the year. Reported food items in their diet include insects, seeds, fungus, fruit, and more. The hibernation period for the Preble's meadow jumping mouse extends from September/October to May. The USFWS listed the species primarily due to the rapid loss of their habitat along the Front Range in Colorado associated with development on private lands.



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Development activities involving wetlands, wet meadows, closure of irrigation canals and ditches represent potential loss of habitat for the Preble's meadow jumping mouse. Critical habitat designated by the USFWS is present in southeastern Boulder County along South Boulder Creek from El Dorado to Baseline Reservoir. Preble's Meadow Jumping Mouse has been identified in Tom Davis Gulch, located on Walker Ranch (Boulder County Parks and Open Space Property). Potential habitat may be present in the project area around Kossler Lake, however no ground disturbance is expected to occur and project activities will be conducted in accordance with the 2008 revised edition of Colorado Forestry BMPs for water quality. All identified perennial streams and wetlands will have a minimum of a 100' vegetative buffer/filter in place. All activities will be completed utilizing hand methods and work will be completed during the winter months when the mice are in hibernation. Therefore, FEMA made a determination of **may affect but not likely to adversely effect** the Prebel's meadow jumping mouse.

Gunnison's prairie dog. The USFWS has determined that populations of the Gunnison prairie dog located in central and south central Colorado (includes Park County) and north central New Mexico (montane environment) may warrant protection under the Endangered Species Act. Like other species of prairie dogs, they are a colonial species. Historically, this species occurred in large colonies. Currently, most colonies are small in size and isolated, which makes them more vulnerable to extirpation. Gunnison prairie dogs are found on level to gently sloping grasslands and semi-desert and montane shrublands at elevations from 6,000 to 12,000 feet. Grasses are the most important food item with forbs, sedges, and shrubs infrequently consumed. The project area does not contain grassland habitat; therefore, FEMA has determined that the proposed project would have **No Effect** on the Gunnison prairie dog.

North America Wolverine. The North American wolverine does not appear to specialize on specific vegetation or geological habitat aspects, but instead selects areas that are cold and receive enough winter precipitation to reliably maintain deep persistent snow late into the warm season. The requirement of cold, snowy conditions means that, in the southern portion of the species' range where ambient temperatures are warmest, wolverine distribution is restricted to high elevations, while at more northerly latitudes, wolverines are present at lower elevations and even at sea level in the far north. Deep, persistent, and reliable spring snow cover (April 15 to May 14) is the best overall predictor of wolverine occurrence in the contiguous U.S. Wolverines are opportunistic feeders, consuming a variety of foods depending on availability. They primarily scavenge carrion, but also prey on small animals and birds and eat fruits, berries, and insects. According to CDOW, in spring 2009, researchers with the Greater Yellowstone Wolverine Program tracked a wolverine from Grand Teton National Park south into north central Colorado. This was the first wolverine confirmed in the state in 90 years.



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Wolverines may occur in the project areas during winter months when deep snow is present; however, wolverines are not likely to be present in warmer months at the lower elevations. Based on the low potential of occurrence in the project area, FEMA has made a determination of **may affect but not likely to adversely effect** the North American wolverine.

Mexican spotted owl. Old growth or mature forests that contain complex structural components (uneven aged stands, high canopy closure, multi-storied levels, and high tree density) are the primary habitat used by the Mexican spotted owl. Canyons with riparian or conifer communities also represent important habitat for the spotted owl. The USFWS and CDOW indicate the Mexican spotted owl has the potential to occur in Boulder County. However, no critical habitat designated by the USFWS is present in Boulder County. One of the identified threats to Mexican spotted owls is a catastrophic wildfire (USFWS 2001). Therefore, if the proposed project activities limited the spread of a wildfire, it could be beneficial to Mexican spotted owls. The type of habitat utilized by the Mexican spotted owl may be present within the Betasso project area. However, due to the presence of housing near the Betasso Open Space as well as Highway 119, Mexican spotted owls are not likely to be present in the Betasso project area. Wildlife surveys conducted on Betasso Open Space have not detected the presence of Mexican spotted owls (Boulder County Parks and Open Space 2009). Therefore, FEMA has made a determination of **may affect but not likely to adversely effect** the Mexican spotted owl.

Greenback cutthroat trout. Greenback cutthroat trout inhabit cold water streams and cold water lakes normally high in the watershed and frequently their occurrence is upstream of a barrier that restricts the upstream movement of fish. The presence of such a barrier isolates the greenback cutthroat trout from other subspecies of cutthroat trout as well as rainbow trout. Their habitat requirements include adequate stream spawning habitat present during spring and clear, cold, well-oxygenated water. These habitats are not found within or downstream of the project area. Therefore, FEMA has determined that the proposed project would have **No Effect** on the greenback cutthroat trout.

Colorado butterfly plant. The Colorado butterfly plant occurs at elevations between 5,000 and 6,400 feet. Within this elevation band, it occurs on sub-irrigated, alluvial soils within floodplains and drainage bottoms. The species requires early- to mid-succession riparian habitat that is void of dense or overgrown vegetation. It is an early successional species that is adapted to stream channel sites that are periodically disturbed. In fact, without periodic disturbances, occupied habitat can become choked with willows, grasses, and exotic species, which can contribute to the demise of the species at that location. The USFWS indicates that the most immediate and severe threat to the species is the effect of residential and urban development.



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The project area does not contain the type of habitat required by the species and the project area is at higher elevation than the elevation occupied by the Colorado butterfly plant. Based on these factors, FEMA has determined that the proposed activities would have **No Effect** on the Colorado butterfly plant.

Ute ladies'-tresses. The Ute ladies'-tresses is a perennial terrestrial orchid that occurs along riparian edges, gravel bars, old oxbows, high flow channels, and moist wet meadows along perennial streams. As discussed previously, the project area does not include any perennial streams or wet meadows area. The project area does not contain habitat utilized by the species. Therefore, FEMA has determined that the proposed project would have **No Effect** on the Ute ladies'-tresses.

The CDOW is also being contacted regarding state-listed threatened and endangered species in Boulder County.

Based on the information provided and discussed above, FEMA has made a determination that the proposed Boulder County Wildfire Mitigation Project would have "**No Effect**" on 9 of the 13 listed species that have the potential to occur in Boulder County or could be affected by flow depletions in the Platte River Basin. For the remaining four species (Canada lynx, North American wolverine, Preble's meadow jumping mouse, and Mexican spotted owl), FEMA has made a determination of "**may affect not likely to adversely effect**". Your response to this determination is requested. If you need additional information or have questions, please call me at (303) 235-4926.

Sincerely,

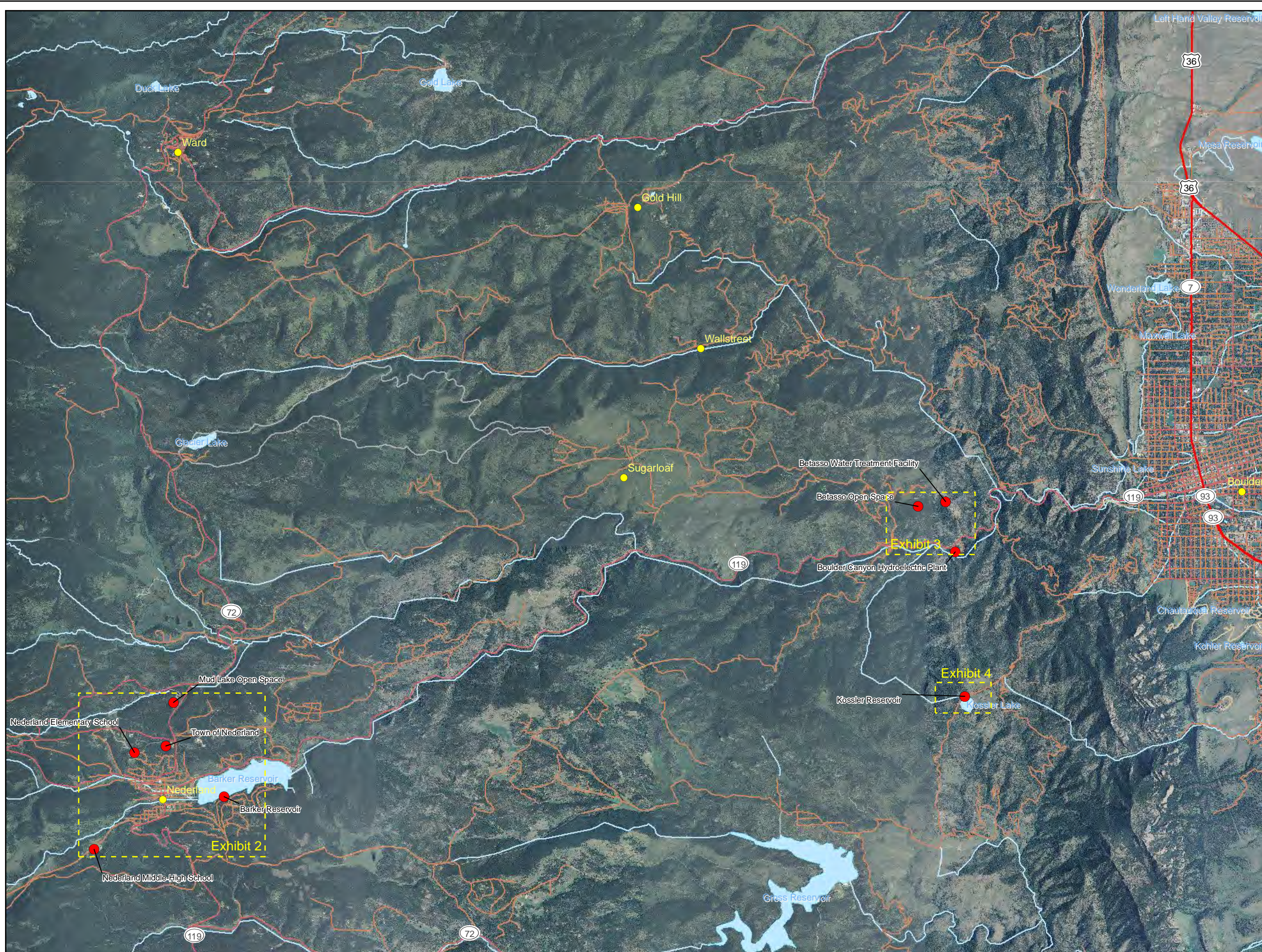
A handwritten signature in black ink, appearing to read "Richard Myers".

Richard Myers
Deputy Environmental Officer
FEMA – Region VIII

cc:
Amy Cherko, URS Omaha
Sue Volkmer, URS Omaha

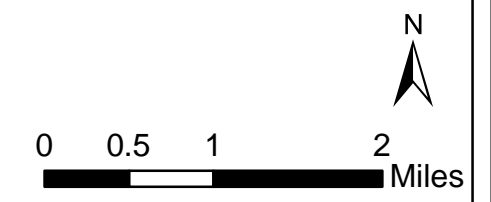
Enclosures:
Project Location Maps
Project Area Photographs

Z:\fema\Region8_EAs\Boulder\CO\Boulder_working.mxd 10/27/2011



Legend

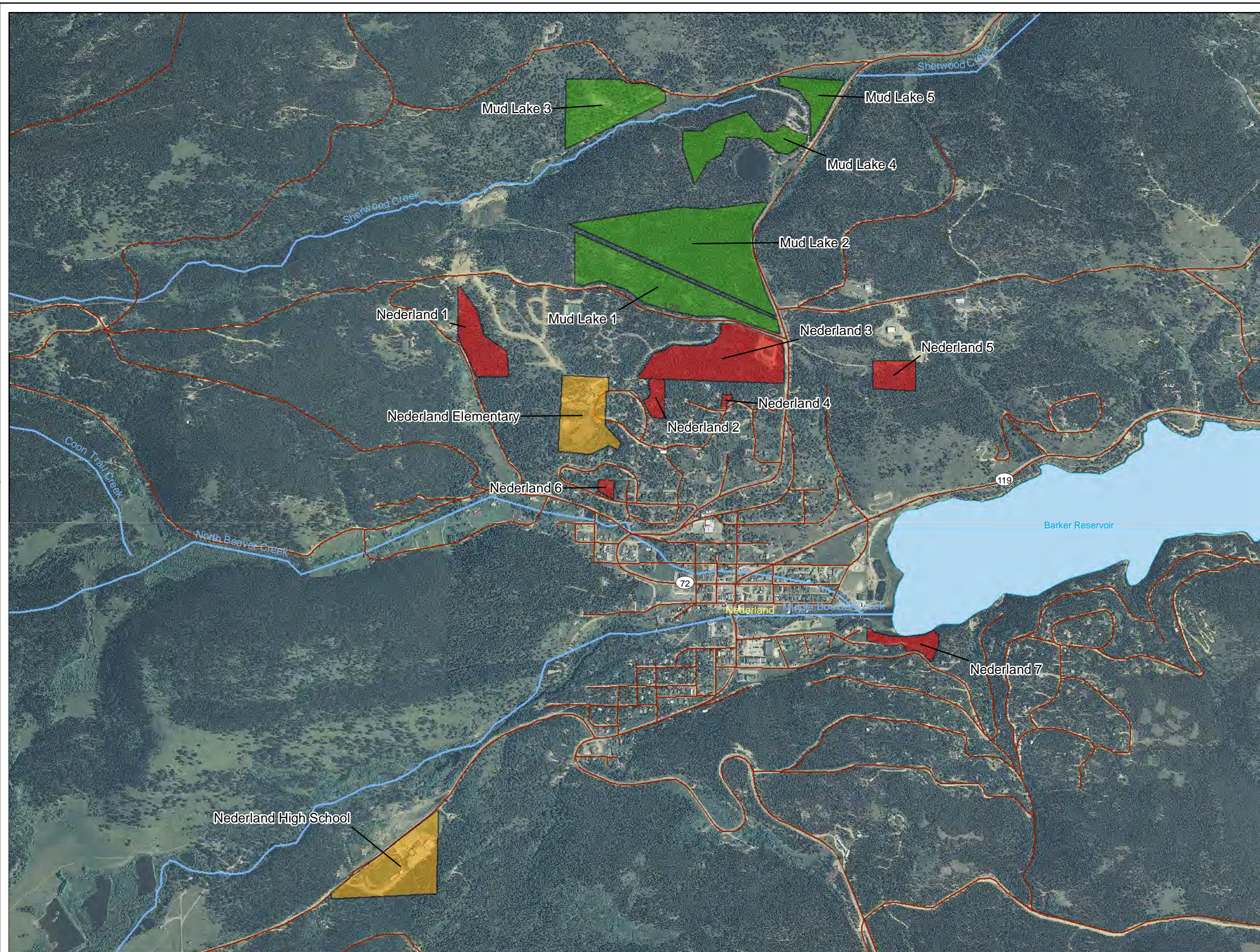
- Project Areas
- Cities
- Streams
- Lakes
- Roads



Boulder County Wildfire Mitigation Project
Boulder County, Colorado

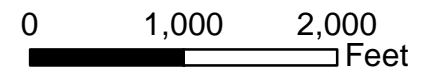
Project Area Locations

Projection: NAD 1983 UTM Zone 13N	Exhibit 1
Project No: 15702511	



Legend

- Boulder County Mud Lake Open Space
- Boulder Valley School District Property
- Town of Nederland Property
- Roads
- Streams
- Lakes

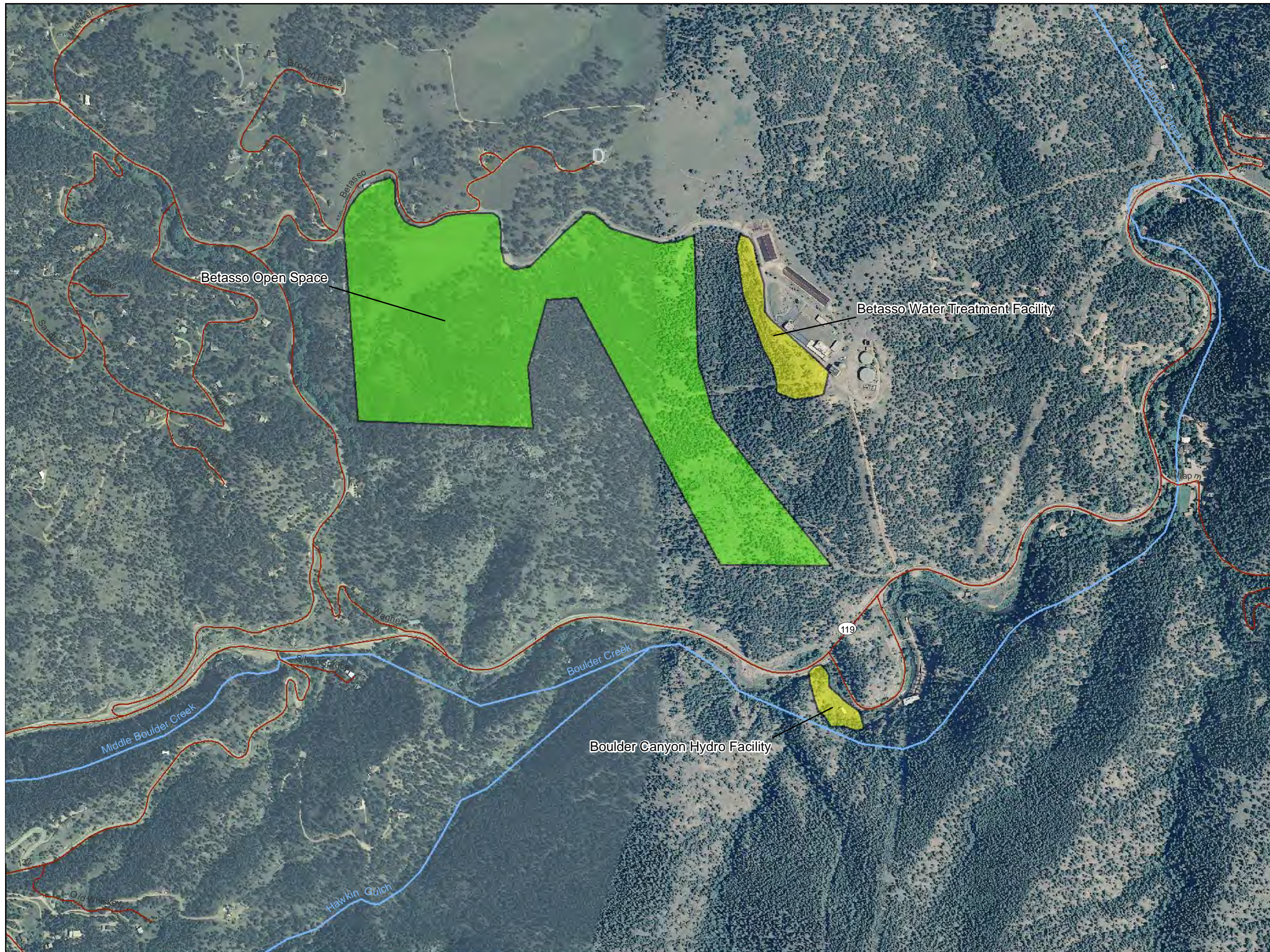


Boulder County Wildfire Mitigation Project
Boulder County, Colorado

Nederland Project Areas

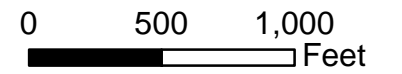
Projection: NAD 1983 UTM Zone 13N
Project No: 15702511

Exhibit
2



Legend

- City of Boulder Property
- Boulder County Betasso Open Space
- Roads
- Streams

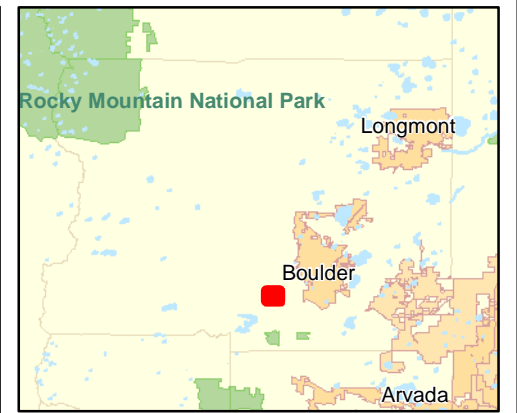
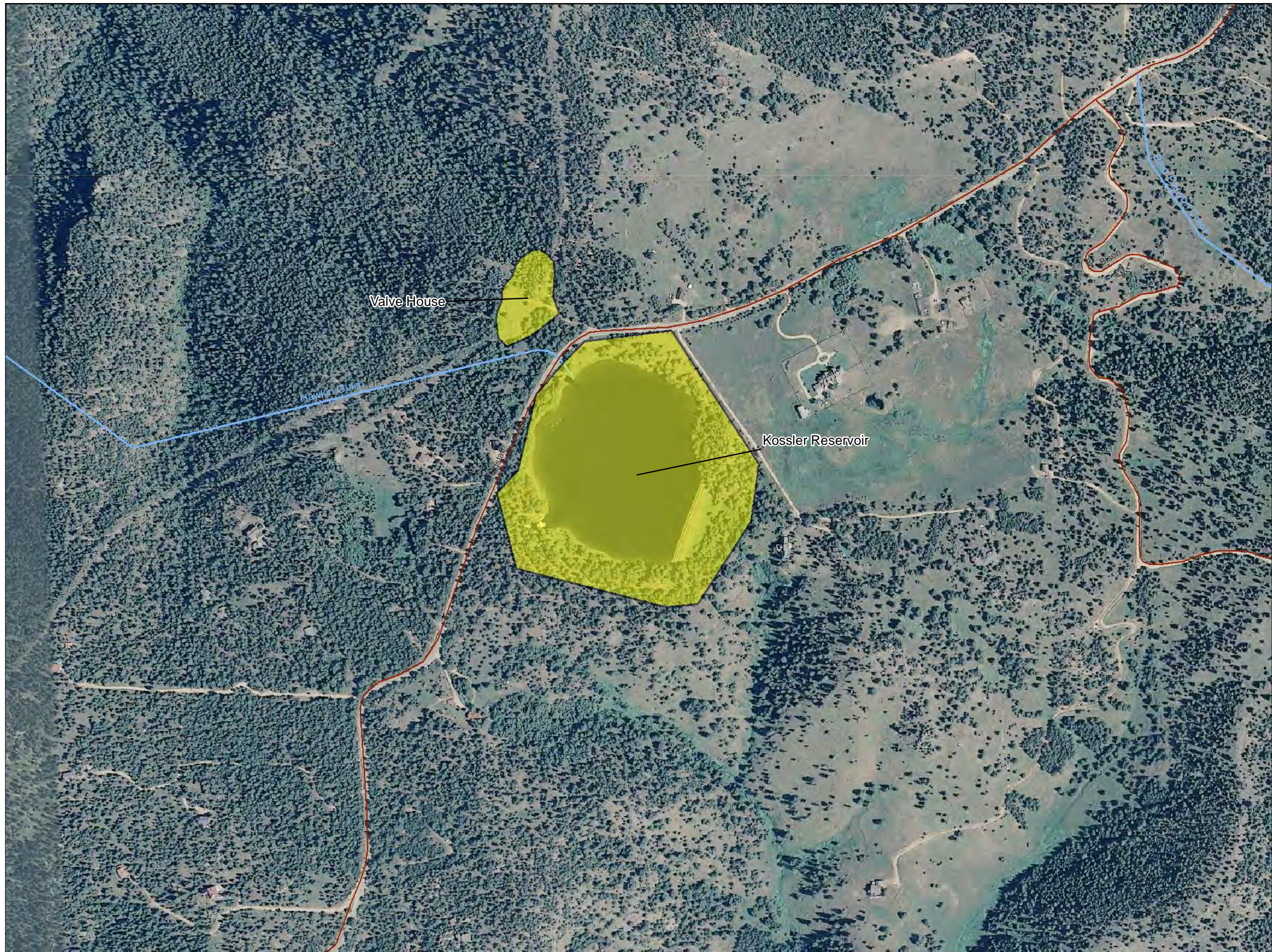


Boulder County Wildfire
Mitigation Project
Boulder County, Colorado

Boulder Canyon Project Areas

Projection: NAD 1983 UTM Zone 13N
Project No: 15702511

Exhibit
3



Legend

- City of Boulder Property
- Roads
- Streams



Boulder County Wildfire
Mitigation Project
Boulder County, Colorado

Kossler Reservoir Project Areas

Projection: NAD 1983 UTM Zone 13N
Project No: 15702511

Exhibit
4

1.



Description:

1. Betasso Preserve and the Betasso Water Treatment Facility. Photograph is of the west and south sides of Betasso.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

2.



Description:

2. Boulder Canyon Hydroelectric Plant. Historic barn is shown on the right hand side of photograph.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

3.



4.



Description:

3. Kossler Reservoir Pipeline outlet.

4. Vegetation around Mud Lake.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/25/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

5.



6.



Description:

5. Mud Lake project area.

6. Mud Lake project area.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

7.



8.



Description:

7. Area behind Nederland High School and Nederland High School football field.

8. Area adjacent to Nederland Elementary School.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		



FEMA

R8-Div

November 28, 2011

Steve Yamashita
Colorado Department of Wildlife
Northeast Regional Office
6060 Broadway
Denver, Colorado 80216

Re: State Threatened and Endangered Wildlife

Mr. Yamashita:

URS Corporation, on behalf of the Federal Emergency Management Agency (FEMA), is preparing an Environmental Assessment for the Boulder County Wildfire Mitigation Project near Boulder and Nederland, CO. Activities will occur in four project areas: Betasso Preserve, Mud Lake Open Space, Nederland, and Kossler Reservoir. Exhibits 1, 2, 3, and 4 show the general project areas and Exhibit 5 shows photographs of each project area. Each area is described below.

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Mud Lake (Latitude, 39.97806, Longitude -105.50861)

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Nederland (Latitude 39.97056, Longitude -105.51028)

Activities around the town of Nederland will focus on creating defensible space and shaded fuel breaks around critical facilities and residences. The facilities include Nederland Middle-Senior High School and Nederland Elementary School, as well as other city and county owned parcels. The parcels within in Nederland are relatively small (from 1 acre and to 34 acres) and surround populated areas within the town. Due to the size and proximity to the population, thinning and defensible space activities will be completed utilizing hand clearing (chainsaws).

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Kossler Reservoir serves as a regulating reservoir for the Boulder Canyon Penstock and flow through the Boulder Canyon Penstock is regulated by a valve that is located in the Valve House on the north side of Kossler. Activities around the Kossler Reservoir will focus on thinning to create larger canopy breaks by removing ponderosa pines in the four-to eight-inch diameter category. Activities will be completed using hand methods. No processing of the felled trees would occur on site and trees would be decked on the north side of the reservoir. All slash from the felled trees would be chipped in place.



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Proposed activities will not include any prescribed burning. Material (woody biomass) generated from these projects will either be de-limbed and transported in log form to an off-site storage area for future chipping or chipped whole-tree at the landing area directly into staged chip vans. Ultimately, the vast majority of material will be utilized as fuel, in chip form, for Boulder County biomass heating systems located at the Boulder County Correctional Facility and OSTC. Attached is a map that denoted the project areas and photographs of an area that has received the same fire mitigation treatments that are proposed for this project.

The Colorado Division of Wildlife (CDOW) and Natural Diversity Information Source (NDIS) websites were accessed on November 10, 2011 to obtain an official list of state listed threatened and endangered species that have potential to occur in Boulder County, Colorado. The following species may be affected by flow depletions in the Platte River basin.

- Whooping crane (*Grus americana*) - endangered
- Least tern (*Sternula antillarum*) - endangered
- Piping plover (*Charadrius melodus*) - threatened

Water depletions within the South Platte, North Platte, and Laramie River basins may affect these species and/or their critical habitat associated with the Platte River in Nebraska. Since the project area only involves the thinning of existing vegetation, it does not have the potential to contribute to flow depletions within the Platte River basin. Therefore, FEMA has determined the proposed project would have **No Effect** on the whooping crane, least tern, or piping plover.

No streams or reservoirs are located within the project area, thus the proposed project would have no direct physical effect on any aquatic resources. Indirect effects on aquatic resources associated with the proposed project are anticipated to be positive, as the project is designed to reduce the likelihood of wildfires in the area and the resulting sedimentation that often occurs following a subsequent precipitation event.



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Mr. Steve Yamashita
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In summary, the proposed project would not be expected to have an adverse impact on aquatic resources during the implementation of the vegetation management treatments; therefore FEMA has determined the proposed project would have No Effect on any State threatened or endangered aquatic species.

The NDIS website indicates the following State threatened and endangered terrestrial species have potential to occur in Boulder County, CO:

- Canada lynx (*Lynx canadensis*) – State endangered
- North American wolverine (*Gulo gulo lucus*) – State endangered
- River otter (*Lontra canadensis*) – State threatened
- Preble's meadow jumping mouse (*Zapus hudsonius preblei*) – State threatened
- Mexican spotted owl (*Strix occidentalis lucida*) – State threatened
- Western burrowing owl (*Athene cunicularia*) – State threatened
- Lesser prairie chicken (*Tympanuchus pallidicinctus*) – State threatened
- Boreal toad (*Bufo boreas boreas*) – State endangered

Canada Lynx. The Canada lynx is found in dense sub-alpine forest and willow-choked corridors along mountain streams and avalanche chutes, the home of its favored prey species, the snowshoe hare. The CDOW indicates the Canada lynx appears to be restricted to extremely isolated areas of the mountains in the central portion of the state and generally occur at elevations between 9,000 and 14,000 feet. The project areas range from 5,900 feet to 8,600 feet. The CDOW reports the lynx is known to occur in Boulder County, but is extremely rare. Therefore, there is a low potential the Canada lynx may on occasion occur within habitat located in the project area. However, Canada lynx generally avoid human contact and since the project areas are near developed residential areas, use of the project area by Canada lynx is unlikely. During the creation of defensible space and thinning process, noise from the chain saws and workers would be expected to preclude the presence of any Canada lynx during the treatment period. Based on the low potential of occurrence in the project area, FEMA has determined the proposed activities **May Affect but Not Likely to Adversely Effect** the Canada lynx.

North American Wolverine. The North American wolverine does not appear to specialize on specific vegetation or geological habitat aspects, but instead selects areas that are cold and receive enough winter precipitation to reliably maintain deep persistent snow late into the warm season. The requirement of cold, snowy conditions means that, in the southern portion of the species' range where ambient temperatures are warmest, wolverine distribution is restricted to high elevations,



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while at more northerly latitudes, wolverines are present at lower elevations and even at sea level in the far north. Deep, persistent, and reliable spring snow cover (April 15 to May 14) is the best overall predictor of wolverine occurrence in the contiguous U.S. Wolverines are opportunistic feeders, consuming a variety of foods depending on availability. They primarily scavenge carrion, but also prey on small animals and birds and eat fruits, berries, and insects. According to CDOW, in spring 2009, researchers with the Greater Yellowstone Wolverine Program tracked a wolverine from Grand Teton National Park south into north central Colorado. This was the first wolverine confirmed in the state in 90 years. Although, wolverines may occur in the project areas during winter months when deep snow is present, they are not likely to be present in warmer months at the lower elevations. Based on the low potential of occurrence in the project area, FEMA has determined the proposed activities **May Affect but Not Likely to Adversely Effect** the North American wolverine.

River Otter. The river otter inhabits riparian habitats that traverse a variety of other ecosystems ranging from semidesert shrublands to montane and subalpine forests. River otters require permanent water of relatively high quality and with an abundant food base of fish or crustaceans. They occur in the Colorado, Gunnison, Piedra, and Dolores rivers. Tracks and other sign of otters have also been found in the Poudre and Laramie drainages in Larimer County. None of the project areas are located in these areas. Since the project area does not contain habitat utilized by the species, FEMA has determined the proposed project would have **No Effect** on the river otter.

Preble's Meadow Jumping Mouse. The distribution range of the Preble's meadow jumping mouse includes the northern Front Range of Colorado and southeastern Wyoming. Typical habitat for the mouse is wet meadows and well developed riparian vegetation in the vicinity of a water source. Generally, their preferred habitat includes a relatively dense combination of grasses, forbs, and shrubs. However, Preble's meadow jumping mice regularly range out from the riparian/wet meadow habitat into adjacent upland habitat to feed and hibernate. The hibernation period for the Preble's meadow jumping mouse extends from September/October to May. Hibernation nests occur underground both within and outside of the 100-year floodplain. Hibernacula have been located under willow, chokecherry, snowberry, skunkbrush, sumac, clematis, cottonwoods, Gambel's oak, thistle, and alyssum. The mouse feeds on a wide range of vegetation depending on the habitat they are occupying and the season of the year. Reported food items in their diet include insects, seeds, fungus, fruit, and more. The USFWS listed the species primarily due to the rapid loss of their habitat along the Front Range in Colorado associated with development on private lands. Development activities involving wetlands, wet meadows, closure of irrigation canals and ditches represent potential loss of habitat for the Preble's meadow jumping mouse. Critical habitat designated by the USFWS is present in southeastern Boulder County along South Boulder Creek



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from El Dorado to Baseline Reservoir. Preble's meadow jumping mouse has been identified in Tom Davis Gulch, located on Walker Ranch (Boulder County Parks and Open Space Property), which is located approximately 1.25 miles southwest of Kossler Reservoir. Potential habitat may be present in the project area around Kossler Lake. Proposed vegetation management activities would occur during the winter period when the mice are usually hibernating and no activities would occur within 100 feet of any riparian areas. Therefore, FEMA has determined the proposed project activities **May Affect but Not Likely to Adversely Effect** the Prebel's meadow jumping mouse.

Mexican Spotted Owl. Old growth or mature forests that contain complex structural components (uneven aged stands, high canopy closure, multi-storied levels, and high tree density) are the primary habitat used by the Mexican spotted owl. Canyons with riparian or conifer communities also represent important habitat for the spotted owl. The USFWS and CDOW indicate the Mexican spotted owl has the potential to occur in Boulder County. No critical habitat designated by the USFWS is present in Boulder County. One of the identified threats to Mexican spotted owls is a catastrophic wildfire. Therefore, if the proposed project activities limited the spread of a wildfire, it could be beneficial to Mexican spotted owls. The type of habitat utilized by the Mexican spotted owl may be present within the Betasso project area. However, due to the presence of housing near the Betasso Open Space as well as Highway 119, Mexican spotted owls are not likely to be present in the Betasso project area due to high disturbance and wildlife surveys conducted on Betasso Open Space have not detected the presence of Mexican spotted owls. Therefore, FEMA has determined the proposed project **May Affect but Not Likely to Adversely Effect** the Mexican spotted owl.

Western Burrowing Owl. The Western burrowing owl occurs in grasslands in or near prairie dog towns. There are no prairie dog towns in the project areas; thus, FEMA has determined the proposed project activities would have **No Effect** on the Western burrowing owl.

Lesser Prairie Chicken. The lesser prairie chicken occur in sandsage and sandsage-bluestem grasslands. There are no grasslands present in the project areas; thus, FEMA has determined the proposed project activities would have **No Effect** on the lesser prairie chicken.

Boreal Toad. The boreal toad generally is located in areas between 8,500 and 11,500 feet in elevation in areas that are damp and in the vicinity of a water source. The Mud Lake and Nederland project areas are at approximately 8,500 feet and 8,300 feet above sea level, respectively. The toad typically lives in damp conditions in the vicinity of marshes, wet meadows, streams, beaver ponds, glacial kettle ponds, and lakes interspersed in subalpine forest (lodgepole pine, Englemann spruce,



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subalpine fir, and aspen). Proposed vegetation management activities would occur during the winter period when the toads are hibernating and no activities would occur within 100 feet of any riparian areas. Therefore, FEMA has determined the proposed project **May Affect but Not Likely to Adversely Effect** the Boreal toad.

The USFWS is also being contacted regarding federally-listed threatened and endangered species in Boulder County.

Based on the information provided and discussed above, FEMA has made a determination that the proposed Boulder County Wildfire Mitigation Project located in Boulder County near Boulder and Nederland, Colorado would have “No Effect” on 6 of the 11 listed terrestrial species with the potential to occur in Boulder County or affected by flow depletions in the Platte River Basin. For the remaining species (Canada lynx, North American wolverine, Prebel’s meadow jumping mouse, Mexican spotted owl, and boreal toad), FEMA has made a determination of “May Affect Not Likely to Adversely Affect”.

If you need additional information or have questions, please call me at (303) 235-4926.

Sincerely,

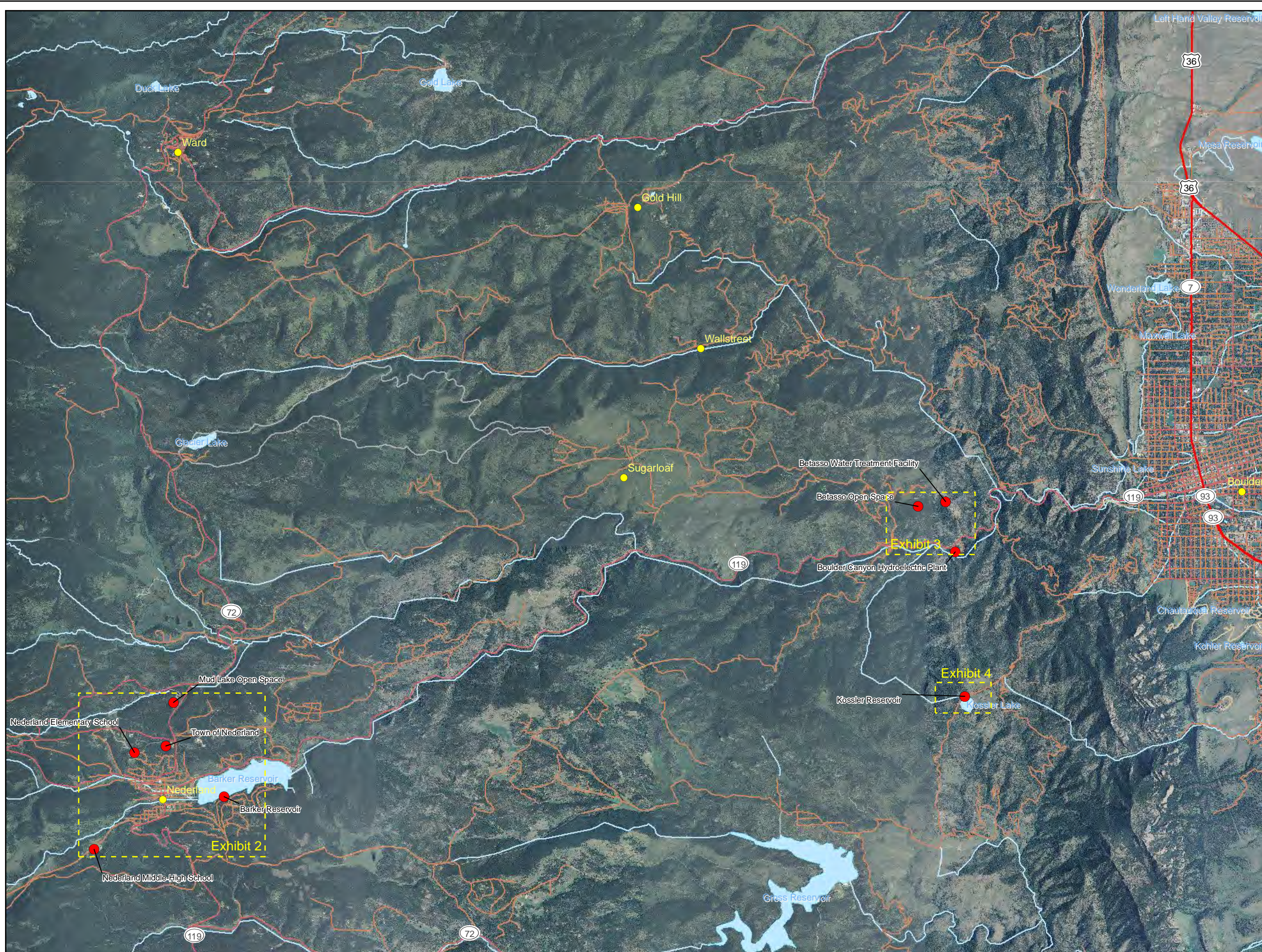
A handwritten signature in black ink, appearing to read "Richard Myers".

Richard Myers
Deputy Environmental Officer
FEMA – Region VIII

cc:
Amy Cherko, URS Omaha
Sue Volkmer, URS Omaha

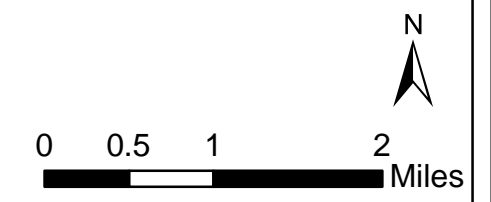
Enclosures:
Project Location Maps
Project Area Photographs

Z:\fema\Region8_EAs\Boulder\CO\Boulder_working.mxd 10/27/2011



Legend

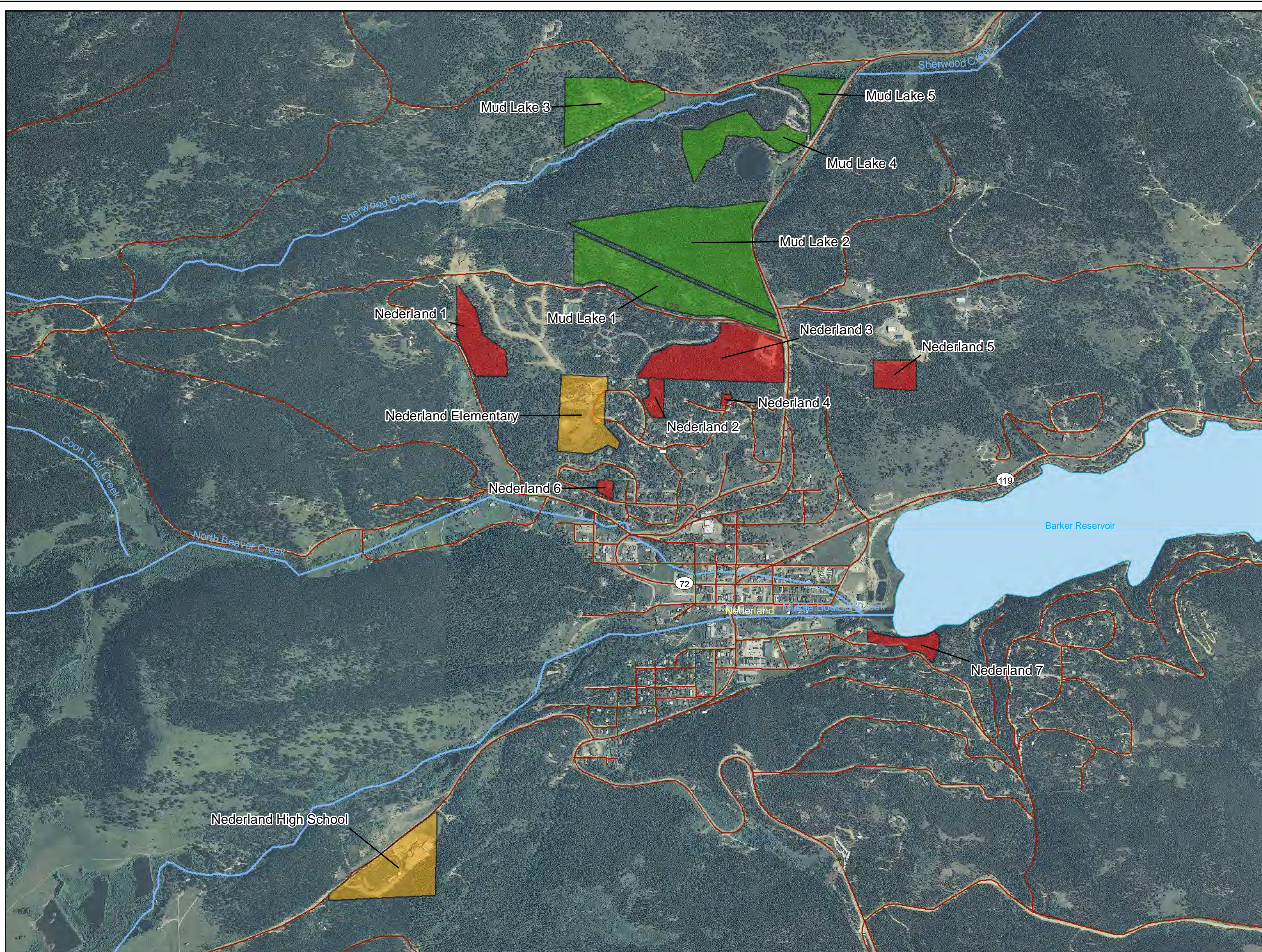
- Project Areas
- Cities
- Streams
- Lakes
- Roads



Boulder County Wildfire Mitigation Project
Boulder County, Colorado

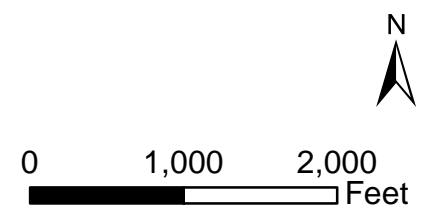
Project Area Locations

Projection: NAD 1983 UTM Zone 13N	Exhibit 1
Project No: 15702511	



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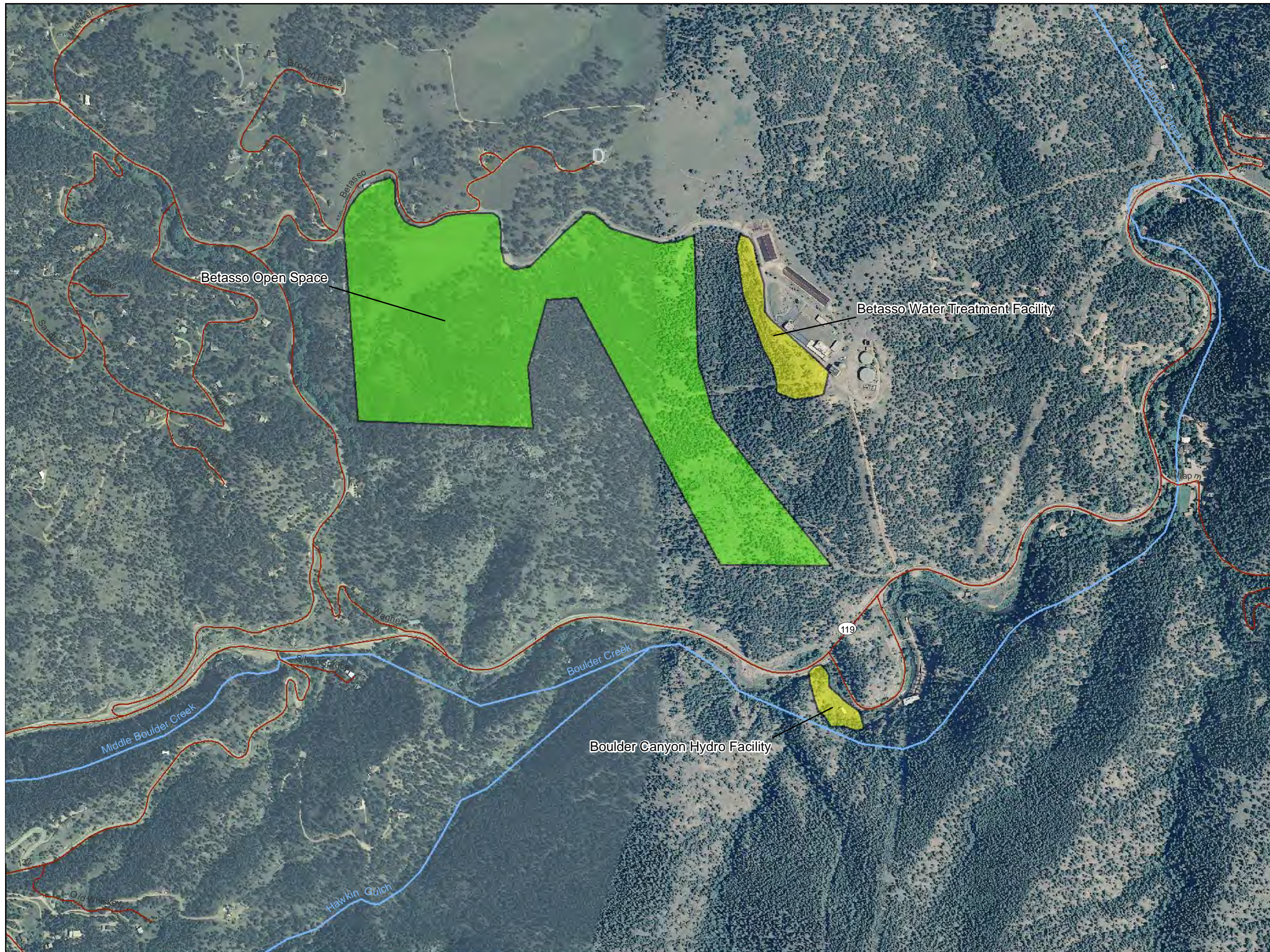
- Boulder County Mud Lake Open Space
- Boulder Valley School District Property
- Town of Nederland Property
- Roads
- Streams
- Lakes



Boulder County Wildfire Mitigation Project
Boulder County, Colorado

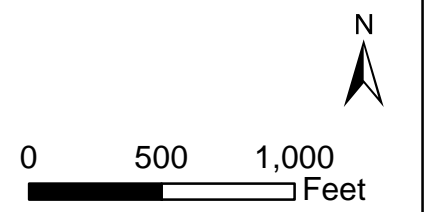
Nederland Project Areas

Projection: NAD 1983 UTM Zone 13N	Exhibit 2
Project No: 15702511	



Legend

- City of Boulder Property
- Boulder County Betasso Open Space
- Roads
- Streams

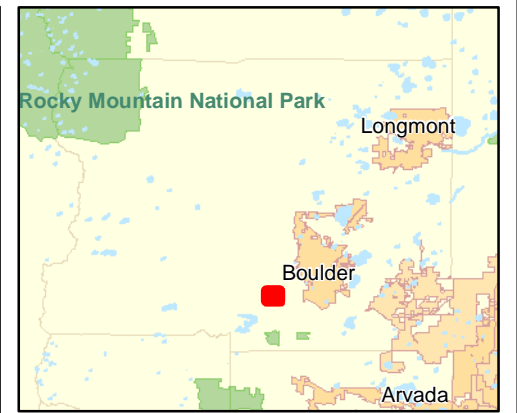
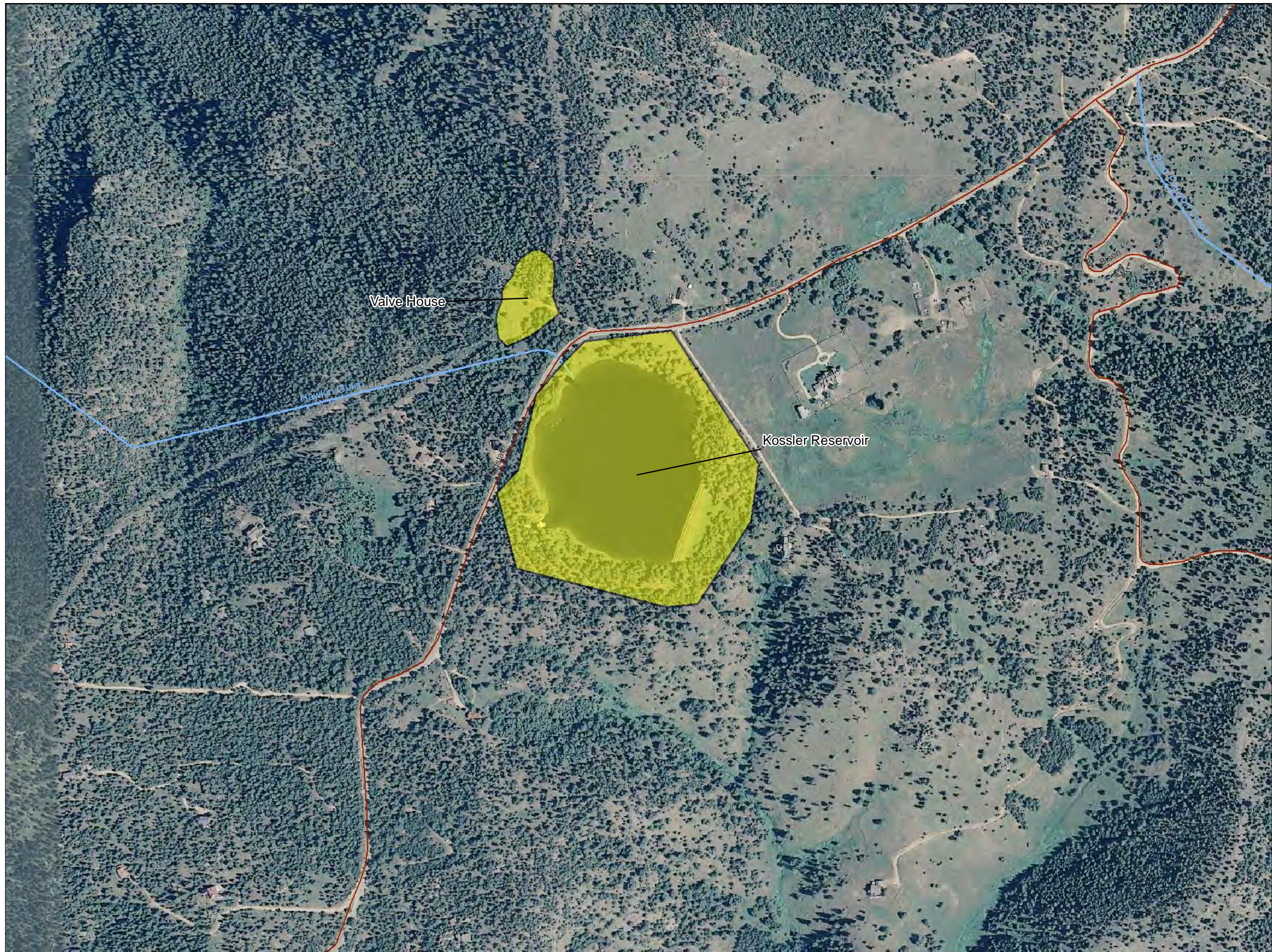


URS

Boulder County Wildfire
Mitigation Project
Boulder County, Colorado

Boulder Canyon Project Areas

Projection: NAD 1983 UTM Zone 13N	Exhibit
Project No: 15702511	3



Legend

- City of Boulder Property
- Roads
- Streams



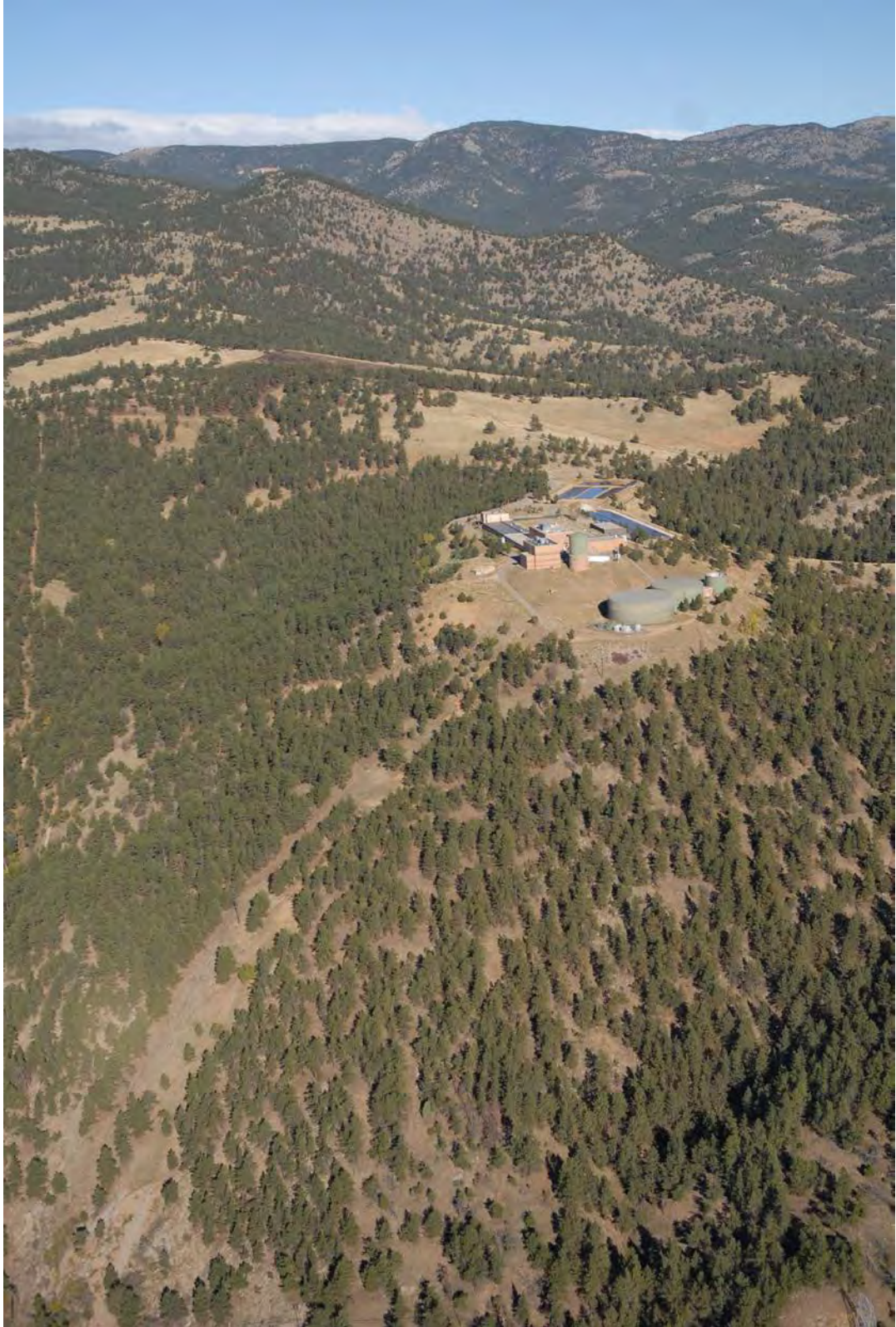
Boulder County Wildfire
Mitigation Project
Boulder County, Colorado

Kossler Reservoir Project Areas

Projection: NAD 1983 UTM Zone 13N
Project No: 15702511

Exhibit
4

1.



Description:

1. Betasso Preserve and the Betasso Water Treatment Facility. Photograph is of the west and south sides of Betasso.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

2.



Description:

2. Boulder Canyon Hydroelectric Plant. Historic barn is shown on the right hand side of photograph.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

3.



4.



Description:

3. Kossler Reservoir Pipeline outlet.

4. Vegetation around Mud Lake.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/25/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

5.



6.



Description:

5. Mud Lake project area.

6. Mud Lake project area.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		

7.



8.



Description:

7. Area behind Nederland High School and Nederland High School football field.

8. Area adjacent to Nederland Elementary School.

Site Photographs
Boulder County Wildfire
Mitigation Project

Drawn By: AC	Date: 11/28/11	Project No. 15702511	Exhibit 5
Checked By: SV	Revision: 0		



FEMA

R8-MIT

April 25, 2012

Mr. Ed Nichols
State Historic Preservation Officer
History Colorado
1200 Broadway
Denver, Colorado 80203

**RE: Section 106 Consultation – BOULDER COUNTY WILDFIRE MITIGATION,
Boulder County, Colorado (PDMC-PJ-08-CO-2011-001)**

Dear Mr. Nichols:

Boulder County, Colorado, has applied for Federal Emergency Management Agency (FEMA) funding to (1) protect the critical infrastructure and facilities in the county that face the greatest wildfire risk, (2) reduce the wildfire risk to more than 3,000 private residences, and (3) educate county residents on the importance of hazardous fuels reduction and defensible space activities in reducing wildfire risk. The mitigation of wildfire risk would consist of hazardous fuel reduction (vegetation removal treatments) on approximately 240 acres, spread out over 20 parcels of land in four general locations in Boulder County, as listed in Table 1. Exhibit 1 illustrates the general locations of the four project areas relative to each other, while Exhibits 2, 3, and 4 show the individual parcels.

The proposed project includes three elements, which are described in more detail below.

- (1) Protect the critical infrastructure and facilities in Boulder County that face the greatest wildfire risk by completing hazardous fuels treatment activities using the most recent scientific information to help protect the region's water supply, communications networks, power sources, and schools. Boulder County would also work with the U.S. Forest Service to ensure their work complements the hazardous fuels treatments conducted as part of this project (none of which will be conducted on Federally administered lands). Treatment methods for each parcel would vary based on existing conditions and would include defensible space activities, thinning, and fuel breaks. Burning of vegetation will not be used as a treatment measure or on-site disposal method. The project would be completed in 3 years, including stand inventories, coordination, and implementation. The treatments would thin the existing conifer understory and canopy to break up the continuity of fuels and enhance existing aspen (*Populus tremuloides*) stands, which are more fire resistant. The thinning treatments would use existing fuel breaks such as steep rock cliffs, roads, and meadows as anchor points. In some areas that are severely overgrown with regeneration, the stand density would be reduced by up to 70 percent. The primary species removed would be lodgepole pine (*Pinus contorta*), ponderosa pine (*Pinus ponderosa*), and Douglas fir (*Pseudotsuga menziesii*). This project would provide protection to the following critical facilities: Betasso Water Treatment Facility, Boulder Canyon Hydroelectric Plant, Kossler Reservoir Gatehouse, Boulder Canyon Penstock Butterfly Valve House, Nederland Middle-High School, and Nederland Elementary School.

Table 1. Locations of Boulder County Wildfire Mitigation Treatment Areas.

TREATMENT LOCATION	LATITUDE	LONGITUDE	ELEVATION (ft)	APPROX. SIZE OF TREATMENT AREA (acres)	TREATMENT TYPE
Nederland	39.961694	-105.49722	8200	60	Hand
Mud Lake Open Space	39.97806	-105.50867	8380	70	Mechanical
Betasso Open Space	40.01222	-105.34278	6480	90	Hand and Mechanical
Kossler Reservoir	39.97972	-105.33222	7720	20	Hand
TOTAL				240	

- (2) Reduce the wildfire risk to more than 3,000 private residences located within 2 miles of the treatment areas. The project would reduce the risk from future wildfires on public lands (non-Federal) to human life and structures on neighboring private property by removing hazardous fuels in the highest hazard areas. Due to the proximity of this part of the project to existing structures, thinning and defensible space activities will be completed using hand methods (chainsaws), and the felled wood will be chipped for use as heating fuel in Boulder County facilities.
- (3) Educate county residents on the importance of hazardous fuels reduction and defensible space activities in reducing wildfire risk. The project includes funding for a public awareness campaign that would involve education and outreach activities directed at the residents of Boulder County. Specifically, the project would build the capacity of 10 community organizations, homeowner associations, and other groups to disseminate information and promote actions to reduce wildfire risk, create a network of these groups and, using the train-the-trainer model, conduct workshops, organize special events, and track changes in homeowner behavior. All these activities would increase awareness and support for this project.

Proposed Undertaking

The project locations are found on the eastern slopes of the Rocky Mountains in western Boulder County, at elevations ranging between approximately 5800 and 8600 feet above mean sea level. The 20 discontinuous parcels composing the project are concentrated within four general areas: Nederland, Mud Lake, Betasso Open Space, and Kossler Reservoir (Table 1).

This undertaking uses a process of integrated vegetation management to remove targeted trees and other fuels by mechanical or hand methods, or a combination of both. Mechanical removal is performed using machines such as Hydro Axes, Bull Hogs, feller bunchers, and brush hogs. Examples of these machines are illustrated in Figure 1. The Hydro Axe is a large flail mower powered by hydraulics and a Bull Hog is a horizontal drum armed with numerous cutting teeth distributed around its outer edge. Both are usually mounted on a large front-end loader or tracked vehicle. These machines can cut trees up to 14 inches in diameter and work on slopes up to 30 percent. The Bull Hog can also be used on down and dead fuels. Slash from both machines consists of small chunks and chips that lay tight to the ground. Feller bunchers are a standard heavy equipment base with a tree-grabbing device that is furnished with a chainsaw, circular saw, or a shear. The machine places the cut tree on a stack suitable for a skidder, forwarder, or other means of

transport (yarding) for further processing (e.g., delimiting, bucking, loading, or chipping). Brush hogs are large rotary mowers that can grind up woody materials such as smaller shrubs, leaving small debris on the forest floor. Other types of similar equipment are available and may be used to remove vegetation. All skid trails, landings, old normally unused road routes, and other disturbed areas would be reseeded with native species as needed. Noxious weeds would be treated according to the requirements of the Colorado Department of Agriculture Noxious Weed Management Program. Hand removal of undesired vegetation involves individuals using chain saws to cut trees and shrubs, usually within 6 inches of the ground, followed by hand piling of slash. Hand removal of undesired vegetation is frequently used on complex terrain and in areas that cannot be accessed by machinery. Hand removal results in essentially no soil disturbance. Slash created from hand treatment procedures would be chipped in place (Figure 2). Felled trees from both removal methods will be transported off site and used to heat Boulder County facilities.

Area of Potential Effects

The project area is a heavily forested, mountainous area, which is principally drained by Boulder Creek and its tributaries. Elevations range from approximately 5800 feet to over 8600 feet above mean sea level. State Highway (SH) 119 bisects the project areas. The defensible space treatments would help protect more than 3,000 residences and the following critical facilities: Betasso Water Treatment Facility, Boulder Canyon Hydroelectric Plant, Kossler Reservoir Gatehouse, Boulder Canyon Penstock Butterfly Valve House, Nederland Middle-High School, and Nederland Elementary School. The area of potential effects (APE) for direct effects encompasses the individual treatment areas, ranging in size from 20 to 90 acres (Table 1). The APE for indirect effects extends from the treatment areas to the nearest ridgeline or one-half mile (whichever comes first), as shown on the attached maps (Exhibits 1, 2, 3, and 4). The mountainous landscape effectively reduces or eliminates the visual effects of the treatment activities.



Hydro Ax



Feller Buncher



Bull Hog



Brush Hog

Figure 1. Examples of Mechanical Removal Machines.



Figure 2. Example of slash chipping.

Identification of Historic Properties

The project area is located in western Boulder County, approximately 30 minutes west of Boulder and 1.5 hours northwest of Denver. The town of Nederland is located at the crossroads of SH 119 and the Peak-to-Peak Scenic and Historic Byway (SH 72). According to the Chamber of Commerce (http://www.nederlandchamber.org/com_nederlandhistory.html), Nederland, Colorado, was established as a mining town in 1871 and incorporated in 1874. It experienced three mining booms and busts between 1871 and 1940. Its current economy is principally dependent on tourism.

As revealed by previous cultural resources investigations in the project area and desktop research, known historic properties are present within the APE for the proposed undertaking, and additional as-yet unidentified historic properties may be present.

Archaeological Resources

The general potential for previously unidentified archaeological historic properties to be located within the APE is high. To date no National Register of Historic Places (NRHP)-listed or NRHP-eligible (as determined by the SHPO) archaeological sites have been documented in Boulder County. A search of COMPASS, Colorado's On-line Cultural Resource Database, for the four treatment areas produced the following results for each treatment area.

Nederland

For the Nederland treatment areas in 6th Prime Meridian (PM), Township 1 South, Range 73 West, Sections 11, 12, 13, 14, and 23, 15 surveys have been conducted and 324 sites recorded. None of the parcels in the Nederland/Barker Reservoir project areas has previously been surveyed. The Peak to Peak Scenic and Historic Byway (**5BL10528.1**) intersects SH 119 in the center of Nederland and continues for approximately 55 miles to Estes Park. Built in 1918, it is Colorado's oldest scenic byway. As described in COMPASS, the Colorado SHPO officially determined on September 18, 2008, that more data on the highway are needed before a determination of NRHP eligibility can be made.

Mud Lake Open Space

In 2004, Native Cultural Services conducted an “Archaeological Reconnaissance of the Mud Lake Parcel,” which may correspond to a portion of the proposed Mud Lake treatment area, which is located in the 6th PM, Township 1 South, Range 73 West, Section 12. The reconnaissance described this parcel as a “mining landscape, with numerous prospect pits and trenches, as well as mine shafts and waste rock piles. Two track roads and trails accessing the mines are common.” Native Cultural Services concluded that “significant archaeological sites are not present in the Mud Lake parcel.” None of the mining features noted during the reconnaissance have been formally recorded.

Betasso Open Space

The Betasso treatment area in the 6th PM, Township 1 North, Range 71 West, Section 34 revealed that 8 cultural resources surveys have been conducted between 1986 and 2009. One of these projects, completed in 2008 by RMC Consultants (Barclay, Dulaney and Judy King, *Class III Cultural Resources Inventory of the Betasso Preserve, Tinsley and Williams Open Space Properties, Boulder County, Colorado*) surveyed a total of 408 acres, which encompassed all of the proposed Betasso Open Space treatment area (Exhibit 3). This survey documented 10 historic sites, two prehistoric sites, and 32 historic isolated finds. Five sites (two prehistoric stone circles, one historic foundation, one historic structure, and one historic log cabin) were unevaluated for NRHP eligibility, while the other seven sites (two historic roads, a historic pipeline, a burned historic structure, a historic artifact scatter, and a historic mine adit) were recommended as not eligible for listing in the NRHP. None of the isolated finds was considered eligible for listing in the NRHP. The Betasso Water Treatment Facility and Boulder Canyon Hydro Facility were not included in this survey. The Boulder Hydroelectric System (**5BL752**), which connects Barker Reservoir near Nederland with the Boulder Canyon Hydroelectric Plant (**5BL754**), was first recorded in 1980 and re-evaluated by the consultant as eligible for listing in the NRHP. The historic Boulder Canyon Road (**5BL622**), also known as SH 119, runs through the middle of the indirect APE, between the Betasso treatment areas.

Kossler Reservoir

The Kossler Reservoir and the Boulder Canyon Penstock Butterfly Valve House are located in 6th PM, Township 1 South, Range 71 West, Section 10. In 1995, the Bureau of Land Management (BLM) surveyed a large parcel of land approximately one-quarter mile west of Kossler Lake but did not record any cultural resources. Surveys of historic sites in Boulder County were conducted in 1981 and 2003 recorded the Kossler Ranch/Malcolm Residence/Kossler Burial Grounds (**5BL497/5BL603**), which dates from the mid-1880s. The cemetery is still in use, with headstones dating between 1887 and 1995. The site is located approximately one-quarter-mile northeast of Kossler Lake. The Barker Gravity Pipeline (**5BL752.3**), also first recorded in 1980, runs between Barker Reservoir and Kossler Reservoir, along the same alignment as the Boulder Hydroelectric System. Consultants have recommended both linear resources as eligible for listing in the NRHP. Surveys conducted nearby at the Walker Ranch identified nine historic isolated finds, all related to historic mining activities, and one prehistoric isolated find.

Above-ground Resources

The general potential for previously unidentified above-ground historic resources to be located within the APE is high, given the intensity of historic mining activities in this area during the last 150 years. A search of the NRHP Database (<http://www.nps.gov/nr/research/>) revealed that Boulder County has 78 above-ground historic properties listed in the NRHP, of which five are located within

one mile of the project area. Two of these properties, the Nederland Super Market (**5BL7870**) and the Walker Ranch Historic District (**5BL235**), occur within the indirect APE for the Nederland, Mud Lake, and Kossler treatment areas (Table 2 and Exhibits 2 and 4).

A search of COMPASS for the four treatment areas revealed only one NRHP-eligible property within the APE. As mentioned above, the Boulder Canyon Hydroelectric Plant (**5BL754**) was first recorded in 1980 and re-evaluated by the consultant as eligible for listing in the NRHP. The NRHP-eligible property is located within the indirect APE for the Betasso Open Space treatment area (Table 2 and Exhibits 2 and 4).

Table 2. NRHP-listed and NRHP-eligible Properties Near the Boulder County Wildfire Mitigation Treatment Areas.

SITE NO.	SITE NAME	AGE	DESCRIPTION	LOCATION	EVALUATION DATE
NRHP-listed Properties					
5BL235	Walker Ranch Historic District	1890-1930	Historic ranch building complex with several dozen buildings and features	Located approximately ¼-mile west of Kossler treatment area. Within APE.	6/14/1984
5BL7870	Nederland Super Market	1948	One-story, flat-roofed concrete block commercial building. Replaced Tanner Grocery Store, which was destroyed by fire.	Located 500 ft northwest of Nederland treatment area. Within APE.	1/13/2009
5BL358.1	Denver, Boulder & Western Railway (formerly Colorado & NW Railroad Company); also known as Switzerland Trail of America)	1919-1920	The DB&W built the line from Boulder, through Ward, to Eldora between 1894 and 1904. It served small mining communities in the region for several decades, until the tracks were removed in 1919-1920.	Located on western edge of Nederland/Barker Reservoir and approximately 1 mile west of Nederland Elementary School and Nederland Middle-High School. Outside APE.	9/18/1980
5BL758	Eldora Historic District	Late 19 th -early 20 th century	Collection of Rustic Tourist buildings in Eldora, a former mining town, including 55 contributing and 12 non-contributing buildings.	Located approximately 2 miles west of Nederland Middle-High School, at the extreme western edge of Nederland/Barker Reservoir. Outside APE.	10/4/1989
5BL7902	Boulder Creek Bridge	1953	Located on SH 119 where it crosses Boulder Creek.	Located approximately one-half mile east of the Betasso treatment area. Outside APE.	3/11/2003

Table 2. NRHP-listed and NRHP-eligible Properties Near the Boulder County Wildfire Mitigation Treatment Areas.

SITE NO.	SITE NAME	AGE	DESCRIPTION	LOCATION	EVALUATION DATE
NRHP-eligible Properties					
5BL754	Boulder Canyon Hydroelectric Plant	1909-1910	Large, rectangular steel-framed and brick building with eight associated buildings	Located within Betasso treatment area. Within APE	11/22/2010
5BL7649	Woodbury/Nederland Drug	1909-1932	One-story, rectangular plan, false-front, front-gabled commercial building	Located in Town of Nederland, approximately ¼-mile southeast of Nederland Elementary School. Outside APE.	12/22/2008
5BL7671	McRae Hotel	1916	Two-story, front-gabled wood frame commercial building	Located in Town of Nederland, approximately ¼-mile southeast of Nederland Elementary School. Outside APE.	12/22/2008
5BL7748	MacKenzie Residence	1930	1.5-story, cross-gabled T-plan dwelling	Located in Town of Nederland, approximately ¼-mile southeast of Nederland Elementary School. Outside APE.	8/27/2009
5BL7797	Not Assigned	1920	One-story, wood frame hipped-roof dwelling	Located in Town of Nederland, approximately ¼-mile southeast of Nederland Elementary School. Outside APE.	12/22/2008
5BL7813	McKenzie Transfer Company	1935	Two-story, gambrel roof barn and auto garage	Located in Town of Nederland, approximately ¼-mile southeast of Nederland Elementary School. Outside APE.	8/27/2009
5BL10968	Not Assigned	1953	One-story, front-gabled roof dwelling	Located in Town of Nederland, approximately 1/2-mile southeast of Nederland Elementary School. Outside APE.	8/27/2009

According to the Boulder Valley School District Web page, the Nederland Middle-High School was constructed in 1971. The Nederland Elementary School building appears to date to the late 1960s or early 1970s, as it reflects a similar form and style. The treatment area south-southwest of Barker Reservoir consists of single-family residential dwellings that appear to date to the last quarter of the twentieth century, and condominiums that appear to have been built within the last 10–15 years.

Determination of Effects

While historic properties are present in the APE, FEMA has considered the manner in which the undertaking will be implemented in determining whether additional cultural resources investigations within the APE are necessary and what effects the proposed undertaking may have on historic properties. This analysis is summarized in Table 3.

Table 3. Summary and Recommendations.

TREATMENT LOCATION	TREATMENT METHOD	PREVIOUS CULTURAL RESOURCES SURVEY?	ADDITIONAL INVESTIGATION PROPOSED?	DETERMINATION OF EFFECTS
Nederland	Hand	No	No	No adverse effect
Mud Lake Open Space	Mechanical	Reconnaissance	Yes	To Be Determined
Betasso Open Space	Hand and Mechanical	Yes	No	No adverse effect
Kossler Reservoir	Hand	No	No	No adverse effect

Nederland

The Nederland treatment areas have not been previously surveyed, but only hand treatment is proposed for this area, which should result in little or no ground disturbance. Project activities are unlikely to affect any unrecorded archaeological properties. Several NRHP-listed and NRHP-eligible above-ground historic properties are located within the indirect APE, but all of them are found in the Town of Nederland, at least one-quarter-mile from the treatment areas. They are screened from view by hilly terrain and numerous modern and historic buildings that do not appear to be eligible for listing in the NRHP. The Peak to Peak Scenic and Historic Byway (SH 72) passes near one of the treatment areas, but the proposed hand treatment will not diminish the scenic vistas for which the road is considered historically significant. Therefore, FEMA has determined that the proposed undertaking will have **no adverse effect** on archaeological or aboveground historic properties in the Nederland treatment areas.

Mud Lake Open Space

Mechanical treatment is proposed for the Mud Lake Open Space and only a reconnaissance level survey has been previously conducted here. Therefore, FEMA has determined that **additional cultural resources investigations are required** to identify archaeological and aboveground historic properties in this area.

Betasso Open Space

Hand and mechanical treatments are proposed for the Betasso Open Space. With the exception of the treatment area around the Boulder Canyon Hydroelectric Plant (**5BL754**), this area has been

previously surveyed and no additional historic properties were identified. Previous effects to the Boulder Canyon Hydroelectric Plant have been treated to Level II HABS/HAER standards and further treatment is considered unnecessary. Therefore, FEMA has determined that the proposed undertaking will have **no adverse effect** on archaeological or aboveground historic properties in this area and no further cultural resources investigations are required.

Kossler Reservoir

The Kossler Reservoir treatment areas have not been previously surveyed, but only hand treatment is proposed for these areas, which should result in little or no ground disturbance. Any unrecorded archaeological properties are not likely to be affected by these activities. Water from Barker Reservoir is conveyed to the Boulder Canyon Hydroelectric Plant through a 36-inch steel pipe, which runs downhill through the forest, into Kossler Reservoir, and ends at the Boulder Canyon Hydroelectric Plant. The proposed treatment will not diminish those qualities (conveyance of municipal water) for which the Boulder Hydroelectric System (**5BL752**) is considered historically significant. Therefore, FEMA has determined that the proposed undertaking will have **no adverse effect** on archaeological or aboveground historic properties in this area and no further cultural resources investigations are required.

We respectfully seek your concurrence with these determinations of eligibility and effect. If previously unknown cultural resources are discovered, work will be stopped, and FEMA and the Colorado SHPO notified as soon as possible.

If you have questions about any of the information contained in this letter or require additional information, please contact me by telephone at (303) 235-4926 or richard.myers@dhs.gov.

Sincerely,

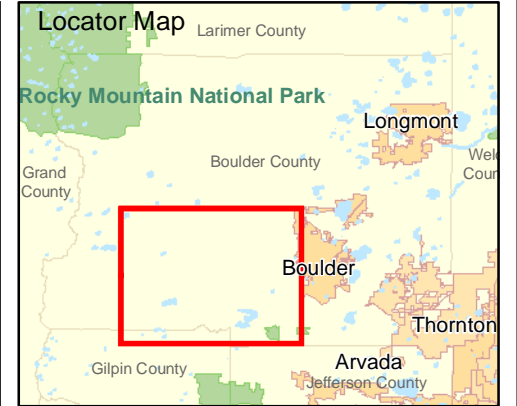
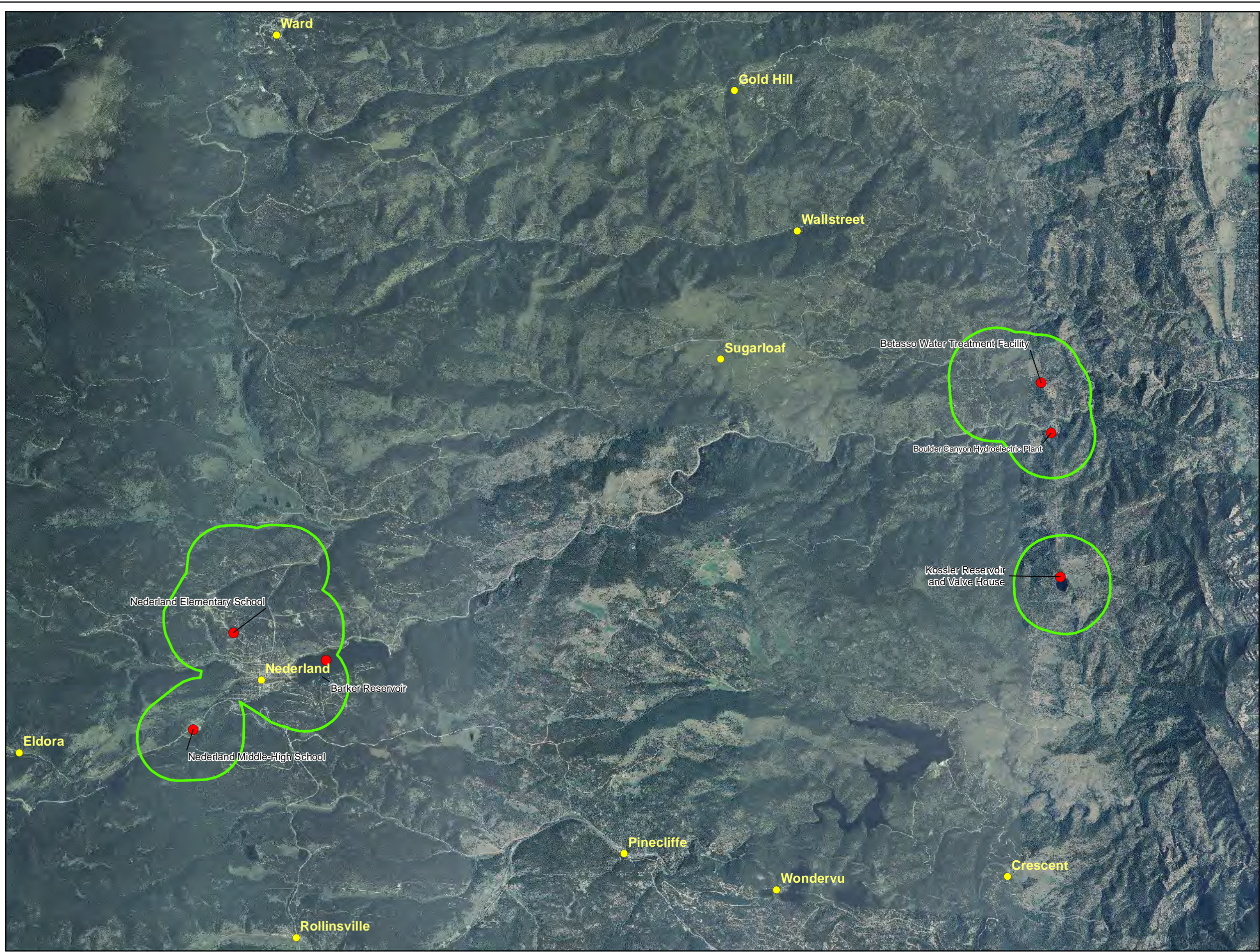


Richard Myers
Deputy Regional Environmental Officer
FEMA Region VIII

cc: Gordon Tucker, URS Denver

Attachments: Exhibit 1, APE Map
Exhibit 2, Nederland and Mud Lake Open Space Project Areas
Exhibit 3, Betasso Open Space Project Area
Exhibit 4, Kossler Reservoir Project Area

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Legend

- Area of Potential Effects
- Lake
- Stream
- Road
- City

Data Source: ESRI Street Map North America 2004
Aerial Source: USGS 2009

N

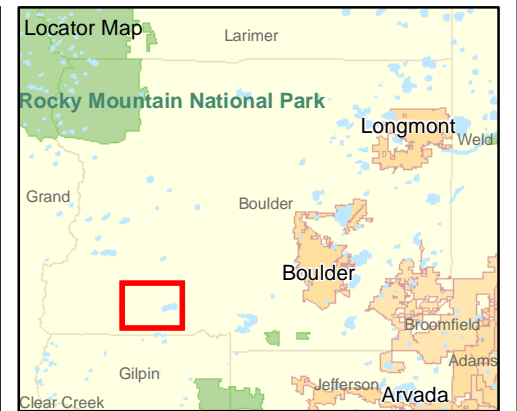
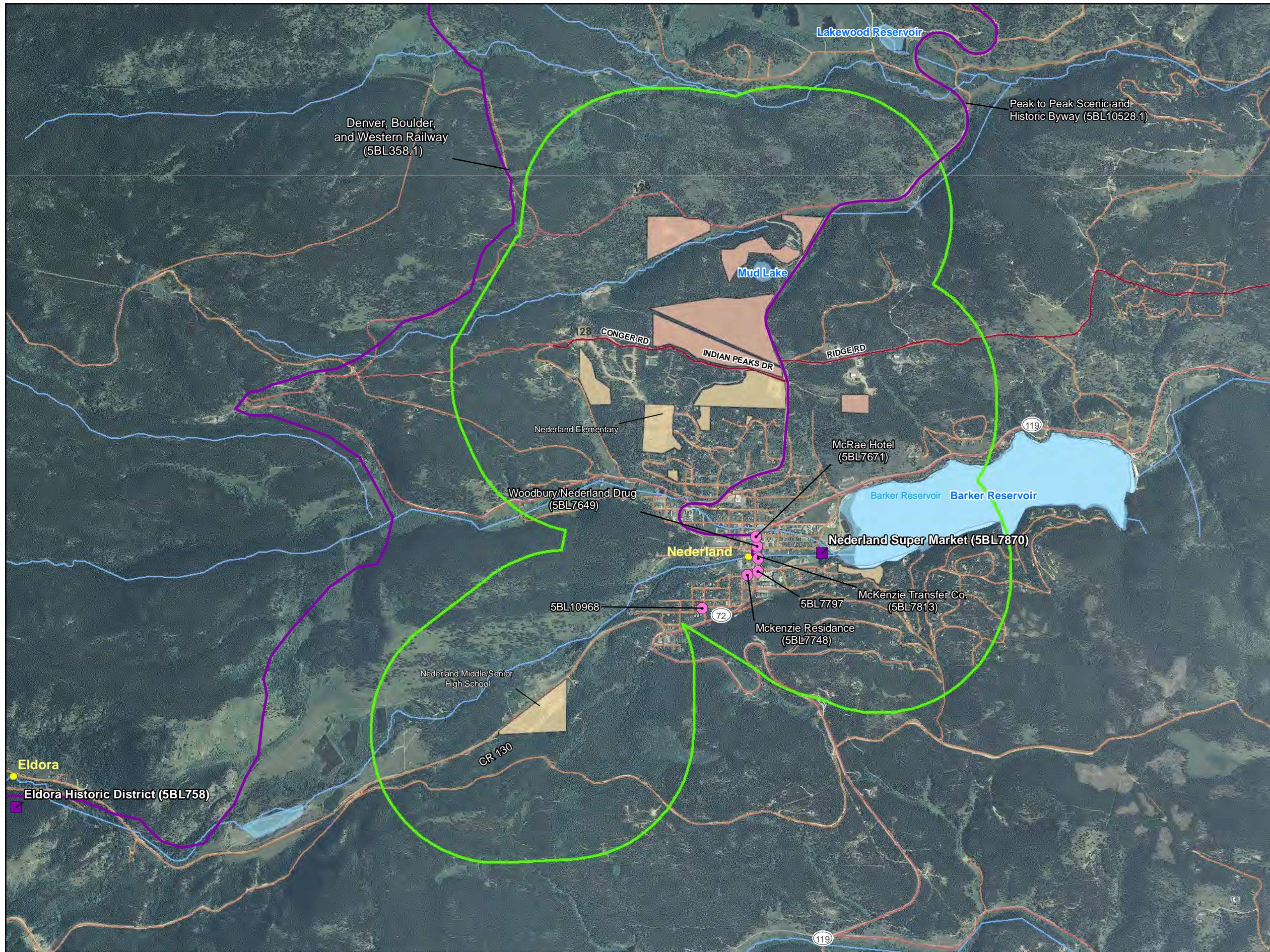
0 0.5 1 2 Miles

Boulder County Wildfire Mitigation Project
Boulder County, Colorado

Areas of Potential Effects for Each Project Area

Projection: PDMC-PJ-08-CO-2011-01		Exhibit 1
Projection: NAD 1983 UTM Zone 13N		
Project No: 15702511		

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Legend

- Mud Lake Open Space Project Area
- Nederland Project Area
- Area of Potential Effects
- Lake
- Stream
- Road
- City
- NRHP-Listed Properties
- NRHP-Listed Properties
- NRHP-Eligible property

Data Source: ESRI Street Map North America 2004
Aerial Source: USGS 2009

N

0 2,000 4,000

Feet

FEMA

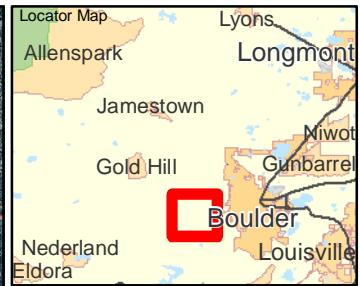
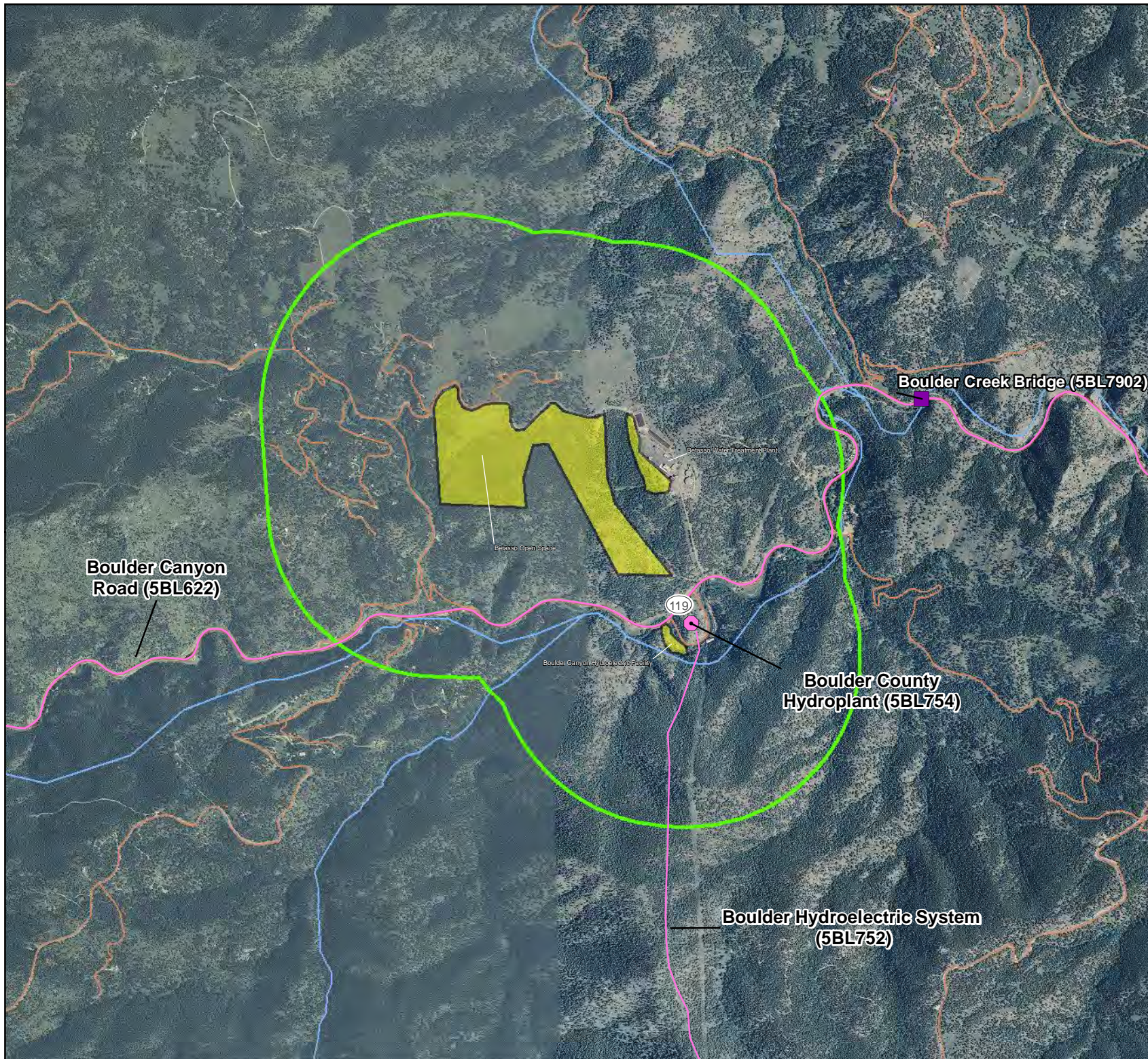
**Boulder County Wildfire Mitigation Project
Boulder County, Colorado**

Nederland and Mud Lake Open Space Project Areas

Sub-Application Number: PDMC-PJ-08-CO-2011-01

Projection: NAD 1983 UTM Zone 13N	Exhibit
Project No: 15702511	2

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Legend

- Betasso Open Space Project Area
- Area of Potential Effects
- Stream
- Road
- NRHP-Listed Property
- NRHP-Eligible Property
- NRHP-Eligible Property

Data Source: ESRI Street Map North America 2004
 Aerial Source: USGS 2009

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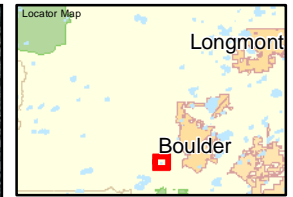
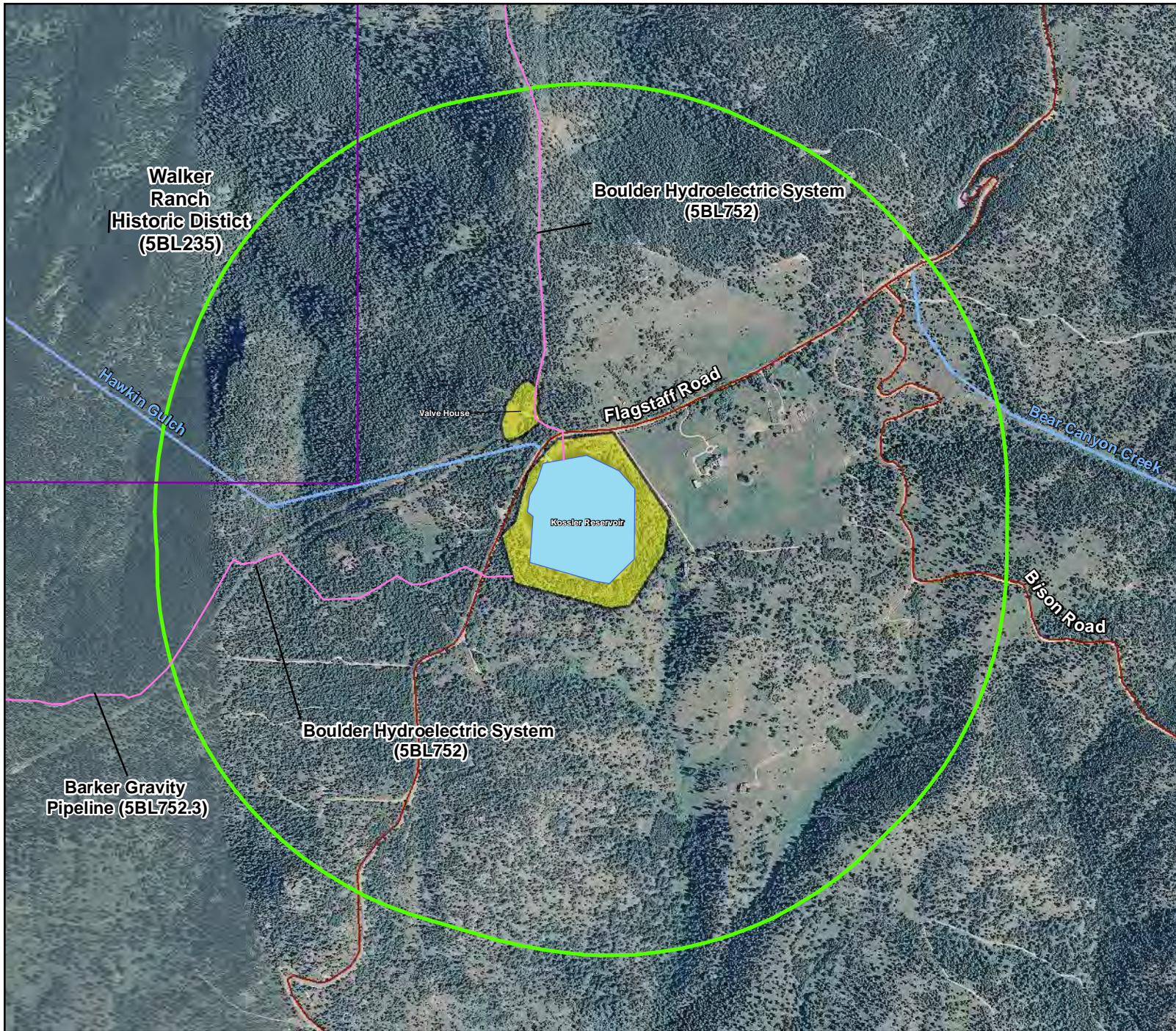
FEMA

Boulder County Wildfire Mitigation Project
 Boulder County, Colorado

Betasso Open Space Project Area

Sub-Application Number: PDMC-PJ-08-CO-2011

Projection: NAD 1983 UTM Zone 13N	Exhibit
Project No: 15702511	3



Legend

- Kossler Reservoir Project Area
- Area of Potential Effects
- Lake
- Stream
- Road
- NRHP-Listed Properties
- NRHP-Eligible Property
- NRHP-Eligible Property

Data Source: ESRI Street Map North America 2004
Aerial Source: USGS 2009

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Feet

FEMA

Boulder County Wildfire Mitigation Project
Boulder County, Colorado

Kossler Reservoir Project Area

<small>Sub-Application Number: PDMC-PJ-08-CO-2011-01</small>	
<small>Projection: NAD 1983 UTM Zone 13N</small>	Exhibit
<small>Project No: 15702511</small>	4



HISTORY Colorado

May 11, 2012

Richard Myers
Deputy Regional Environmental Officer
Federal Emergency Management Agency
U.S. Department of Homeland Security, Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, Colorado 80225-0267

Re: Section 106 Consultation – Boulder County Wildfire Mitigation, Boulder County, Colorado (PDMC-PJ-08-CO-2011-001) (CHS #61935)

Dear Mr. Myers:

Thank you for your correspondence dated April 25, 2012 (received by our office on May 1, 2012) initiating consultation for this undertaking.

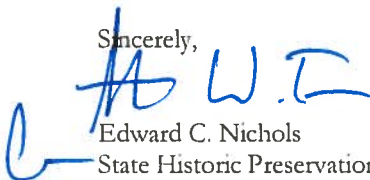
Following our review of the documentation provided, we offer the following comments:

1. Betasso Open Space Treatment Area: The majority of the area of potential affect (APE) for the 90-acre Betasso project area was surveyed for cultural resources between May 8 and May 22, 2008. This work was completed and documented by Boulder County Parks and Open Space in a report titled "Final Report Class III Cultural Resource Survey of the Betasso Preserve, Tinsley and Williams Open Space Properties, Boulder County, Colorado." No historic properties were identified within the proposed APE and we concur that no additional survey is required for the proposed activities.
2. Nederland and Kossler Reservoir Treatment Areas: While neither the Nederland nor Kossler Reservoir APEs (measuring 60-acres and 20-acres in area respectively) have been surveyed for cultural resources, we understand that only hand treatment is proposed. As such, we agree that no ground disturbance will likely result from these activities and we concur that the proposed hand treatment APEs do not require additional cultural resource inventory. However, we do request that mitigation crews be apprised the importance of preserving artifacts or other cultural material that may be encountered during the course of field activities. Such training could take the form of an informational pamphlet provided prior to the commencement of work.
3. Mud Lake Open Space Treatment Area: As there is a paucity of information for this 70-acre treatment area and because the project will involve surface disturbance through mechanized treatment (e.g., hydro axe, bull hogs, feller bunchers, brush hogs, etc.) we concur that a cultural resources inventory should be performed by a qualified professional to determine whether historic properties are present which may be affected by this undertaking. Upon completion of this survey, we request that you provide our office with the cultural resources inventory report and associated site form documentation so we may review them for adequacy and provide determinations of eligibility and project effect.

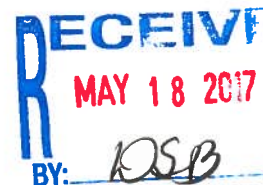
Please remember that the consultation process does involve other consulting parties such as local governments and Tribes, which as stipulated in 36 CFR 800.3 are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations.

Thank you for the opportunity to comment. If we may be of further assistance please contact Mark Tobias, Section 106 Compliance Manager, at (303) 866-4674 or mark.tobias@state.co.us.

Sincerely,



Edward C. Nichols
State Historic Preservation Officer
ECN/MAT





FEMA

R-8 EHP

October 10, 2012

Mr. Ed Nichols
State Historic Preservation Officer
History Colorado
1200 Broadway
Denver, Colorado 80203

**RE: BOULDER COUNTY WILDFIRE MITIGATION PROJECT, MUD LAKE,
BOULDER COUNTY, COLORADO, FEMA PDMC-PJ-08-CO-2011-001, CHS# 61935**

Dear Mr. Nichols:

Boulder County Colorado has applied for funding under the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Pre-Disaster Mitigation (PDM) competitive grant program, which provides funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. The purpose of this letter conclude consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), as implemented by 36 CFR Part 800.

On April 25, 2012, FEMA initiated Section 106 consultation on the proposed Boulder County Wildfire Mitigation project, which involves multiple locations. On May 11, 2012, SHPO concurred with FEMA's determination of 'no adverse effect' to historic properties at the Betasso, Kossler and Nederland locations, but requested additional investigation of the Mud Lake treatment area (CHS #61935). At the request of FEMA, URS Group, Inc. prepared for your review the enclosed cultural resources survey report entitled *Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado: Results of an Intensive Cultural Resources Inventory*

Undertaking

Boulder County is proposing to carry out wildfire mitigation hazardous fuel reduction (vegetation removal treatments) on portions of the Mud Lake Open Space. Treatment methods for each parcel would vary based on existing conditions and would include defensible space activities and fuel breaks. The project would be completed in 3 years, including stand inventories, coordination, and implementation. The treatments would thin the existing conifer understory and canopy to break up the continuity of fuels and enhance existing aspen (*Populus tremuloides*) stands, which are more fire resistant. The thinning treatments would use existing fuel breaks such as steep rock cliffs, roads, and meadows as anchor points. In some areas that are severely overgrown with regeneration, the stand density would be reduced by up to 70 percent. The primary species removed would be lodgepole pine (*Pinus contorta*), ponderosa pine (*Pinus ponderosa*), and Douglas fir (*Pseudotsuga menziesii*). Both hand and mechanical removal of vegetation will be employed, and ground disturbance will be minimized to the extent possible.

The project, which totals approximately 70 acres, will break up the continuity of Upper Montane life zone dormant fuels. The Upper Montane life zone includes lodgepole, ponderosa, Douglas fir, and limber pine, as well as aspen, but the focus will be on the removal of dead and dying lodgepole pines via group selection that will favor aspen and ponderosa pine. Shaded fuel breaks will be created along roadways. Large timber will be felled using track-mounted feller bunchers. The feller bunchers will utilize old roads within the Mud Lake properties and no new roads will be created. Once the timber is felled, it will be placed on a landing and chipped for use as fuel in Boulder County heating facilities. When the activities are completed the old roads will be decommissioned. At Mud Lake, lodgepole pines will be primarily targeted for removal; fewer ponderosa and limber pines, aspen and Douglas-fir trees will remain. Boulder County has filed an application with the FEMA for partial funding for this project. FEMA is required under Section 106 of the NHPA of 1966, as amended, to take into account the effects of its actions on historic properties within the Area of Potential Effects (APE).

Area of Potential Effects (APE)

The APE is defined as the approximately 70-acre area that will be directly and indirectly affected by the project components, including access roads and vegetation removal. The APE is defined as the area where both direct and indirect effects may occur because of the project. For the APE defined for this project, visual impacts were determined to be non-existent because the project does not have any permanent above-grade obstructions that would alter the existing viewshed. The attached report contains a map (Figure 1-1) depicting the APE, shown as the project location.

Identification of Historic Properties

The survey documented four cultural resources: the Greenhorn Mine (tungsten ore) (**5BL11872**) and three unnamed tungsten ore prospector mine sites (**5BL11873**, **5BL11874**, and **5BL11875**). All of these cultural resources were evaluated by cultural resource professionals who meet or exceed the Secretary of Interior's standards for archaeology and architectural history. FEMA has determined that all sites, **5BL11872**, **5BL11873**, **5BL11874**, and **5BL11875**, are not eligible for listing in the National Register of Historic Places (NRHP). These sites are associated with the historically significant industry of tungsten mining, with the Nederland area being one of the few locations in the United States where it was possible to find the tungsten mineral that was used to make metals for weapons during World War I and World War II. However, these sites lack sufficient integrity to convey their association with this significant activity and are, therefore, recommended as **not eligible** for listing in the NRHP under Criterion A.

Furthermore, these sites are recommended as not eligible for listing in the NRHP under Criterion B because they are not known to be associated with any significant persons; under Criterion C, because they do not represent the distinct characteristics of a type, period, or method of construction, nor do they represent the work of a master, or possess any artistic value; or under Criterion D, because they are unlikely to provide any additional significant information about tungsten mining or local history.

Determination of Effects

In FEMA's opinion, the proposed undertaking will not adversely affect any historic properties or cultural resources recommended eligible for listing in the NRHP. It is highly unlikely that any eligible, intact archaeological historic properties are present within the APE. Mitigation crews will be appraised of the need to protect artifacts that may be encountered during treatment. If previously

unknown cultural resources are discovered, work will be stopped, and FEMA and the Colorado SHPO will be notified as soon as possible.

FEMA believes that the background research and enclosed cultural resource report represent a reasonable and good faith effort to carry out appropriate identification efforts as stated in 36 CFR Part 800.4. Based on this information, and in accordance with the Section 106 of the National Historic Preservation Act and its implementing regulation (36 CFR Part 800.5), FEMA finds there will be ‘**no adverse effect**’ to archaeological or historic properties’ as a result of the proposed action.

FEMA respectfully seeks your your concurrence with these determinations of eligibility and effect. If you have questions about any of the information contained in this letter or require additional information, please contact me by telephone at (303) 235-4926 or by e-mail at richard.myers@dhs.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Myers", with a long horizontal flourish extending to the right.

Richard Myers
Deputy Regional Environmental Officer
FEMA Region VIII

cc: Gordon Tucker, URS Denver

Attachment: *Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado: Results of an Intensive Cultural Resources Inventory (September, 2012, Juston Fariello)*



FEMA

R8-EHP

October 10, 2012

Mr. Jim L. Shakespeare, Chairman
Northern Arapaho Tribe
P.O. Box 396
Washakie, Wyoming 82514

**RE: BOULDER COUNTY WILDFIRE MITIGATION PROJECT, MUD LAKE,
BOULDER COUNTY, COLORADO, FEMA PDMC-PJ-08-CO-2011-001, CHS# 61935**

Dear Chairman Shakespeare:

Boulder County Colorado has applied for funding under the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Pre-Disaster Mitigation (PDM) competitive grant program, which provides funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. The purpose of this letter is to conclude consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), as implemented by 36 CFR Part 800.

On April 25, 2012, FEMA initiated Section 106 consultation on the proposed Boulder County Wildfire Mitigation project, which involves multiple locations. On May 11, 2012, SHPO concurred with FEMA's determination of 'no adverse effect to historic properties at the Betasso, Kossler and Nederland locations, but requested additional investigation of the Mud Lake treatment area (CHS #61935). At the request of FEMA, URS Group, Inc. prepared for your review the enclosed cultural resources survey report entitled *Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado: Results of an Intensive Cultural Resources Inventory*

Undertaking

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Both hand and mechanical removal of vegetation will be employed, and ground disturbance will be minimized to the extent possible.

The project, which totals approximately 70 acres, will break up the continuity of Upper Montane life zone dormant fuels. The Upper Montane life zone includes lodgepole, ponderosa, Douglas fir, and limber pine, as well as aspen, but the focus will be on the removal of dead and dying lodgepole pines via group selection that will favor aspen and ponderosa pine. Shaded fuel breaks will be created along roadways. Large timber will be felled using track-mounted feller bunchers. The feller bunchers will utilize old roads within the Mud Lake properties and no new roads will be created. Once the timber is felled, it will be placed on a landing and chipped for use as fuel in Boulder County heating facilities. When the activities are completed the old roads will be decommissioned. At Mud Lake, lodgepole pines will be primarily targeted for removal; fewer ponderosa and limber pines, aspen and Douglas-fir trees will remain. Boulder County has filed an application with the FEMA for partial funding for this project. FEMA is required under Section 106 of the NHPA of 1966, as amended, to take into account the effects of its actions on historic properties within the Area of Potential Effects (APE).

Area of Potential Effects (APE)

The APE is defined as the approximately 70-acre area that will be directly and indirectly affected by the project components, including access roads and vegetation removal. The APE is defined as the area where both direct and indirect effects may occur because of the project. For the APE defined for this project, visual impacts were determined to be non-existent because the project does not have any permanent above-grade obstructions that would alter the existing viewshed. The attached report contains a map (Figure 1-1) depicting the APE, shown as the project location.

Identification of Historic Properties

The survey documented four cultural resources: the Greenhorn Mine (tungsten ore) (5BL11872) and three unnamed tungsten ore prospector mine sites (5BL11873, 5BL11874, and 5BL11875). All of these cultural resources were evaluated by cultural resource professionals who meet or exceed the Secretary of Interior's standards for archaeology and architectural history. FEMA has determined that all sites, 5BL11872, 5BL11873, 5BL11874, and 5BL11875, are not eligible for listing in the National Register of Historic Places (NRHP). These sites are associated with the historically significant industry of tungsten mining, with the Nederland area being one of the few locations in the United States where it was possible to find the tungsten mineral that was used to make metals for weapons during World War I and World War II. However, these sites lack sufficient integrity to convey their association with this significant activity and are, therefore, recommended as not eligible for listing in the NRHP under Criterion A.

Furthermore, these sites are recommended as not eligible for listing in the NRHP under Criterion B because they are not known to be associated with any significant persons; under Criterion C, because they do not represent the distinct characteristics of a type, period, or method of construction, nor do they represent the work of a master, or possess any artistic value; or under Criterion D, because they are unlikely to provide any additional significant information about tungsten mining or local history.

Determination of Effects

In FEMA's opinion, the proposed undertaking will not adversely affect any historic properties or cultural resources recommended eligible for listing in the NRHP. It is highly unlikely that any eligible, intact archaeological historic properties are present within the APE. Mitigation crews will be apposed of the need to protect artifacts that may be encountered during treatment. If previously unknown cultural resources are discovered, work will be stopped, and FEMA, the Colorado SHPO and your office will be notified as soon as possible.

FEMA believes that the background research and enclosed cultural resource report represent a reasonable and good faith effort to carry out appropriate identification efforts as stated in 36 CFR Part 800.4. Based on this information, and in accordance with the Section 106 of the National Historic Preservation Act and its implementing regulation (36 CFR Part 800.5), FEMA finds there will be '**no adverse effect**' to archaeological or historic properties as a result of the proposed action.

FEMA respectfully seeks your comments on potential impacts to archaeological sites, burials, and traditional cultural properties in or near the project area that are of importance to you or your tribe. If you have questions about any of the information contained in this letter or require additional information, please contact me by telephone at (303) 235-4926 or by e-mail at richard.myers@dhs.gov.

Sincerely,



Richard Myers
Deputy Regional Environmental Officer
FEMA Region VIII

cc: Gordon Tucker, URS Denver

Attachment: *Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado: Results Of An Intensive Cultural Resources Inventory (September, 2012, Juston Fariello)*



FEMA

R8-EHP

October 10, 2012

Mr. Leroy Spang, President
Northern Cheyenne Tribe
P.O. Box 128
Lame Deer, MT 59043

**RE: BOULDER COUNTY WILDFIRE MITIGATION PROJECT, MUD LAKE,
BOULDER COUNTY, COLORADO, FEMA PDMC-PJ-08-CO-2011-001, CHS# 61935**

Dear President Spang:

Boulder County Colorado has applied for funding under the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Pre-Disaster Mitigation (PDM) competitive grant program, which provides funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. The purpose of this letter is to conclude consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), as implemented by 36 CFR Part 800.

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Both hand and mechanical removal of vegetation will be employed, and ground disturbance will be minimized to the extent possible.

The project, which totals approximately 70 acres, will break up the continuity of Upper Montane life zone dormant fuels. The Upper Montane life zone includes lodgepole, ponderosa, Douglas fir, and limber pine, as well as aspen, but the focus will be on the removal of dead and dying lodgepole pines via group selection that will favor aspen and ponderosa pine. Shaded fuel breaks will be created along roadways. Large timber will be felled using track-mounted feller bunchers. The feller bunchers will utilize old roads within the Mud Lake properties and no new roads will be created. Once the timber is felled, it will be placed on a landing and chipped for use as fuel in Boulder County heating facilities. When the activities are completed the old roads will be decommissioned. At Mud Lake, lodgepole pines will be primarily targeted for removal; fewer ponderosa and limber pines, aspen and Douglas-fir trees will remain. Boulder County has filed an application with the FEMA for partial funding for this project. FEMA is required under Section 106 of the NHPA of 1966, as amended, to take into account the effects of its actions on historic properties within the Area of Potential Effects (APE).

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Furthermore, these sites are recommended as not eligible for listing in the NRHP under Criterion B because they are not known to be associated with any significant persons; under Criterion C, because they do not represent the distinct characteristics of a type, period, or method of construction, nor do they represent the work of a master, or possess any artistic value; or under Criterion D, because they are unlikely to provide any additional significant information about tungsten mining or local history.

Determination of Effects

In FEMA's opinion, the proposed undertaking will not adversely affect any historic properties or cultural resources recommended eligible for listing in the NRHP. It is highly unlikely that any eligible, intact archaeological historic properties are present within the APE. Mitigation crews will be apposed of the need to protect artifacts that may be encountered during treatment. If previously unknown cultural resources are discovered, work will be stopped, and FEMA, the Colorado SHPO and your office will be notified as soon as possible.

FEMA believes that the background research and enclosed cultural resource report represent a reasonable and good faith effort to carry out appropriate identification efforts as stated in 36 CFR Part 800.4. Based on this information, and in accordance with the Section 106 of the National Historic Preservation Act and its implementing regulation (36 CFR Part 800.5), FEMA finds there will be '**no adverse effect**' to archaeological or historic properties as a result of the proposed action.

FEMA respectfully seeks your comments on potential impacts to archaeological sites, burials, and traditional cultural properties in or near the project area that are of importance to you or your tribe. If you have questions about any of the information contained in this letter or require additional information, please contact me by telephone at (303) 235-4926 or by e-mail at richard.myers@dhs.gov.

Sincerely,



Richard Myers
Deputy Regional Environmental Officer
FEMA Region VIII

cc: Gordon Tucker, URS Denver

Attachment: *Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado: Results Of An Intensive Cultural Resources Inventory (September, 2012, Juston Fariello)*



FEMA

R8-EHP

October 10, 2012

Ms. Janice Prairie Chief Boswell, Governor
Cheyenne and Arapaho Tribes, Oklahoma
Office of the Tribal Council
P.O. Box 38
Concho, OK 73022

**RE: BOULDER COUNTY WILDFIRE MITIGATION PROJECT, MUD LAKE,
BOULDER COUNTY, COLORADO, FEMA PDMC-PJ-08-CO-2011-001, CHS# 61935**

Dear Governor Boswell:

Boulder County Colorado has applied for funding under the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Pre-Disaster Mitigation (PDM) competitive grant program, which provides funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. The purpose of this letter is to conclude consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), as implemented by 36 CFR Part 800.

On April 25, 2012, FEMA initiated Section 106 consultation on the proposed Boulder County Wildfire Mitigation project, which involves multiple locations. On May 11, 2012, SHPO concurred with FEMA's determination of 'no adverse effect to historic properties at the Betasso, Kossler and Nederland locations, but requested additional investigation of the Mud Lake treatment area (CHS #61935). At the request of FEMA, URS Group, Inc. prepared for your review the enclosed cultural resources survey report entitled *Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado: Results of an Intensive Cultural Resources Inventory*

Undertaking

Boulder County is proposing to carry out wildfire mitigation hazardous fuel reduction (vegetation removal treatments) on portions of the Mud Lake Open Space. Treatment methods for each parcel would vary based on existing conditions and would include defensible space activities and fuel breaks. The project would be completed in 3 years, including stand inventories, coordination, and implementation. The treatments would thin the existing conifer understory and canopy to break up the continuity of fuels and enhance existing aspen (*Populus tremuloides*) stands, which are more fire resistant. The thinning treatments would use existing fuel breaks such as steep rock cliffs, roads, and meadows as anchor points. In some areas that are severely overgrown with regeneration, the stand density would be reduced by up to 70 percent. The primary species removed would be lodgepole pine (*Pinus contorta*), ponderosa pine (*Pinus ponderosa*), and Douglas fir (*Pseudotsuga menziesii*).

Both hand and mechanical removal of vegetation will be employed, and ground disturbance will be minimized to the extent possible.

The project, which totals approximately 70 acres, will break up the continuity of Upper Montane life zone dormant fuels. The Upper Montane life zone includes lodgepole, ponderosa, Douglas fir, and limber pine, as well as aspen, but the focus will be on the removal of dead and dying lodgepole pines via group selection that will favor aspen and ponderosa pine. Shaded fuel breaks will be created along roadways. Large timber will be felled using track-mounted feller bunchers. The feller bunchers will utilize old roads within the Mud Lake properties and no new roads will be created. Once the timber is felled, it will be placed on a landing and chipped for use as fuel in Boulder County heating facilities. When the activities are completed the old roads will be decommissioned. At Mud Lake, lodgepole pines will be primarily targeted for removal; fewer ponderosa and limber pines, aspen and Douglas-fir trees will remain. Boulder County has filed an application with the FEMA for partial funding for this project. FEMA is required under Section 106 of the NHPA of 1966, as amended, to take into account the effects of its actions on historic properties within the Area of Potential Effects (APE).

Area of Potential Effects (APE)

The APE is defined as the approximately 70-acre area that will be directly and indirectly affected by the project components, including access roads and vegetation removal. The APE is defined as the area where both direct and indirect effects may occur because of the project. For the APE defined for this project, visual impacts were determined to be non-existent because the project does not have any permanent above-grade obstructions that would alter the existing viewshed. The attached report contains a map (Figure 1-1) depicting the APE, shown as the project location.

Identification of Historic Properties

The survey documented four cultural resources: the Greenhorn Mine (tungsten ore) (5BL11872) and three unnamed tungsten ore prospector mine sites (5BL11873, 5BL11874, and 5BL11875). All of these cultural resources were evaluated by cultural resource professionals who meet or exceed the Secretary of Interior's standards for archaeology and architectural history. FEMA has determined that all sites, 5BL11872, 5BL11873, 5BL11874, and 5BL11875, are not eligible for listing in the National Register of Historic Places (NRHP). These sites are associated with the historically significant industry of tungsten mining, with the Nederland area being one of the few locations in the United States where it was possible to find the tungsten mineral that was used to make metals for weapons during World War I and World War II. However, these sites lack sufficient integrity to convey their association with this significant activity and are, therefore, recommended as not eligible for listing in the NRHP under Criterion A.

Furthermore, these sites are recommended as not eligible for listing in the NRHP under Criterion B because they are not known to be associated with any significant persons; under Criterion C, because they do not represent the distinct characteristics of a type, period, or method of construction, nor do they represent the work of a master, or possess any artistic value; or under Criterion D, because they are unlikely to provide any additional significant information about tungsten mining or local history.

Determination of Effects

In FEMA's opinion, the proposed undertaking will not adversely affect any historic properties or cultural resources recommended eligible for listing in the NRHP. It is highly unlikely that any eligible, intact archaeological historic properties are present within the APE. Mitigation crews will be apposed of the need to protect artifacts that may be encountered during treatment. If previously unknown cultural resources are discovered, work will be stopped, and FEMA, the Colorado SHPO and your office will be notified as soon as possible.

FEMA believes that the background research and enclosed cultural resource report represent a reasonable and good faith effort to carry out appropriate identification efforts as stated in 36 CFR Part 800.4. Based on this information, and in accordance with the Section 106 of the National Historic Preservation Act and its implementing regulation (36 CFR Part 800.5), FEMA finds there will be '**no adverse effect**' to archaeological or historic properties as a result of the proposed action.

FEMA respectfully seeks your comments on potential impacts to archaeological sites, burials, and traditional cultural properties in or near the project area that are of importance to you or your tribe. If you have questions about any of the information contained in this letter or require additional information, please contact me by telephone at (303) 235-4926 or by e-mail at richard.myers@dhs.gov.

Sincerely,



Richard Myers
Deputy Regional Environmental Officer
FEMA Region VIII

cc: Gordon Tucker, URS Denver

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FEMA

R8-EHP

October 10, 2012

Mr. Mike LaJeunesse, Chairman
Eastern Shoshone Tribe of Wind River Indian Reservation
P.O. Box 538
Fort Washakie, Wyoming 82514

**RE: BOULDER COUNTY WILDFIRE MITIGATION PROJECT, MUD LAKE,
BOULDER COUNTY, COLORADO, FEMA PDMC-PJ-08-CO-2011-001, CHS# 61935**

Dear Chairman LaJeunesse:

Boulder County Colorado has applied for funding under the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Pre-Disaster Mitigation (PDM) competitive grant program, which provides funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. The purpose of this letter is to conclude consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), as implemented by 36 CFR Part 800.

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Both hand and mechanical removal of vegetation will be employed, and ground disturbance will be minimized to the extent possible.

The project, which totals approximately 70 acres, will break up the continuity of Upper Montane life zone dormant fuels. The Upper Montane life zone includes lodgepole, ponderosa, Douglas fir, and limber pine, as well as aspen, but the focus will be on the removal of dead and dying lodgepole pines via group selection that will favor aspen and ponderosa pine. Shaded fuel breaks will be created along roadways. Large timber will be felled using track-mounted feller bunchers. The feller bunchers will utilize old roads within the Mud Lake properties and no new roads will be created. Once the timber is felled, it will be placed on a landing and chipped for use as fuel in Boulder County heating facilities. When the activities are completed the old roads will be decommissioned. At Mud Lake, lodgepole pines will be primarily targeted for removal; fewer ponderosa and limber pines, aspen and Douglas-fir trees will remain. Boulder County has filed an application with the FEMA for partial funding for this project. FEMA is required under Section 106 of the NHPA of 1966, as amended, to take into account the effects of its actions on historic properties within the Area of Potential Effects (APE).

Area of Potential Effects (APE)

The APE is defined as the approximately 70-acre area that will be directly and indirectly affected by the project components, including access roads and vegetation removal. The APE is defined as the area where both direct and indirect effects may occur because of the project. For the APE defined for this project, visual impacts were determined to be non-existent because the project does not have any permanent above-grade obstructions that would alter the existing viewshed. The attached report contains a map (Figure 1-1) depicting the APE, shown as the project location.

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Furthermore, these sites are recommended as not eligible for listing in the NRHP under Criterion B because they are not known to be associated with any significant persons; under Criterion C, because they do not represent the distinct characteristics of a type, period, or method of construction, nor do they represent the work of a master, or possess any artistic value; or under Criterion D, because they are unlikely to provide any additional significant information about tungsten mining or local history.

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FEMA believes that the background research and enclosed cultural resource report represent a reasonable and good faith effort to carry out appropriate identification efforts as stated in 36 CFR Part 800.4. Based on this information, and in accordance with the Section 106 of the National Historic Preservation Act and its implementing regulation (36 CFR Part 800.5), FEMA finds there will be '**no adverse effect**' to archaeological or historic properties as a result of the proposed action.

FEMA respectfully seeks your comments on potential impacts to archaeological sites, burials, and traditional cultural properties in or near the project area that are of importance to you or your tribe. If you have questions about any of the information contained in this letter or require additional information, please contact me by telephone at (303) 235-4926 or by e-mail at richard.myers@dhs.gov.

Sincerely,



Richard Myers
Deputy Regional Environmental Officer
FEMA Region VIII

cc: Gordon Tucker, URS Denver

Attachment: *Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado: Results Of An Intensive Cultural Resources Inventory (September, 2012, Juston Fariello)*



HISTORY *Colorado*

October 15, 2012

Richard Myers
Deputy Regional Environmental Officer
Federal Emergency Management Agency
U.S. Department of Homeland Security, Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, Colorado 80225-0267



Re: Boulder County Wildfire Mitigation Project, Mud Lake, Boulder County, Colorado, FEMA PDMC-PJ-08-CO-2011-001 (CHS #61935)

Dear Mr. Myers:

Thank you for your correspondence dated October 10, 2012 (received by our office on October 11, 2012) regarding the subject project.

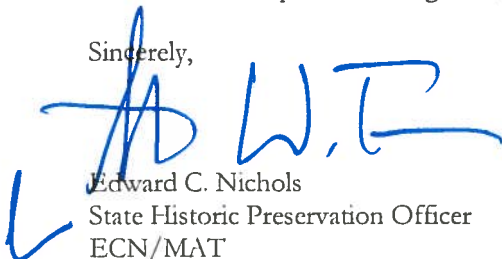
Following our review of the documentation provided, we concur with your determination that site 5BL11872, 5BL11873, 5BL11874, and 5BL11875 are not eligible for the National Register of Historic Places. As such, we believe that a finding of no historic properties affected (rather than no adverse effect) is appropriate for the proposed undertaking pursuant to 36 CFR 800.4(d)(1).

Please remember that the consultation process does involve other consulting parties such as local governments and Tribes, which as stipulated in 36 CFR 800.3 are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations.

Should unidentified archaeological resources be discovered during the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4) in consultation with our office.

Thank you for the opportunity to comment. If we may be of further assistance please contact Mark Tobias, Section 106 Compliance Manager, at (303) 866-4674 or mark.tobias@state.co.us.

Sincerely,



Edward C. Nichols
State Historic Preservation Officer
ECN/MAT