

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0710-0003
Expires December 31, 2004

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PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO. <u>240380523</u>	2. FIELD OFFICE CODE <u>DEN</u>	3. DATE RECEIVED <u>8/15/08</u>	4. DATE APPLICATION COMPLETED
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME Jeff Drager Project Manager Municipal Subdistrict, Northern Colorado Water Conservancy District	8. AUTHORIZED AGENT'S NAME AND TITLE <i>(an agent is not required)</i> Consulting Agent -
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6. APPLICANT'S ADDRESS 220 Water Avenue Berthoud, CO 80513	7. AGENT'S ADDRESS
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7. APPLICANT'S PHONE NOS. W/AREA CODE a. Residence N/A b. Business 970-622-2333	10. AGENT'S PHONE NOS. W/AREA CODE a. Residence N/A b. Business
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11. STATEMENT OF AUTHORIZATION

I hereby authorize _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE

DATE

NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY

12. Windy Gap Firming Project

13. NAME OF WATERBODY, IF KNOWN *(if applicable)*
Chimney Hollow and tributaries

14. PROJECT STREET ADDRESS *(if applicable)*
N/A

15. LOCATION OF PROJECT

Larimer COUNTY Colorado STATE

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN *(see instructions)*

The project is located southwest of the town of Loveland to the west of Carter Lake Reservoir and south of CR 18E (See Figure 1).

17. DIRECTIONS TO THE SITE

See attached

18. Nature of Activity (Description of project, include all features)

See attached.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

See attached.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

See attached.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

See attached.

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

See attached.

23. Is Any Portion of the Work Already Complete? Yes _____ No X IF YES, DESCRIBE THE COMPLETED WORK

24. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody

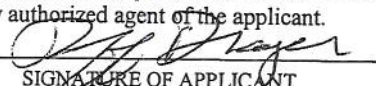
List attached

25. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
Larimer County	Location and Extent Reviewed				
Colorado State Engineer	Dam approvals				

*Would include but is not restricted to zoning, building and flood plain permits

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.


SIGNATURE OF APPLICANT

8/13/08
DATE

SIGNATURE OF AGENT

DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

WINDY GAP FIRING PROJECT
DRAFT
SUPPLEMENTAL INFORMATION FOR THE APPLICATION FOR
U.S. ARMY CORPS OF ENGINEERS
SECTION 404 INDIVIDUAL PERMIT

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**WINDY GAP FIRING PROJECT
DRAFT SUPPLEMENTAL INFORMATION FOR THE
APPLICATION FOR U.S. ARMY CORPS OF ENGINEERS
SECTION 404 INDIVIDUAL PERMIT**

AUGUST 13, 2008

Project Background

The Municipal Subdistrict, Northern Colorado Water Conservancy District, acting by and through the Windy Gap Firing Project Water Activity Enterprise (Subdistrict), proposes to improve the firm yield from the existing Windy Gap Project water supply by constructing the Windy Gap Firing Project (WGFP). The proposal includes the construction of a 90,000 AF Chimney Hollow Reservoir with prepositioning, which involves the storage of Colorado-Big Thompson (C-BT) water in Chimney Hollow Reservoir.

The original Windy Gap Project was completed by the Subdistrict in 1985. Since that time, the Windy Gap Project has not been able to reliably deliver water supplies to Windy Gap Project unit holders. In addition, the Windy Gap Project does not currently provide annual carry-over water storage for the Middle Park Water Conservancy District (MPWCD). Because of the deficiency in water deliveries and lack of storage, the Windy Gap Project allottees and MPWCD have not been able to rely fully on Windy Gap water for meeting a portion of their annual water demand. As a result, a group of the Windy Gap Project unit holders, working through the Subdistrict, initiated the proposed WGFP to complete the Windy Gap Project by firming all or a portion of their individual Windy Gap units to meet a portion of existing and future municipal and industrial water requirements. The MPWCD is participating in the proposed WGFP to obtain storage to firm its Windy Gap water, thereby improving the reliability of its Windy Gap water supply for users in Grand and Summit counties, Colorado.

Under the proposed action, Windy Gap water would be diverted from the existing point of diversion at Windy Gap Reservoir and Pump Plant located below the confluence of the Fraser and Colorado rivers, near the Town of Granby. The existing Windy Gap pipeline would pump water to Granby Reservoir, which would then be delivered to the

East Slope using existing C-BT facilities. Water would be routed to Chimney Hollow Reservoir using the new pipeline connections. No new West Slope infrastructure is needed to divert or convey water to the East Slope. In addition to storage in Chimney Hollow Reservoir, Windy Gap water may also be stored in Granby Reservoir when capacity is available, as with current conditions.

Prepositioning would be used to facilitate delivery of Windy Gap water and increase yield. Prepositioning would involve the use of available Adams Tunnel capacity to deliver C-BT water into Chimney Hollow Reservoir to occupy storage space that is not occupied by Windy Gap water. The delivery of C-BT water from Granby Reservoir into Chimney Hollow Reservoir would create space for Windy Gap water in Granby Reservoir. When Windy Gap water is diverted into Granby Reservoir, the C-BT water in Chimney Hollow Reservoir would be exchanged for a like amount of Windy Gap water in Granby Reservoir. Prepositioning would not require additional structural facilities to operate and would not change the storage or yield of C-BT water. Participants would take delivery of Windy Gap water from Chimney Hollow Reservoir via releases through existing C-BT facilities.

MPWCD would use its Windy Gap water as a source of augmentation water to replace out-of-priority depletions in Grand or Summit county. MPWCD's 3,000 AF of water would be stored in Chimney Hollow Reservoir and then exchanged back to Granby Reservoir where releases to the Colorado River would be made to offset depletions. Releases would either directly replace depletions for uses on the Colorado River or replace by exchange if depletions occur in the Willow Creek, Fraser River, or Blue River basins.

Purpose and Need

The purpose of the WGFP is to deliver a firm annual yield of about 30,000 AF of water from the existing Windy Gap Project to provide a portion of the water deliveries originally anticipated from the Windy Gap Project and to supply up to 3,000 AF of storage to firm water deliveries for the MPWCD. Firm water deliveries from the Windy

Gap Firing Project are needed to meet a portion of the existing and future demands of the Project Participants.

Project Participants in the WGFP that own, lease, or that are in the process of acquiring units of Windy Gap Project water include municipalities, rural domestic water districts, and an industrial water user. Project Participants located on the East Slope of the Continental Divide are listed below.

- City and County of Broomfield
- Central Weld County Water District
- Town of Erie
- City of Evans
- City of Fort Lupton
- City of Greeley
- City of Lafayette
- Little Thompson Water District
- City of Longmont
- City of Louisville
- City of Loveland
- Platte River Power Authority
- Town of Superior

The MPWCD also would receive WGFP water. The MPWCD is a wholesale water supplier for 67 water providers and users in Grand and Summit counties on the West Slope. The water providers, also known as contractees, include towns, water districts, agricultural water suppliers, consumers, and ski areas. The largest contractees, which account for about two-thirds of the water served by MPWCD, are:

- Grand County Water and Sanitation District
- Snake River Water District
- Summit County
- Three Lakes Water and Sanitation District
- Town of Breckenridge
- Town of Fraser
- Town of Frisco
- Town of Granby
- Town of Kremmling

- Town of Silverthorne
- Winter Park Water and Sanitation District

For more information on the background and purpose of the WGFP, see Chapter 1 of the WGFP Draft Environmental Impact Statement (DEIS) (Reclamation 2008).

Site Description

The proposed Chimney Hollow Reservoir site is in Larimer County in Section 33, T5N, R70W and Sections 4, 5, and 9 of T4N, R70W in the Carter Lake Reservoir, Colorado USGS Quadrangle map (Figure 1). The average elevation is about 5,700 feet.

The Chimney Hollow Reservoir site includes the north-south trending valley between a hogback ridge to the east and foothills to the west where the reservoir, dam, pipelines, roads, relocated transmission line, and other facilities would be located. Chimney Hollow, a small intermittent creek, flows into Flatiron Reservoir (a C-BT facility), which is located at the north end of the site. Several ephemeral to intermittent tributaries drain from the west into Chimney Hollow. Carter Lake is located directly east of Chimney Hollow Reservoir on the other side of a hogback ridge. Ponderosa pine forests cover the foothills to the west with mostly native grasslands occurring in openings within the forest. Native and nonnative grasslands cover the valley floor and native shrublands cover the slopes on the rocky hogback to the east. Riparian woodlands, shrublands, and wetlands occur along Chimney Hollow and the tributary drainages.

As described in more detail in the wetland delineation (ERO 2003), wetlands occur along the drainages and in isolated pockets within the study area (Figure 2a and Figure 2b). Wetland plant communities along Chimney Hollow include plains cottonwood/sandbar willow wetlands, with herbaceous wetlands dominated by Nebraska sedge and redtop. A variety of wetland communities are interspersed along the intermittent drainages flowing into Chimney Hollow Reservoir.

In the Chimney Hollow Reservoir study area, waters include the Chimney Hollow drainage and several side drainages on the west side of the valley (Figure 2a and Figure 2b). Generally, waters in the study area are characterized by either intermittently flowing water or unvegetated drainages with evidence of flowing water in the last 2 years.

For the Chimney Hollow Reservoir study area, ERO submitted a delineation report to the U.S. Army Corps of Engineers (Corps) in October 2003, and the Corps issued a preliminary jurisdictional determination (Corps 2003). At that time, the Corps tentatively determined that Chimney Hollow Reservoir; tributaries 3, 5, 7, 8, and 10; and associated wetlands are jurisdictional. Since the Corps issued its tentative determination, the Supreme Court ruled in the consolidated cases of *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers*, on the type of wetlands and other waters under the Corps' jurisdiction. Therefore, the Corps reevaluated the wetlands at the Chimney Hollow Reservoir site to determine their jurisdictional status. On February 26, 2008, the Corps issued a Jurisdictional Determination for the wetlands and other waters within the Chimney Hollow Reservoir site (Corps 2008).

Based on this Jurisdictional Determination, the jurisdictional status of the wetlands and other waters at Chimney Hollow Reservoir site are as follows (Figure 2a and Figure 2b):

Jurisdictional Wetlands and Other Waters

- Chimney Hollow Creek and wetlands
- Tributary 7 and wetlands
- Tributary 8
- Tributary 10 and wetland

Nonjurisdictional Wetlands and Other Waters

- Tributary 1 and wetland
- Tributary 2 and wetland
- Tributary 3 and wetlands
- Tributary 4
- Tributary 5 and wetlands
- Tributary 6 and wetlands

Endangered Species Act Compliance

Federally threatened and endangered species are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). A potential effect to a federally listed species or its designated critical habitat resulting from a project with a

federal action requires consultation with the U.S. Fish and Wildlife Service (FWS) under Section 7 of the ESA.

As described in the WGFP DEIS (Reclamation 2008), no federally threatened or endangered (T&E) species were found at the Chimney Hollow Reservoir site. Therefore, construction of Chimney Hollow Reservoir would have no effect on T&E species. For the threatened species Preble's meadow jumping mouse, the FWS recommends another habitat evaluation prior to construction in case conditions change (FWS 2003).

Several endangered fish species are present in the Upper Colorado River and the Windy Gap Project would cause depletions to this river system. Impacts to the endangered fish species in the Colorado River were originally addressed in the 1991 FWS Biological Opinion for the original Windy Gap Reservoir [cite?]. More recently, the future Windy Gap depletions were incorporated in the Recovery Plan for the Upper Colorado River [cite?]. Compliance with the Recovery Plan and Programmatic Biological Opinion (PBO) is expected to result in no effect to the T&E fish species. The proposed WGFP meets the criteria of the PBO and the Recovery Implementation Program Recovery Action Plan.

The interior least tern, piping plover, and whooping crane seasonally use habitat along the Platte River in Nebraska. These species are potentially affected by water depletions in the South Platte River basin. All of the WGFP alternatives import water from the West Slope to the East Slope, which may increase flows in the South Platte River; therefore, there would be no adverse effect to these species.

Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470, et seq.), and its implementing regulations under 36 CFR 800, require all federal agencies to consider effects of federal actions on cultural resources eligible for or listed in the National Register of Historic Places (NRHP). Twelve cultural resource sites eligible or potentially eligible for listing in the NRHP were located within the Chimney Hollow Reservoir study area and could be directly affected by the WGFP. These sites include the Carter Lake Historic Area and two sites associated with Carter Lake, the

Flatiron Dam and Reservoir and two sites associated with the dam, three area transmission line segments, a prehistoric lithic scatter, one historic ranch, one site consisting of prospecting pits, and one of the stock ponds.

Reclamation has initiated consultation with the State Historic Preservation Organization (SHPO) for the Proposed Project and additional consultation would be required to determine if the potentially eligible sites are eligible for listing and if the eligible sites would be affected by the Proposed Project. Mitigation measures would be addressed as part of a Memorandum of Agreement (MOA) or Programmatic Agreement (PA) between Reclamation and the SHPO for potential adverse effects to any eligible or listed sites.

Alternatives Analysis for the Proposed Project

Section 404(b)(1) of the Clean Water Act prohibits the discharge of dredge or fill material into waters of the U.S. unless the proposed discharge is the least environmentally damaging practicable alternative. The National Environmental Policy Act (NEPA) and implementing regulations of 40 C.F.R. 1502.14 require that a range of reasonable alternatives, including the no action alternative, be evaluated. Under NEPA, the no action alternative and action alternatives that meet the objectives or purpose and need of the Proposed Project are considered reasonable alternatives.

C.F.R. 230.10(a)(2) states that, "An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."

Thus, an alternative can be eliminated if it—

1. does not meet the project purpose and need;
2. is not practicable because of cost;
3. is not practicable because of existing technology;
4. is not practicable because of logistics; and/or
5. is not the alternative least damaging to the aquatic ecosystem, unless the alternative has other significant adverse impacts to the natural environment.

The alternative selection process for the WGFP included screening of potential alternatives based on 404(b)(1) guidelines, as well as NEPA guidelines (CEQ 1986), to determine alternatives for inclusion in the DEIS. Screening criteria were the project purpose and need, logistical and technological considerations, and environmental consequences. The Section 404(b)(1) analysis for the WGFP is found in Appendix B of the WGFP DEIS (Reclamation 2008).

Alternatives

Chapter 2 of the WGFP DEIS (Reclamation 2008) identified four action alternatives, in addition to the no action alternative, for evaluation in the EIS. All action alternatives include development of 90,000 acre-feet (AF) of new storage in either a single reservoir on the East Slope, or a combination of East Slope and West Slope reservoirs. The Subdistrict's Proposed Action and Reclamation's Preferred Alternative is the construction of a 90,000 AF Chimney Hollow Reservoir with prepositioning. The alternatives are—

- Alternative 1 (No Action)—Continuation of existing operations and agreements between Reclamation and the Subdistrict for conveyance of Windy Gap water through the C-BT facilities including the enlargement of Ralph Price Reservoir by the City of Longmont.
- Alternative 2 (Proposed Action)—Chimney Hollow Reservoir (90,000 AF) with prepositioning involving the storage of C-BT water in Chimney Hollow Reservoir.
- Alternative 3—Chimney Hollow Reservoir (70,000 AF) and Jasper East Reservoir (20,000 AF).
- Alternative 4—Chimney Hollow Reservoir (70,000 AF) and Rockwell/Mueller Creek Reservoir (20,000 AF).
- Alternative 5—Dry Creek Reservoir (60,000 AF) and Rockwell/Mueller Creek Reservoir (30,000 AF).

The alternatives analyzed in the WGFP DEIS (Reclamation 2008) and the impacts to wetlands and waters are summarized below. Table 1 summarizes the permanent impacts (from the reservoir footprint and dam, access roads, spillway, and pump stations) and temporary impacts (from pipeline corridors and a 40-foot buffer along access roads) to wetlands and waters for each of the alternatives. Additional information on the impacts

to wetlands and waters for the alternatives is found in the Vegetation Resources Technical Report (ERO 2007).

Table 1. Summary of wetlands and other waters effects.

Alternative	Wetlands		Waters		Total	
	Perm. Effects	Temp. Effects	Perm. Effects	Temp. Effects	Perm. Effects	Temp. Effects
Alternative 1 No Action	0.3	Not Assessed	0.1	Not Assessed	0.4	Not Assessed
Alternative 2 Proposed Action	1.6	0.1	1.3	0.1	2.9	0.2
Alternative 3 Chimney Hollow & Jasper East reservoirs	22.7	4.9	7.6	0.3	30.3	5.2
Alternative 4 ** Chimney Hollow and Rockwell reservoirs	4.5 – 15.1	2.1 – 5.1	4.9	1.8	9.4 – 20.4	3.9 – 6.9
Alternative 5 ** Dry Creek and Rockwell/Mueller reservoirs	9.2 – 21.8	2.3 – 5.3	6.5	2.0	15.7 – 28.3	4.3 – 7.3

*Note: For this comparison, jurisdictional and nonjurisdictional wetlands are included together because a jurisdictional determination has only been completed for Alternative 2.

**Totals for these alternatives are given as ranges because the lack of access to the Rockwell Reservoir site required an estimate of potential wetlands and waters.

Alternative 1—No Action Alternative

The No Action alternative was identified based on what is reasonably likely to occur if Reclamation does not approve the connection of the new WGFP facilities to C-BT facilities. Under this alternative, the existing contractual arrangements between Reclamation and the Subdistrict for storage and transport of Windy Gap water through the C-BT system would remain in place. All WGFP Participants in the near term would maximize delivery of Windy Gap water according to their demand, Windy Gap water rights, and C-BT facility capacity constraints, including availability of storage space in Granby Reservoir and the Adams Tunnel conveyance constraints. The City of Longmont would develop storage independently for firming its Windy Gap water by enlarging Ralph Price Reservoir by 13,000 AF, which is located on North St. Vrain Creek (Figure 3).

The area of wetlands that would be impacted at the Ralph Price Reservoir study area was estimated using aerial photography and NWI mapping. It is estimated that about 0.3 acre of wetlands would be permanently affected by expansion of the current reservoir

(Table 1). The wetlands observed during the site visit occur near stream inlets and shallow areas adjacent to the current reservoir shoreline. Expansion of Ralph Price Reservoir would inundate about 500 feet or 0.1 acre of other waters of the North St. Vrain Creek at the upstream end of the reservoir. Temporary impacts for this alternative were not assessed.

Alternative 2—Chimney Hollow Reservoir (Applicant's Proposed Alternative)

About 1.6 acres of wetlands would be permanently impacted and about 0.1 acre of wetlands would be temporarily disturbed from construction of a 90,000 AF Chimney Hollow Reservoir and facilities (Figure 1, Table 1). On February 26, 2008, the Corps determined that Chimney Hollow Creek; tributaries 7, 8, 10; and the abutting wetlands are jurisdictional (Corps 2008). Therefore, about 1.06 acres of jurisdictional wetlands would be permanently impacted and 0.06 acre would be temporarily impacted as shown in Table 2.

Table 2. Impacts to jurisdictional and nonjurisdictional wetlands and waters of the U.S.

Stream/Tributary	Jurisdictional Wetland Impacts (Acres)		Nonjurisdictional Wetland Size (Acres)		Jurisdictional Other Waters Impacts (Acres)		Nonjurisdictional Other Waters Impacts (Acres)	
	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.
Chimney Hollow	0.88	0.06	0	0	0.80	0.06	0	0
Tributary 1	0	0	0	0.06	0	0	0	0
Tributary 2	0	0	0	0	0	0	0.03	0
Tributary 3	0	0	0.13	0	0	0	0.03	0
Tributary 4	0	0	0	0	0	0	0	0
Tributary 5	0	0	0.11	0	0	0	0.12	0
Tributary 6	0	0	0.32	0	0	0	0	0
Tributary 7	0.16	0	0	0	0.22	0	0	0
Tributary 8	0	0	0	0	0.02	0	0	0
Tributary 9	0	0	0	0	0	0	0	0
Tributary 10	0.02	0	0	0	0.12	0	0	0
Totals	1.06	0.06	0.56	0.06	1.16	0.06	0.18	0

Permanently impacted wetlands along Chimney Hollow Reservoir have been previously disturbed by grazing, while the wetlands in the tributaries are relatively

undisturbed. As discussed in the Vegetation Resources Technical Report (ERO 2007), wetland functions were assessed for three representative wetlands using the Montana Department of Transportation (1996) field manual. The wetland functions were rated high for rare or imperiled CNHP-tracked species and ground water discharge/recharge. The other functions were rated moderate to low.

Alternative 3—Chimney Hollow Reservoir (70,000 AF) and Jasper East Reservoir (20,000 AF)

About 23 acres of wetlands would be permanently affected and about 5 acres of wetlands would be temporarily affected from construction of a 70,000 AF Chimney Hollow Reservoir (Figure 1), Jasper East Reservoir (Figure 4), and associated structures. Of these impacts, 1.7 acres of wetlands would be impacted (both permanently and temporarily) by the proposed 70,000 AF Chimney Hollow Reservoir, compared to 0.09 acres of wetland impacts with the 90,000 AF Chimney Hollow Reservoir in Alternative 2. At Jasper East Reservoir, about 21 acres of wetlands would be permanently impacted in the footprint of the pump station, dam, access road, and reservoir. It is estimated that about 8 acres of the wetlands that would be permanently impacted at Jasper East Reservoir have been created by flood irrigation (ERO 2003). These wetlands have been affected by grazing and hay harvesting.

Impacted wetlands in Chimney Hollow Reservoir are rated with a high function for rare or imperiled CNHP-tracked wildlife species habitat and ground water discharge. For Jasper East Reservoir, the wetlands were rated high for ground water discharge/recharge, high (where applicable) for sediment/shoreline stabilization, and moderate to high for production export/food chain support.

Effects to permanent intermittent streams would be about 1.6 acres for Chimney Hollow and Jasper East reservoirs and associated structures. In addition, approximately 6 acres of the existing forebay and Willow Creek Pump Canal would be permanently impacted by the construction of Jasper East Reservoir. These structures would be replaced by a similarly sized pond and canal.

Alternative 4—Chimney Hollow Reservoir (70,000 AF) and Rockwell/Mueller Creek Reservoir (20,000 AF)

Alternative 4 would permanently impact a maximum of 15.1 acres of wetlands and temporarily impact a maximum of 5.1 acres for construction of the 70,000 AF Chimney Hollow Reservoir (Figure 1), Rockwell/Mueller Creek Reservoir (Figure 5), and associated structures (Table 1). Because the impacts from construction of Rockwell/Mueller Creek Reservoir were estimated using aerial photography and NWI mapping, the wetland impacts were estimated to range from 3 to 14 acres of permanent impacts and from 2 to 5 acres of temporary impacts. Wetland impacts for the 70,000 AF Chimney Hollow Reservoir would be the same as described for Alternative 3. Wetland functions and values were not investigated in the Rockwell/Mueller Creek Reservoir study area because access was denied, but are likely similar to those in the Jasper East Reservoir study area.

Total impacts to other waters from this alternative are estimated to be 4.9 acres of permanent impacts and 1.8 acres of temporary impacts. Construction of the Rockwell/Mueller Creek Reservoir would inundate or permanently fill about 0.6 acre of stream channel, plus a 3-acre stock pond. In addition, about 1.7 acres of waters would be temporarily impacted during placement of the raw water pipeline across the Colorado River. The impacts to other waters from the 70,000 AF Chimney Hollow Reservoir would be the same as described for Alternative 3.

Alternative 5—Dry Creek Reservoir (60,000 AF) and Rockwell/Mueller Creek Reservoir (30,000 AF)

Alternative 5 would permanently impact approximately 9.2 to 21.8 acres of wetlands and temporarily impact 2.3 to 5.3 acres of wetlands (Table 1). Of these impacts, the construction of Dry Creek Reservoir and facilities (Figure 6) would permanently impact about 6.2 acres of wetlands and temporarily impact about 0.3 acre of wetlands. The remainder of the impacts from this alternative would occur at Rockwell/Mueller Creek Reservoir (Figure 5) and would range from 3.0 to 15.6 acres.

Dry Creek Reservoir wetlands that would be permanently impacted have been disturbed by grazing; however, wetlands in the tributaries are relatively undisturbed. Dry

Creek Reservoir wetlands were rated with a high function for rare or imperiled CNHP-tracked wildlife species habitat, general wildlife habitat, and ground water discharge. Wetland functions and values were not investigated in the Rockwell/Mueller Creek Reservoir study area because access was denied, but are likely similar to those in the Jasper East Reservoir study area.

Impacts to other waters from this alternative total 6.4 acres of permanent impacts and about 2.0 acres of temporary impacts. Construction of Dry Creek Reservoir would permanently affect about 2.8 acres of waters including Dry Creek and several tributaries, either from inundation or fill from dam construction. The remainder of the impacts to waters would be from construction of Rockwell/Mueller Reservoir, as described in Alternative 4.

Avoidance and Minimization of Impacts

Avoidance of all impacts to wetlands and other waters was not possible. All of the potential action alternatives are located on small ephemeral and intermittent drainages with limited natural wetlands present to minimize wetland impacts. The Proposed Action, Chimney Hollow Reservoir (Alternative 2), has the least wetland impacts of all the action alternatives. The No Action alternatives does not meet the purposed and need of the proposed project.

Compensatory Mitigation

Temporary Impact Mitigation

The 0.12 acre of temporary impacts to wetlands from pipeline crossings, construction disturbance, and other activities associated with construction of Chimney Hollow Reservoir will be restored in place by:

- Salvaging and replacing wetland topsoils.
- Regrading wetland sites to preconstruction elevations and contours.
- Revegetating disturbed areas with appropriate native seeds and plantings.

All temporary impacts to creeks, ditches, and ponds will be restored by returning the sites to preconstruction contours.

Permanent Impact Mitigation

Based on the Compensatory Mitigation Rule issued by the Environmental Protection Agency (EPA 2008), the Applicant proposes to buy mitigation bank credits to compensate for the permanent loss of 1.06 acres of jurisdictional wetlands. The Chimney Hollow Reservoir site occurs in the secondary service area of four mitigation banks; therefore, mitigation bank credits are available for the Chimney Hollow Reservoir site. The Applicant will work with the Corps to determine the appropriate ratio for purchase of credits.

Mitigation for permanent impacts to about 0.5⁶ acres nonjurisdictional wetlands would be mitigated by wetland creation on site. Construction of the Chimney Hollow Reservoir is likely to result in the development of wetlands around the lake margin because the reservoir would remain near capacity throughout the growing season and the rest of year. Stable water levels would help support shoreline wetlands. These wetlands would range from a narrow fringe on steeper bank slopes to broader wetlands in the shallow valleys such as the upper valley of Tributary 6 and the southern, upper end of the Chimney Hollow Valley. If needed, creation of wetlands in the upper end of Tributary 6 and the southern end of Chimney Hollow Valley could be assisted by grading the slopes to 1 foot or below the expected ordinary water level of the reservoir. The sites could then be planted/seeded with herbaceous and shrub species similar to the species found in the palustrine emergent and palustrine scrub-shrub wetlands to be impacted.

Water Quality Best Management Practices

The Proposed Project will include water quality best management practices (BMPs) including implementing a stormwater management plan (SWMP). The SWMP would be developed in accordance with the State of Colorado Water Quality Program. A plan, application, and permit would be developed and acquired pursuant to the requirements and guidance of the Colorado Department of Public Health and Environment.

BMPs such as silt fencing will be established and maintained to minimize sediment from reaching wetlands that will not be filled. The fencing also will serve to delineate the limits of project disturbance.

Impacts to the existing wetlands and other jurisdictional waters of the U.S. will be avoided and minimized to the greatest extent possible during final design and construction of the Proposed Project by using BMPs. The following BMPs will be used during construction:

1. The clearing of vegetation will be limited to that which is necessary for the construction of the Proposed Project.
2. All dredge or excavated materials, with the exception of that authorized, will be placed on an upland site above the ordinary high water line in a confined area that is not classified as a wetland to prevent the return of such materials to the waterway.
3. Deposition of excavated materials on shore and all earthwork operations on shore will be carried out in such a way that sediment runoff and soil erosion into the water is avoided. A soil sediment- and erosion-control plan will be implemented.
4. All construction debris (which includes excess dredge and/or fill materials, wood, cleared vegetation, concrete, and all other materials not specifically addressed in the permit) will be disposed of on land in such a manner that it cannot enter a waterway or wetland.
5. Equipment for handling, conveying, and discharging materials during construction will be operated to prevent dumping or spilling the materials into wetlands and waters. Use of the machinery in waterways will be kept to a minimum. All work in waterways will be performed in such a manner to minimize increases in suspended solids and turbidity that may degrade water quality and damage aquatic life outside the immediate area of operation.
6. Concrete trucks will be washed at a site and in such a manner that wash water cannot enter any wetland or waterway. Measures will also be employed to prevent wet concrete from entering any waterway.
7. Only clean rock material from a non-streambed source will be used for riprap to avoid the introduction of fines, which would result in excessive local turbidity.
8. All areas along the banks that are disturbed or newly created by the construction activities, which are not to be riprapped, will be seeded with vegetation indigenous to the area. This vegetation will include both herbaceous and woody species. This may require periodic maintenance, such as reseeding, watering, implementation of grazing restrictions, fencing, and noxious weed control, to ensure survival of replacement vegetation areas. Riprapped areas, except for soil riprap, will not be further disturbed through vegetation control techniques.
9. Measures will be employed prior to initiation of construction to prevent or control spilled petroleum products, chemicals, or other deleterious material from entering the water.
10. A contingency plan will be formulated to be effective in the event of a spill.
11. Fuel storage tanks above ground will be diked or curbed or other suitable means provided to prevent the spread of liquids in case of leakage in the tanks or piping.

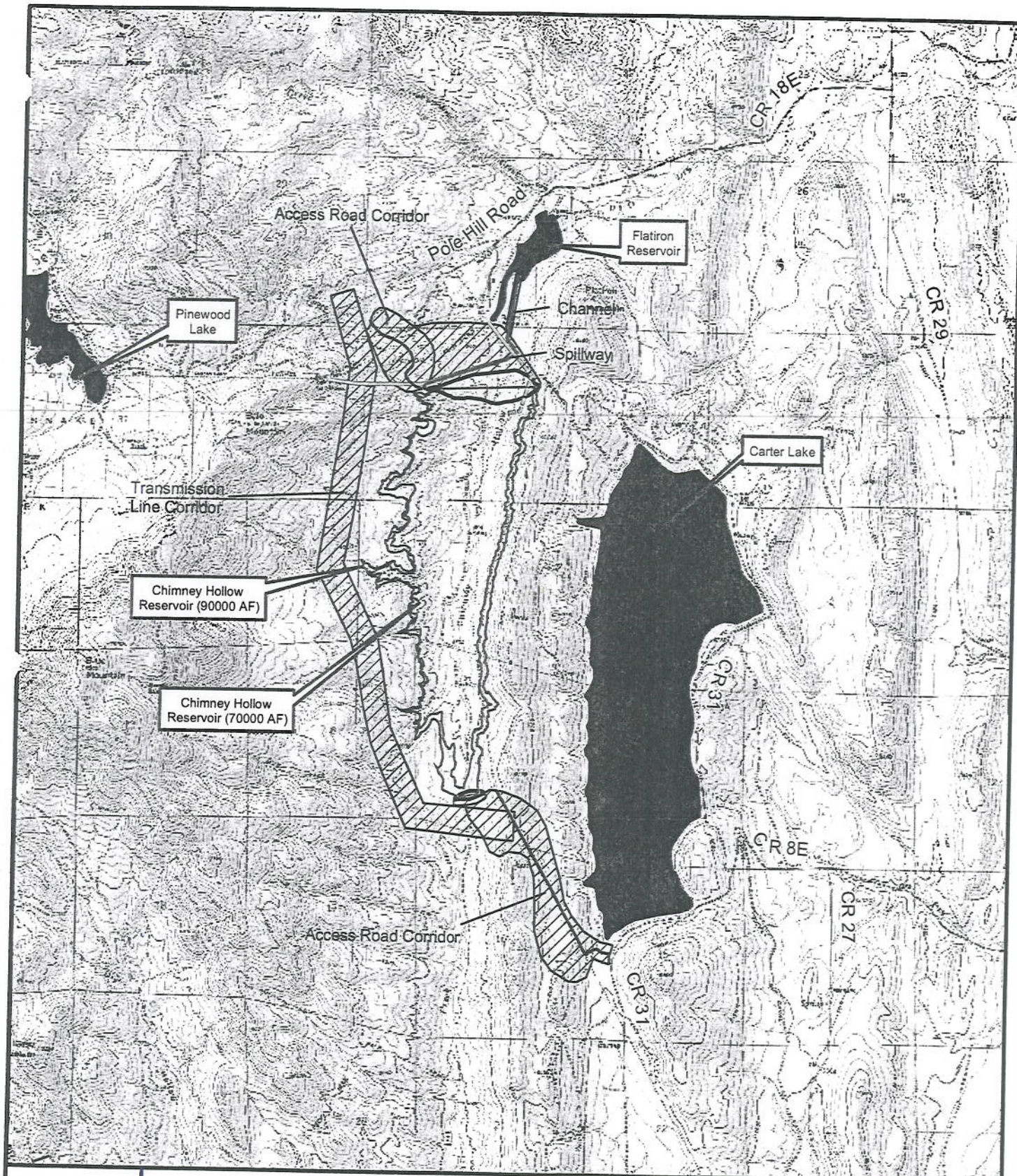
12. Fill created by the discharges will be properly maintained to prevent erosion and other nonpoint sources of pollution.
 13. Silt fencing or other types of construction fencing will be placed between the construction zone and existing (not to be disturbed) wetlands to prevent unauthorized impacts to wetlands.
-

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- MDOT (Montana Department of Transportation). 1996. Montana wetland field evaluation form and instructions. Helena, MT.
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- U.S. Army Corps of Engineers (Corps). 2008. Chimney Hollow Reservoir Site Jurisdictional Determination. Corps File No. 200380523. February 26.
- U.S. Environmental Protection Agency (EPA). 2008. Final Compensatory Mitigation Rule. 19594 Federal Register / Vol. 73, No. 70. Rules and Regulations. April 10.
- U.S. Fish and Wildlife Service (FWS). 2003. Preble's Habitat Assessment letter for the Chimney Hollow Reservoir site. November 18.

Adjacent Property Owners

Conley, William R. and Thompson, Pamela J. 12550 West County Road 18E Loveland, CO 80537	Snell, Mary A. 8127 RVE Court Niwot, CO 80544
County of Larimer Board of County Commissioners P.O. Box 1190 Fort Collins, CO 80522	State of Colorado 1313 Sherman Street, Room 621 Denver, CO 80203-2283
Dunn, Dan A. 240 Meadowview Drive Loveland, CO 80537	Storer, Wm. James A. and Terri L. 5340 Rainbow Lane Loveand, CO 80537
Ehringer, Albert T. 1821 Blake Street Denver, CO 80202	Stroschein, Arnold H. and Edna Karol 11040 Flatiron Mountain Road Loveland, CO 80537
Gaydos, Norman and Leslie 3505 Rainbow Lane Loveland, CO 80537	Tarvin, Gregory A. 3911 Rainbow Lane Loveland, CO 80537
Johnson, Jasper and Karolyn 4061 Rainbow View Lane Loveland, CO 80537	United States of America 301 South Howes Street Fort Collins, CO 80521
Kelly, Beth A. and Popenhagen, Nancy K. 4255 Rainbow Lane Loveland, CO 80537	United States of America 11056 West County Road 18E Loveland, CO 80537
Klawiter, Wolfram 3210 Morey Court Loveland, CO 80537	Warner, Richard E. and Anna K. 802 Sunset Street Longmont, CO 80501
Roinestad, Thomas Frederick and Cynthia 11012 Flatiron Mountain Road Loveland, CO 80537	Warren, Alan L. and Wendy 3705 Northshore Drive Loveland, CO 80537
	Youmans, Kevin E. 4379 Springwood Court Loveland, CO 80538



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- Spillway/Channel
- Pipeline
- Potential Area of Disturbance
- Reservoir

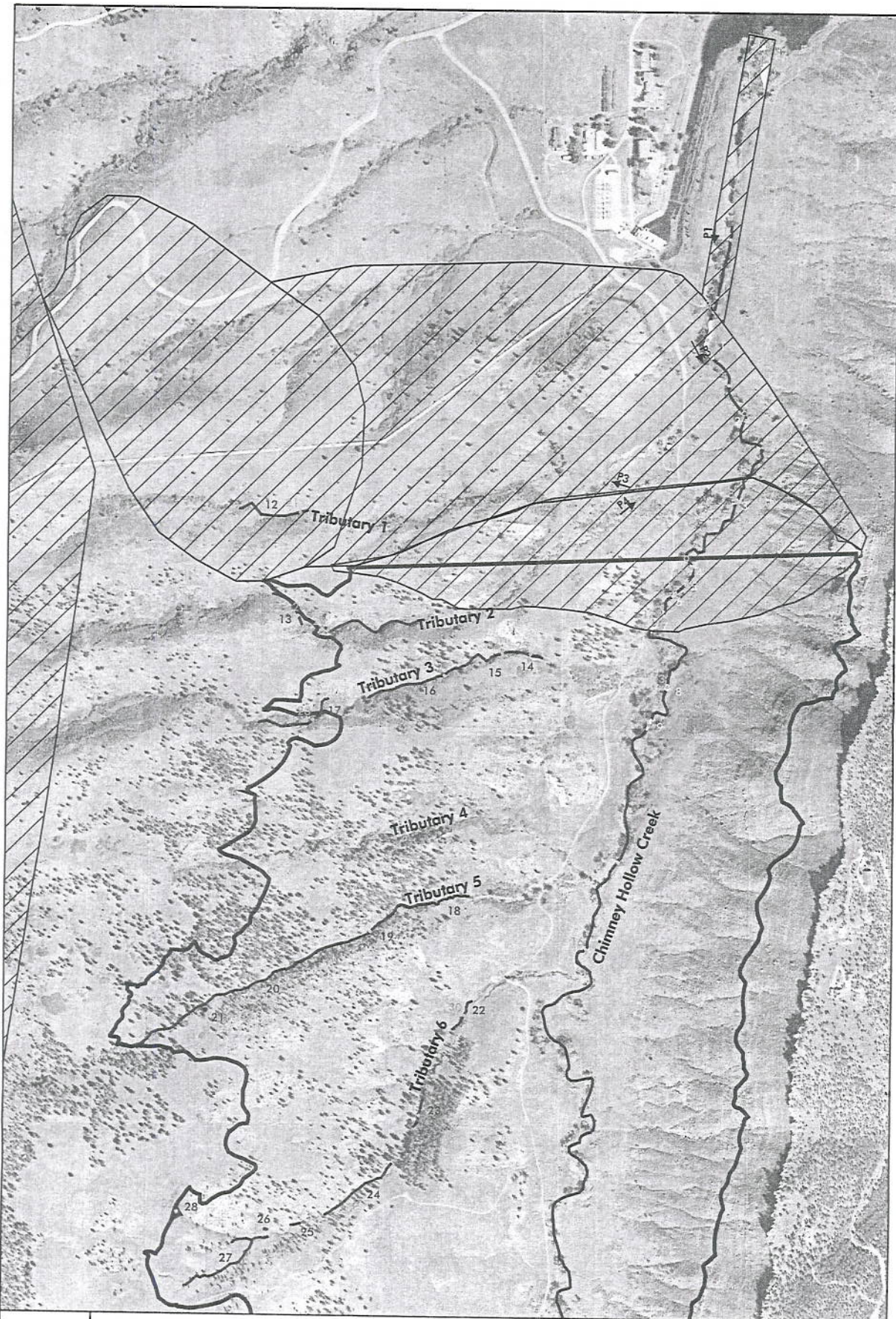


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1 Inch = 4,000 Feet



Figure 1
Chimney Hollow
Reservoir Site

Prepared for: Windy Gap Firing Project
File: Chimney_Hollow_Site_Map.mxd
Date: July 2006



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— Jurisdictional Stream Bed
 - - - Non-Jurisdictional Stream Bed
 — Jurisdictional Wetland
 - - - Non-Jurisdictional Wetland

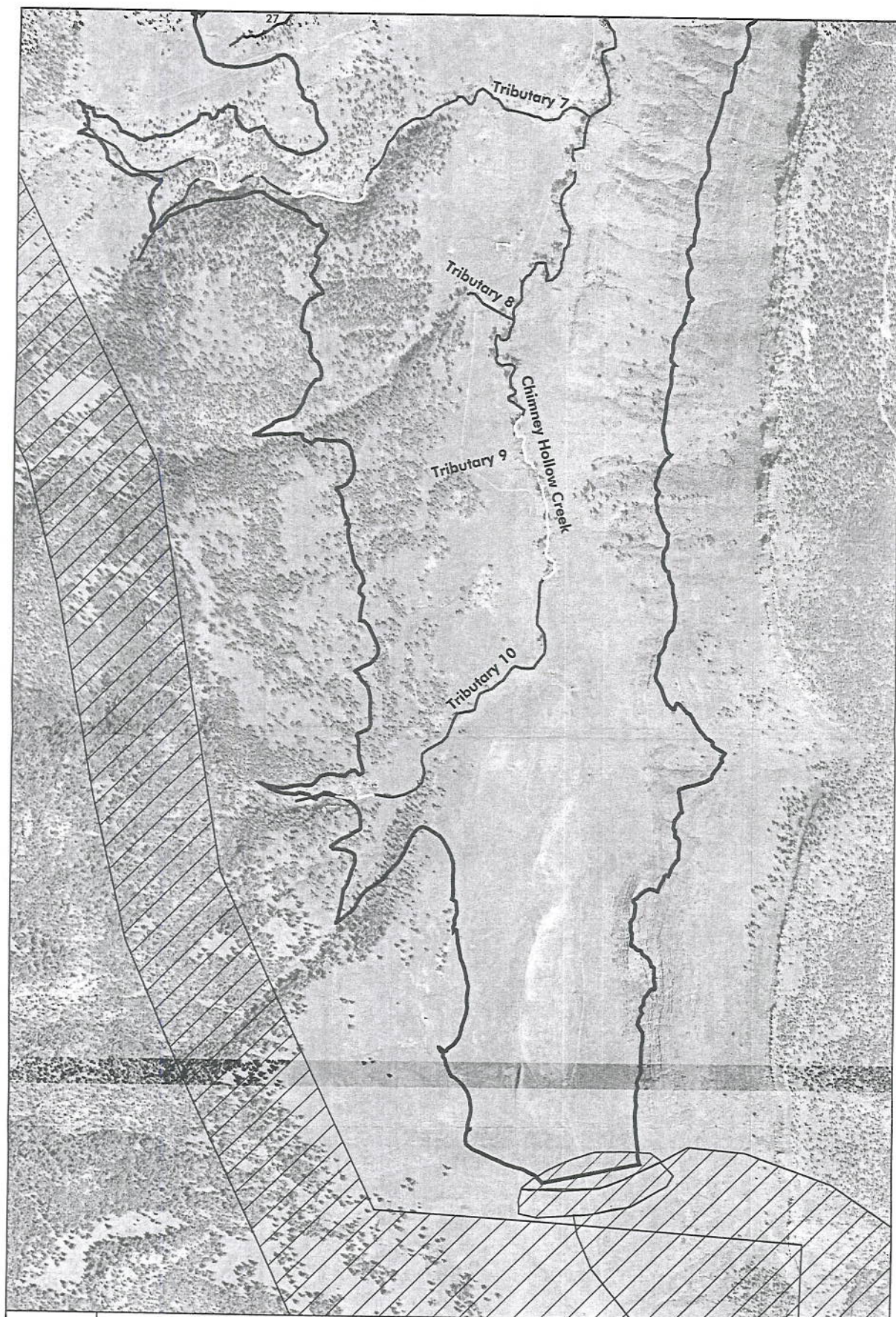
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Figure 2a
 Windy Gap Farming Project
 Chimney Hollow Waters of
 the U.S. and Wetlands

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 Date: April 18, 2008
 Aerial Photography Provided by Boyle Engineering



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— Jurisdictional Stream Bed
- - - Non-Jurisdictional Stream Bed
■ Jurisdictional Wetland
■ Non-Jurisdictional Wetland

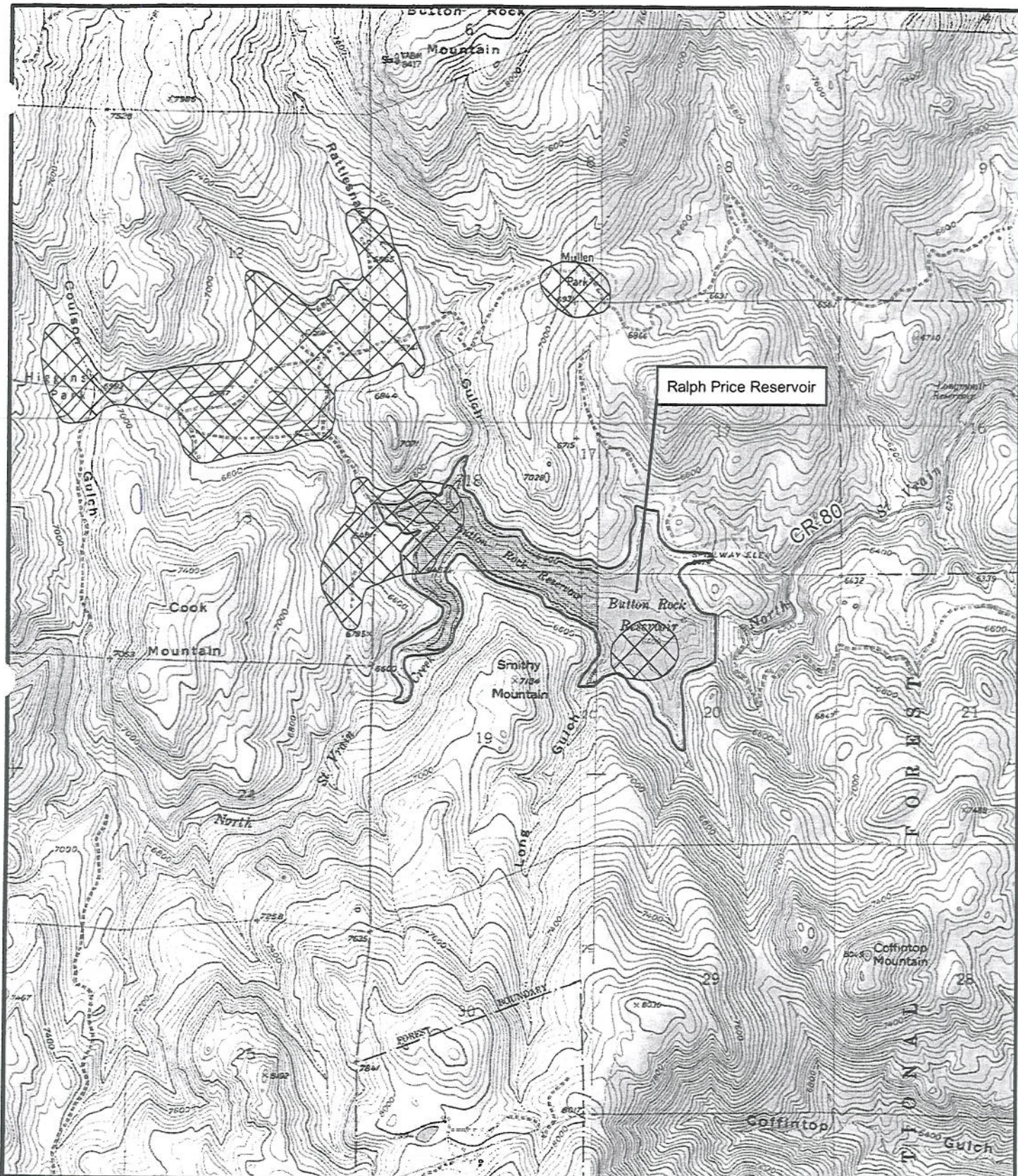
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1 Inch = 600 Feet



Figure 2b
Windy Gap Farming Project
Chimney Hollow Waters of
the U.S. and Wetlands

File: 2390 Chimney_Hollow_wetlands_mapbook.mxd (JP)
Date: April 18, 2008
Aerial Photography Provided by Boyle Engineering



Ralph Price Reservoir

CR-80

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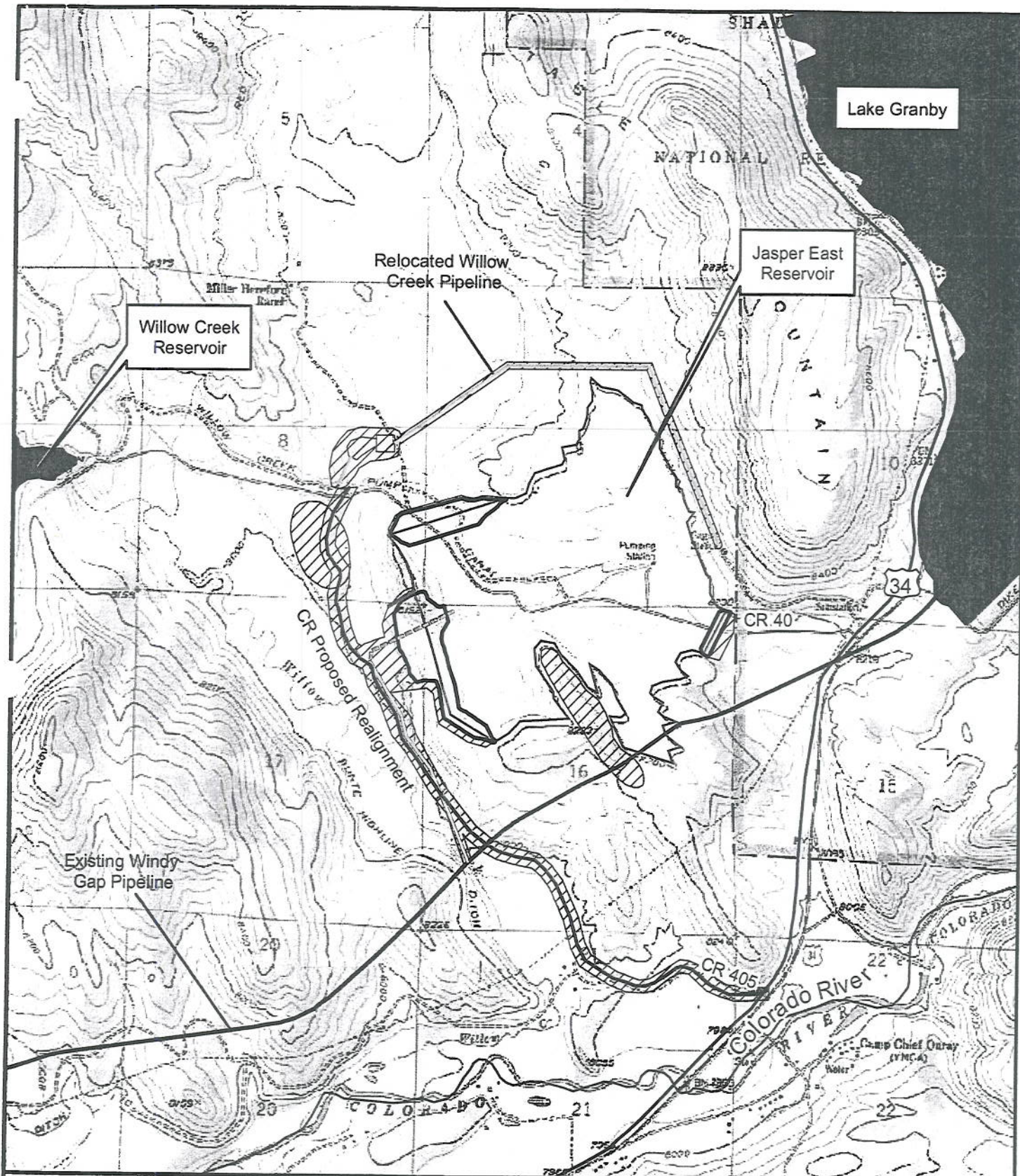
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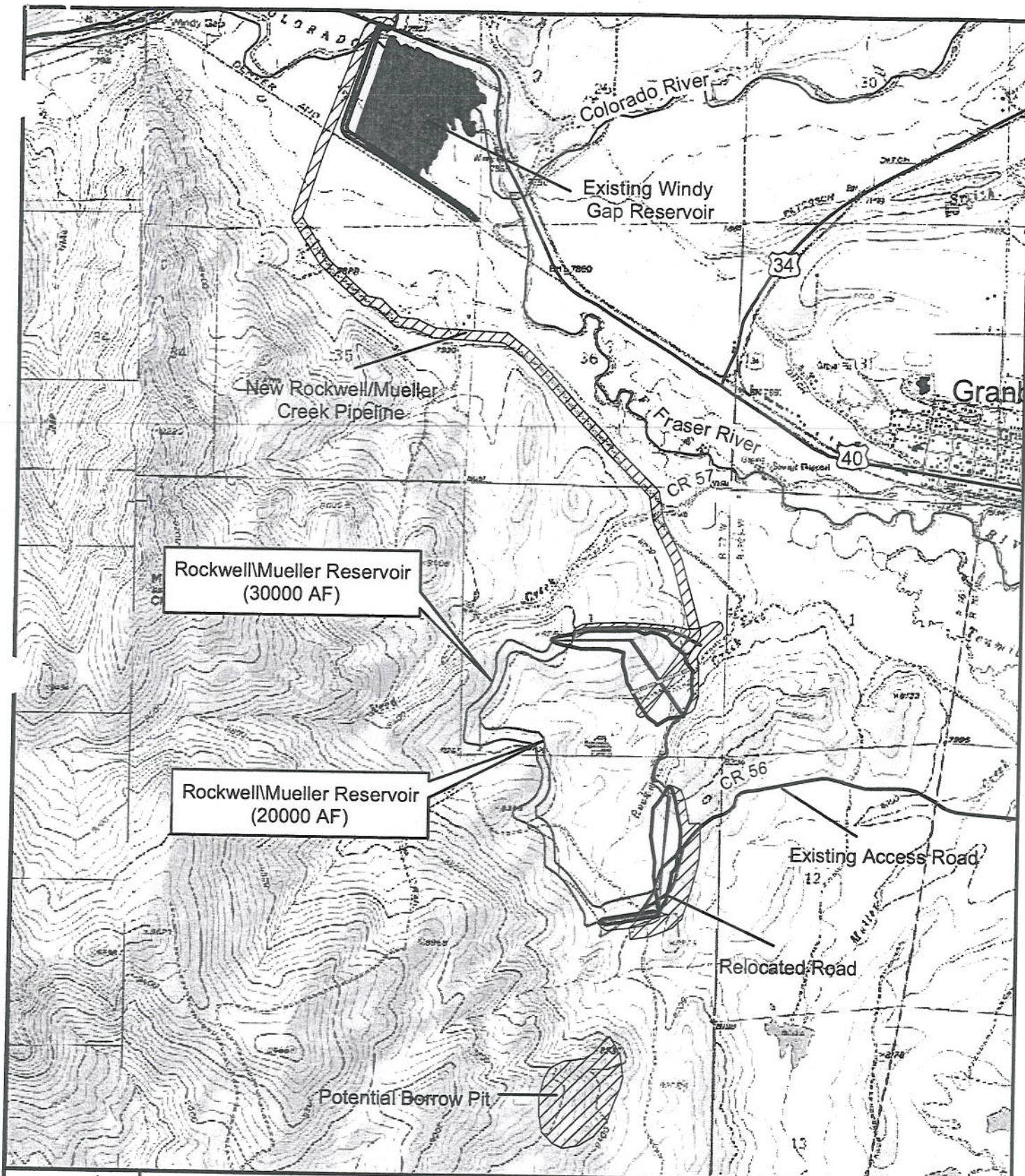
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Figure 4
Jasper East Reservoir
Site

Prepared for: Windy Gap Firing Project
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- Inlet - Outlet
- Spillway
- Potential Area of Disturbance
- Reservoir
- Dam

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Feet
1 Inch = 2,600 Feet



Figure 5
Rockwell/Mueller Creek
Reservoir Site

Prepared for: Windy Gap Firing Project
File: Rockwell_Site_Map.mxd
Date: July 2006

