



Department of Energy

Washington, DC 20585

October 6, 2011

Ms. Susan C. Linner
Colorado Field Supervisor
c/o Allison Deans Michael
USFWS/Colorado Field Office
134 Union Blvd., Suite 670
DFC (MS65412)
Lakewood, CO 80228

Subject: Present Landfill Pond and Pond A-3 Dam Breach Project at the Rocky Flats Site

Dear Ms. Linner:

The U.S. Department of Energy's Office of Legacy Management at the Rocky Flats Site requests approval of the attached project description for the breaching of the Present Landfill Pond and Pond A-3 dams.

Please provide your concurrence and approval for the project at your earliest convenience.

Please contact me at (720) 377-9682 or at scott.surovchak@lm.doe.gov if you have any questions or need additional information regarding this notification. Please send any correspondence to:

U.S. Department of Energy
Office of Legacy Management
11025 Dover Street, Suite 1000
Westminster, CO 80021

Sincerely,

Scott R. Surovchak
LM Site Manager

JKN/abm

cc:
Steve Berendzen, USFWS (e)
Karen Reed, DOE (e)
Rick DiSalvo, Stoller (e)
Linda Kaiser, Stoller (e)
File: RFS 505.15



**Present Landfill Pond and Pond A-3 Dam Breach Project
at the Rocky Flats Site
Programmatic Biological Assessment Project Notification/Consultation
October 2011**

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) manages and operates the Rocky Flats, Colorado, Site (RFS). Twelve dams were constructed in the Central Operable Unit (COU) during the operation of the RFS prior to the Site's closure. Of these, seven dams have been breached by constructing notches in the dam embankments. The breaching of these seven dams was consulted on with the U.S. Fish and Wildlife Service (USFWS) for potential impacts to the Preble's meadow jumping mouse (Preble's mouse; *Zapus hudsonius preblei*). This consultation is described in Part II, Section 3.3, of the *Programmatic Biological Assessment for Department of Energy Activities at the Rocky Flats Environmental Technology Site* (also called the PBA) published in 2004. The following five dams remain within the COU:

- Present Landfill (PLF) Dam on No Name Gulch (Note: The PLF Dam is not in Preble's mouse habitat and therefore is not considered in this notification/consultation.)
- Dams A-3 and A-4 on North Walnut Creek
- Dam B-5 on South Walnut Creek
- Dam C-2 near Woman Creek

This notification/consultation is being conducted to address the upcoming breaching of Dam A-3 and the PLF Dam. As mentioned above, the PLF Dam is not in Preble's mouse habitat or critical habitat and therefore is not further discussed in this document. The breaching of Dams A-4, B-5, and C-2 will be consulted on in a future document as they are not scheduled for breaching until the 2018 to 2020 timeframe. The breaching of Dam A-3 was consulted on and approved by the USFWS in the PBA, Part II, Section 3.3. However, at that time critical habitat had not been designated at RFS. Critical habitat was designated for the RFS as part of Unit 6 in the final ruling on critical habitat (December 15, 2010). Most of the Dam A-3 proposed project area (excluding the staging area) is located in critical habitat (Figure 1). Therefore, consultation is being reinitiated by LM to address this issue.

The purpose of breaching these dams is to essentially eliminate the retention of surface water and to return the Rocky Flats surface water flow configuration to the approximate conditions that existed prior to construction of the dams. LM is responsible for the long-term management of the water discharges at the COU in an environmentally acceptable manner and in compliance with local, state, and federal regulations. To accomplish this long-term responsibility, the drainage system resulting from breaching the remaining dams will require less active management and maintenance than the current system while preserving existing wetlands and habitat as available water allows. Reestablishing flows to approximate pre-retention conditions will provide ecological benefits by improving riparian habitat and promoting wetland formation. The dams are no longer needed for the original purpose and are not required to maintain adequate protection of human health and the environment under the final Corrective Action Decision/Record of Decision remedy.

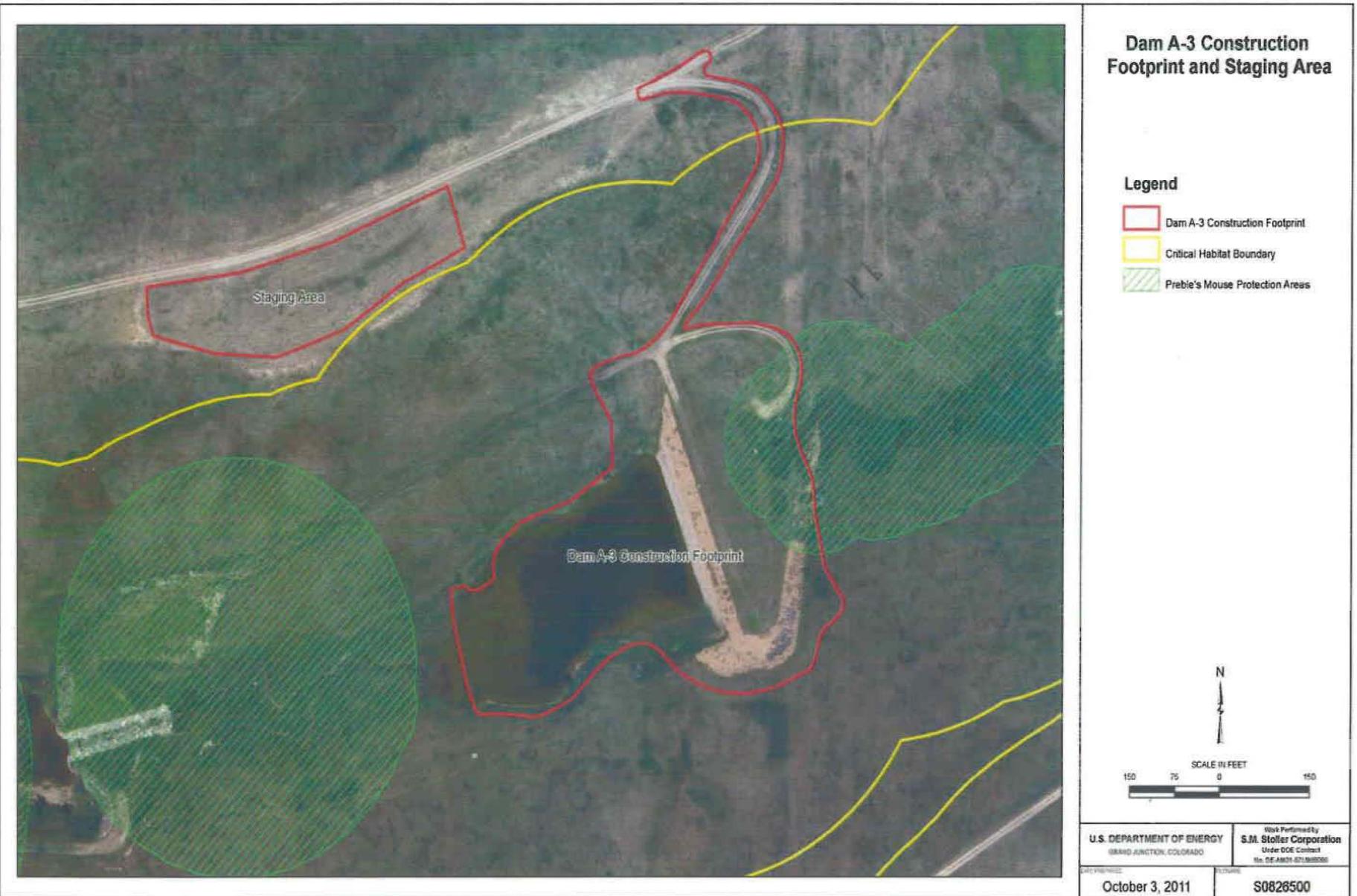


Figure 1. Dam A-3 Construction Footprint and Staging Area

Breaching of Dam A-3 is scheduled to begin in December 2011 and be completed by early April 2012, weather permitting. The PLF Dam will be breached concurrently or after A-3 is completed; the PLF Dam should be completed during June 2011.

An Environmental Assessment (EA) associated with the proposed action of breaching the remaining dams was finalized in May 2011. Impacts to resources were assessed in the EA and the conclusions of the EA found no significant impact would occur to any resource. (See, *Rocky Flats Site, Colorado, Surface Water Configuration Environmental Assessment Final and Finding of No Significant Impact*, DOE/EA-1747, May 2011).

Breaching of Dam A-3 will be similar to those dams already breached. To modify the dam, a "notch" or "channel" will be cut into the earthen embankment to reduce its jurisdictional height, thus creating a lower profile. The average construction duration for dam breaching at each structure is approximately 11 weeks. The following design characteristics are similar among the dams:

- Channel side slopes of 2H:1V (i.e., 2 units of horizontal run for every 1 unit of vertical rise)
- Channel flowline slope of 2 percent with a 5H:1V drop structure slope
- Channel design to accommodate peak flows from at least a 100-year/24-hour storm event with a 2 foot freeboard
- Channel bottom and side slopes to be armored to resist future erosion (permanent turf reinforcement matting on the former pond bottom and an articulating concrete mat and block revetment system through the cut-and-drop section in the breach)

The inlet elevation (invert) for the channel would be located to provide positive drainage from the area upstream of the channel inlet. This would ensure a consistent flow of water and prevent ponding. Figure 2 and Figure 3 show typical section views for the breached dams. The area upstream of each channel would be designed to preserve and enhance wetlands and habitat in the former pond bottom to the extent possible, while still providing positive flow.

The following is a generalized construction sequence:

- [1] Dewater the pond using existing discharge valves, and/or by pumping as necessary, several months prior to construction work (preceding winter/spring).
- [2] Abandon groundwater wells and piezometers within the construction footprint.
- [3] Mobilize for construction: set up staging area, erosion controls, and stockpile area.
- [4] Install a temporary coffer dam upstream for potential storm events (manage retained water upstream using pumps).
- [5] Excavate soil from the breach channel and fill predefined fill areas (i.e., former spillways, pond bottom, and roads to be reclaimed).
- [6] Construct the breach to engineering specifications (side slopes, flowline, drop structure); armor the channel as necessary for erosion resistance.
- [7] Regrade the area upstream of the channel to provide positive flow, minimize ponding, and promote establishment of quality habitat.
- [8] Reclaim all disturbed areas.

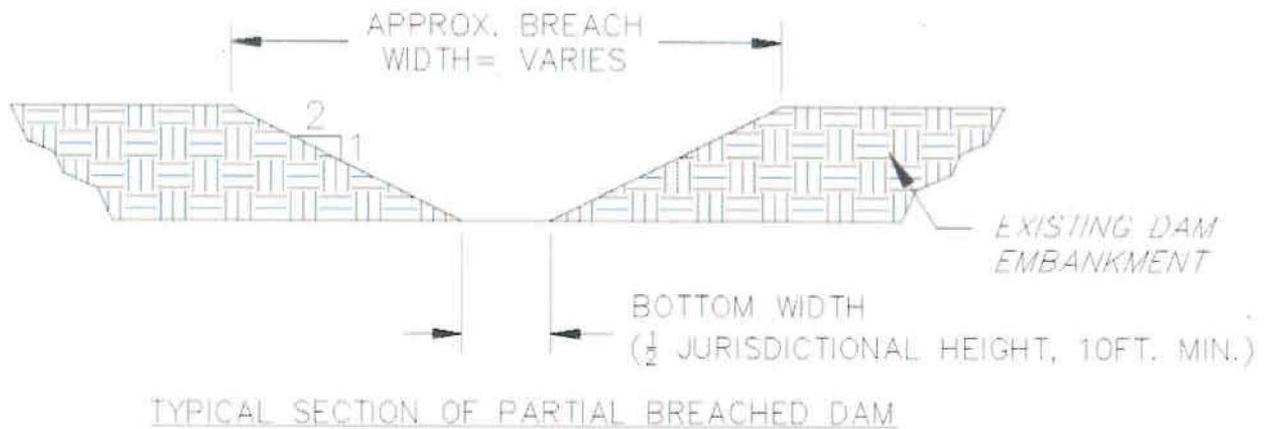


Figure 2. Typical Section of Partial Breached Dam

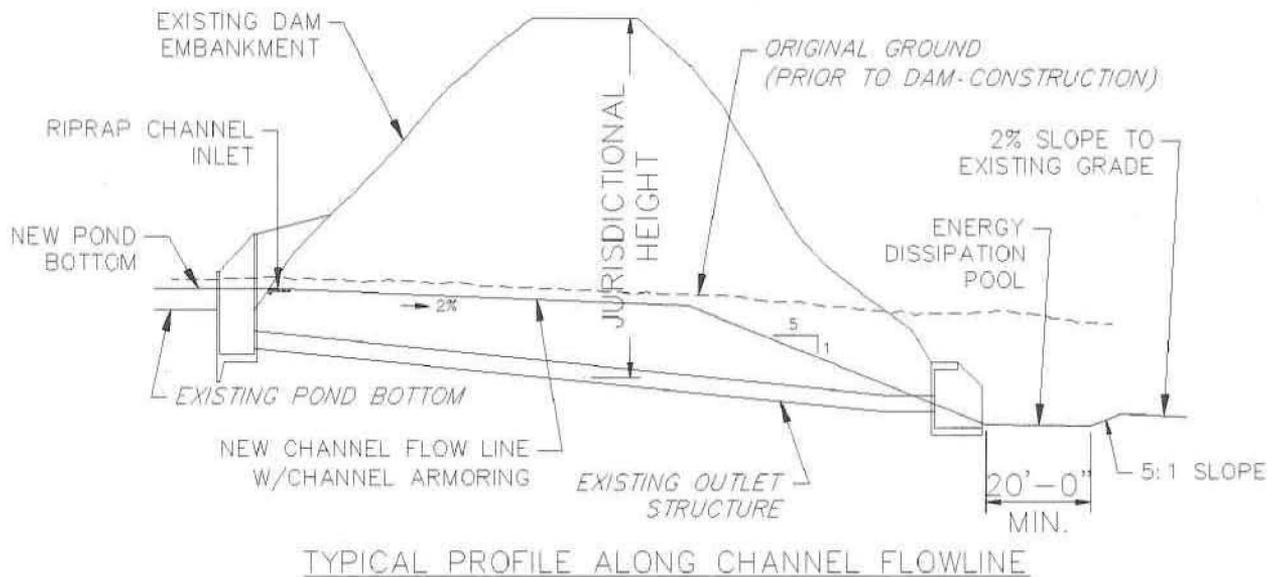


Figure 3. Typical Profile Along Channel Flowline

The construction footprint for Dam A-3 is shown in Figure 1. For the calculation of potential impacts, it is conservatively assumed that everything within the construction footprint would be disturbed. Heavy equipment will be required for the pond remediation or removal activities. This may include equipment such as trackhoes, backhoes, front-end loaders, dump trucks, scrapers, bulldozers, cranes, or other similar equipment. Stream flows likely will be redirected during the project for de-watering the pond so that remediation and restoration activities can proceed. The primary staging area at Dam A-3 is located outside Preble's habitat on top of the ridge to the north of the pond (Figure 1). The overall extent of the disturbance footprint within the Preble's habitat has been minimized as much as feasible. Best management practices, as outlined in the PBA Biological Opinion, will be used to minimize potential impacts to the Preble's habitat. The RFS Erosion Control Plan will be used to prevent erosion and sedimentation in the streams. Project personnel will conduct weekly inspections of erosion controls (more frequently after precipitation events) and maintain and make repairs as necessary through project completion.

Revegetation of the disturbances will be conducted in accordance with the RFS Revegetation Plan. Monitoring and management of the disturbed areas will be conducted per the requirements in the PBA.

The habitat around Dam A-3 generally consists of smooth brome-dominated grassland on the dam face and surrounding areas. Much of this is mowed annually as part of the dam safety maintenance requirements. This requirement will terminate once the dam has been breached. The pond formed by the dam consists largely of open water with some exposed shoreline or mudflats, depending on the water levels in the pond. The margin of the pond has some short and tall marsh habitat in places with some willow, leadplant, or plains cottonwood scattered along the shoreline.

In the past, Preble's mice trapping and telemetry studies have documented the mice as present in the A-series ponds west of Pond A-3. However, none were captured or tracked with telemetry in the vicinity of Dam A-3 itself where the construction activities would occur.

When the PBA was written, no conceptual construction footprints were available for breaching the dams, and large blocks of area were designated around each pond for potential impacts resulting from the dam breach activities. This worst case scenario estimated a potential impact of 14.8 acres in the A-Series ponds (A-1, A-2, and A-3 combined). The breaching of the A-1 and A-2 Dams impacted a combined total of approximately 3 acres of Preble's habitat, which was far less than originally expected. The current construction footprint for the Dam A-3 breach is expected to impact a total of approximately 5.5 acres of critical habitat. However, because much of the area within the construction footprint is considered non-habitat (approximately 3.5 acres) based on the primary constituent element criteria in the critical habitat ruling (roads, parking areas, riprap, open water, etc.), the actual impacts to habitat are estimated to affect only approximately 2 acres.

While the project will temporarily disturb habitat at each pond, there will ultimately be an increase in the total amount of Preble's mouse habitat in the project area because the normally open water areas will be converted to emergent wetland and adjacent upland and most of the roads and riprap areas will be converted to upland grasslands. Portions of the roads will continue to be used as two-track access routes to monitoring locations. Additionally, the articulated concrete mat that will be used in the sloped portion of the breach will allow for vegetation growth in the openings of the concrete blocks. Actual impacts to habitat are expected to be temporary, and the conversion of non-habitat areas to habitat should result in approximately 3.0 acres or more of additional habitat creation. Minimal areas of existing riprap or roads might still exist after project completion (0.5 acre or less). Additionally, returning the stream flows to a flow-through system, rather than a batch and release system, will provide water to the downstream habitat as it is available, thus benefiting the vegetation communities.

Because the project was approved previously by the USFWS and because of the habitat creation/enhancement potential for the Preble's mouse, LM requests approval and concurrence from the USFWS that the project may proceed.

Prepared by: Scott Surovchak
File Name: Present Landfill Pond and Pond A-3 Dam Breach at the Rocky Flats Site
Date Typed: 10/6/11
Finalized by: A. Montoya

CONCURRENCE
LM-20
Name: Karen Reed
Date:

Out of office

LM-20
Name: Scott Surovchak
Date: *10/4/11*

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[i.e., Is the letter (1) responding to a communication *from* an external stakeholder and (a) addressing a complaint, (b) changing a work plan, or (c) setting a standard or precedence; or (2) summarizing a stakeholder meeting?]
If "Yes", the information related to this document should be entered into the E-Comm system as part of the tracking process.

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