

# NRCS Silver Lake Flat Dam Rehabilitation Draft Supplemental Watershed Plan and Environmental Assessment

Public Open House  
September 9, 2013



# Introduction



Greg Allington – McMillen, LLC  
– NEPA Project Manager

Formal Presentation 6:00 – 7:00 pm  
Informal Open House 7:00 – 9:00 pm

# Project Team

Natural Resources Conservation Service  
(NRCS)  
Lead Funding Agency

United States Forest Service  
(USFS)  
Cooperating Agency

North Utah County Water Conservancy District  
(NUCWCD)  
Project Sponsor

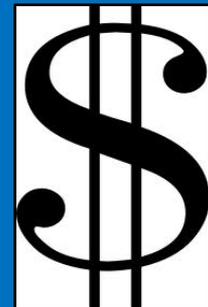
McMillen, LLC  
NEPA Project Manager

Utah Division of Water Resources  
Design

# National Environmental Policy Act

National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190) and the Council on Environmental Qualities regulations at 40 CFR Parts 1500-1508

- Environmental analysis required for major federal actions.
- The NRCS is the funding agency for the dam rehabilitation project (65%).
- The project sponsor provides the remaining 35% cost-share for the dam rehabilitation project.



# NEPA Requirements

- Supplemental Watershed Plan
  - NRCS Agreement with Sponsor
- Environmental Assessment
  - NRCS and USFS NEPA Requirements
  - Potential Impacts to the Natural and Man-made Environment
- NEPA Process
  - Scoping
  - **Draft Plan-EA**
  - Final Plan-EA
  - Finding of No Significant Impact (FONSI)

# Silver Lake Flat Dam Rehabilitation

# Silver Lake Flat Dam Rehabilitation

- History

- Completed in 1971
- Classified as a Class “C” High Hazard Dam
- Originally Designed for Water Storage
  - Flood Retention
  - Sediment Retention
  - Recreation
- 50-year life

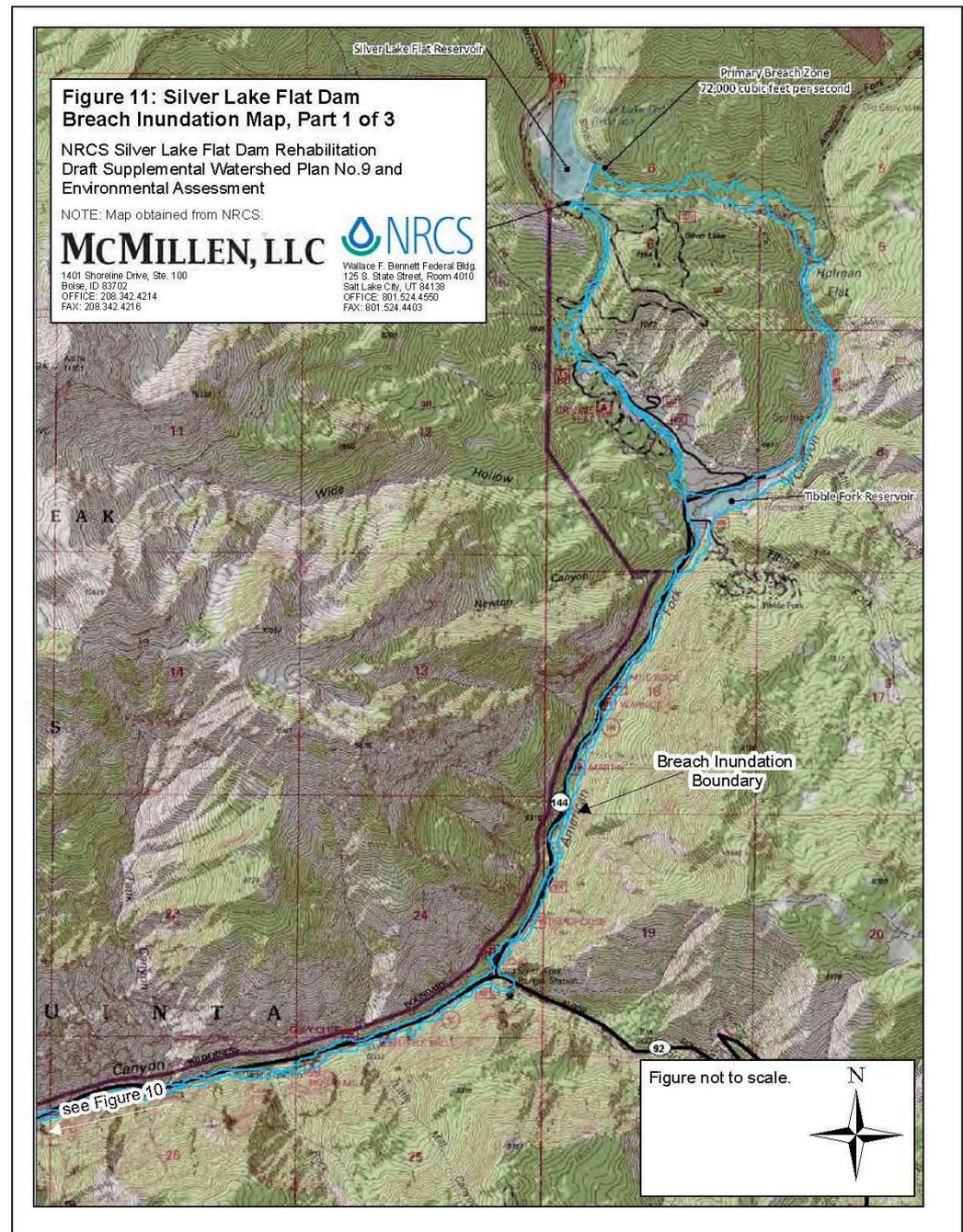
# Silver Lake Flat Dam Rehabilitation

- Purpose
  - Rehabilitate the dam to meet current NRCS and Utah State Dam Safety regulations and current engineering standards.
- Need
  - Extend the life of the dam for 71 years starting in 2017 to continue to provide economic benefit through the primary use of water storage with incidental benefits to flood damage reduction, sediment retention and recreation.

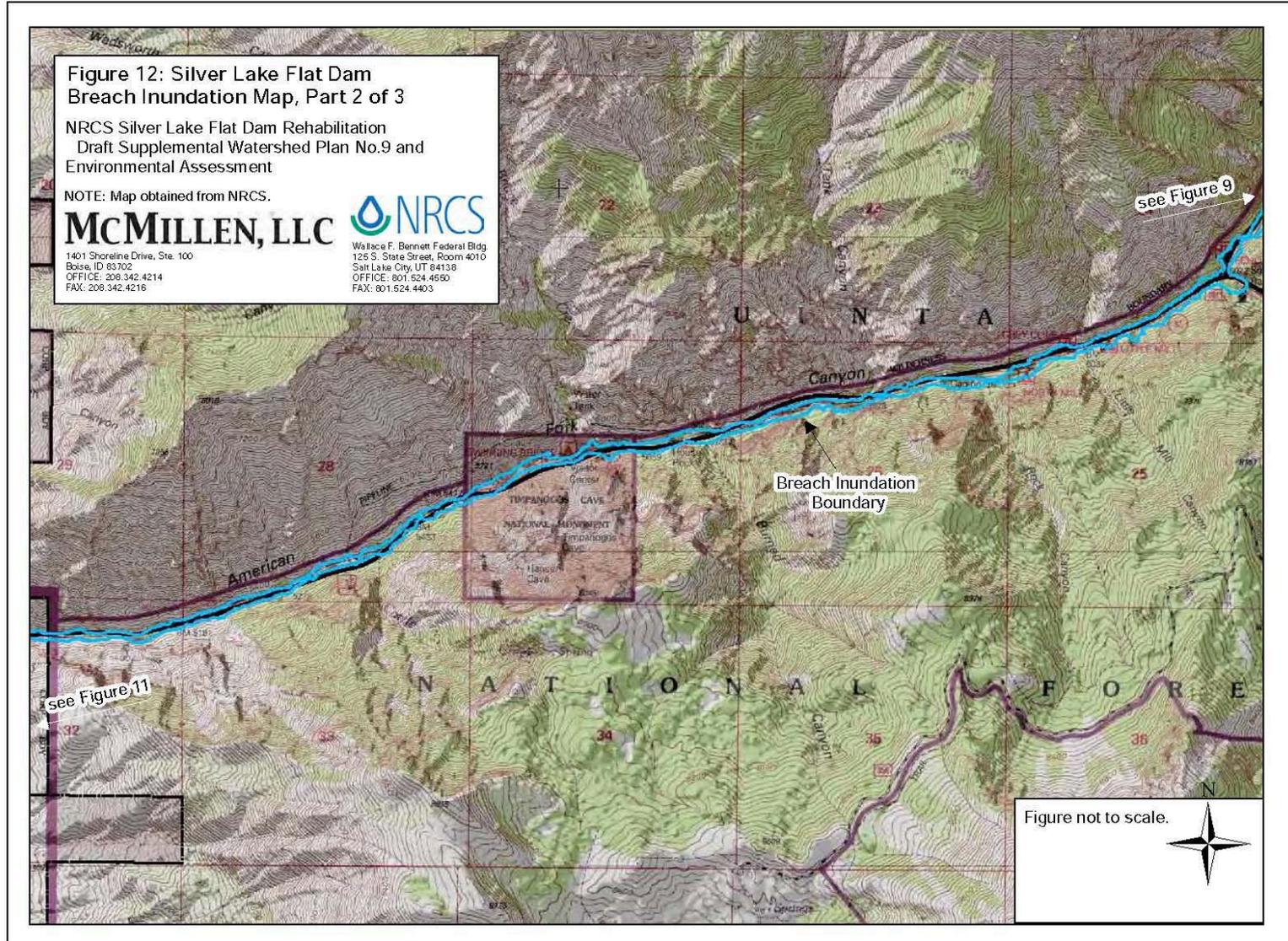
# Dam Breach

## Map 1

- Probable Maximum Flood  
3,462 cfs



# Dam Breach Map 2



# Dam Breach

## Map 3

Figure 13: Silver Lake Flat Dam Breach Inundation Map, Part 3 of 3

NRCS Silver Lake Flat Dam Rehabilitation Draft Supplemental Watershed Plan No.9 and Environmental Assessment

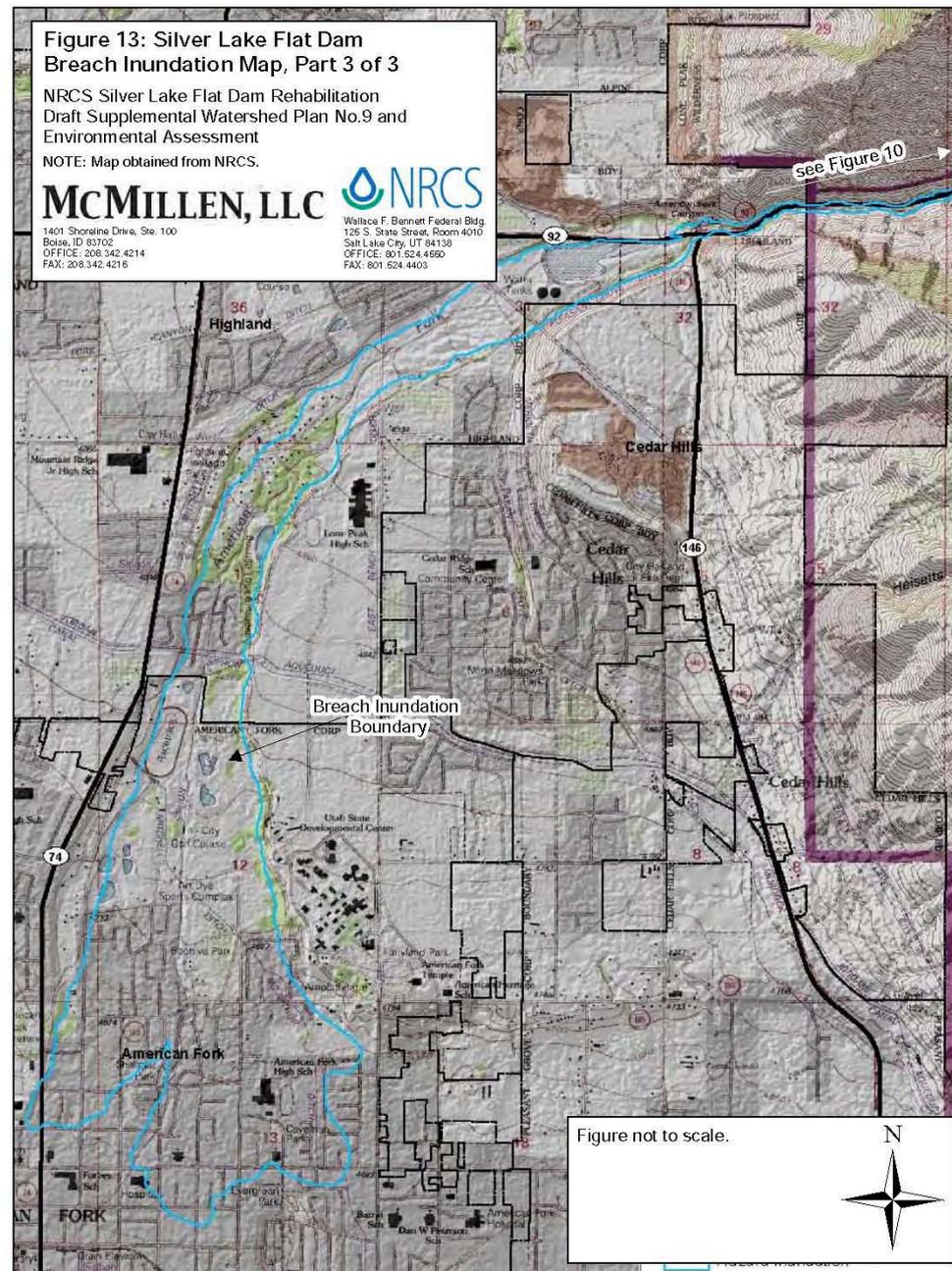
NOTE: Map obtained from NRCS.

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**NRCS**

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Salt Lake City, UT 84139  
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# Silver Lake Flat Dam Rehabilitation

- Population-At-Risk
  - Flood Comparison Method
  - Potential Loss-of-Life
    - Night (Summer): 283 people
    - Night (Non-Summer): 208 people
    - Day (Summer): 409 people
    - Day (Non-Summer): 867 people

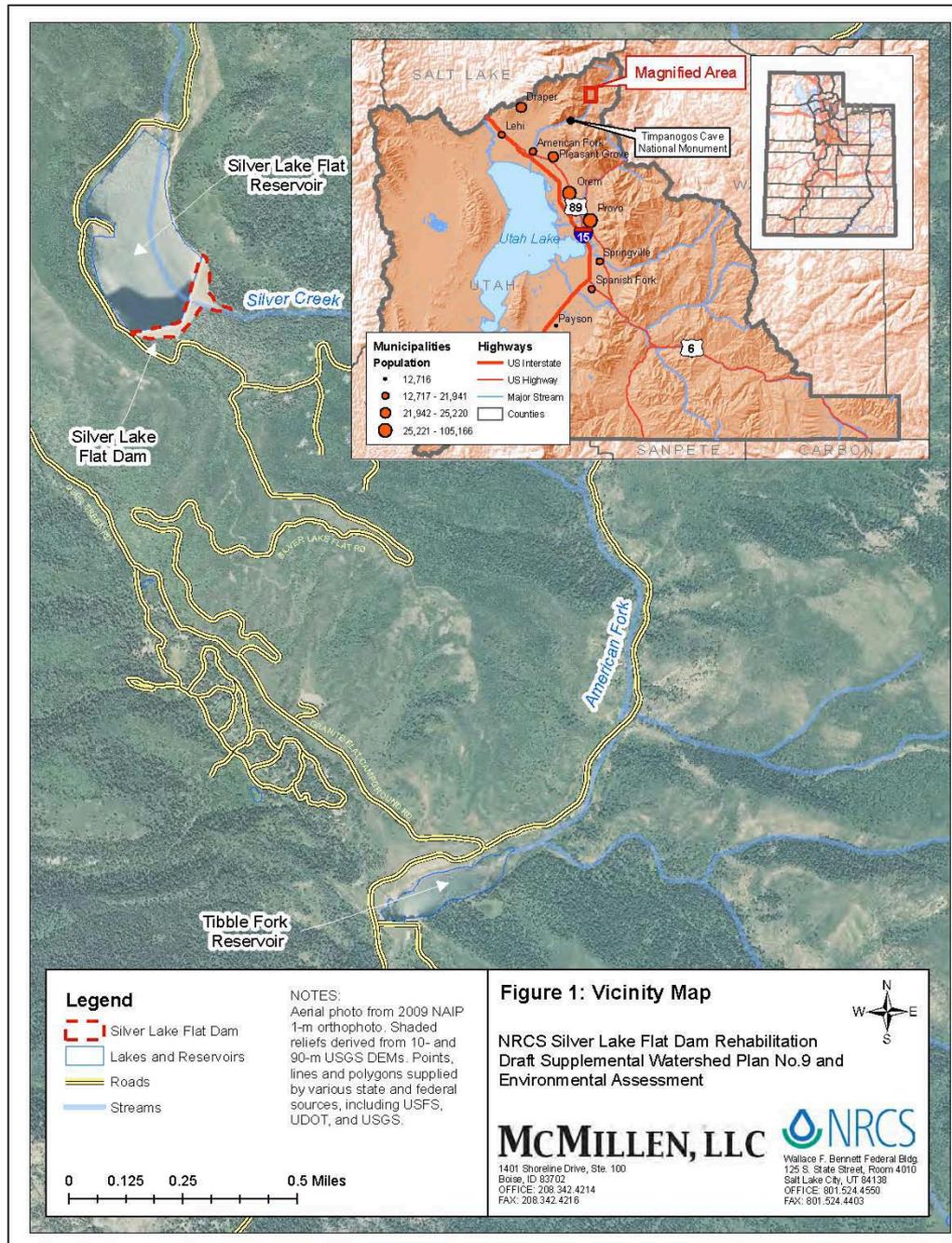
# Silver Lake Flat Dam Rehabilitation

- Alternatives Considered by Eliminated from Detailed Study
  - Dam Decommissioning – Complete Dam Removal
  - Dam Decommissioning – Partial Breach
  - Rehabilitate Dam – New Spillway Open Channel Dogleg
  - Rehabilitate Dam – Remove Sediment from Reservoir
  - Rehabilitate Dam – New Spillway Open Channel Left Abutment
  - Rehabilitate Dam – New Spillway Open Channel Right Abutment

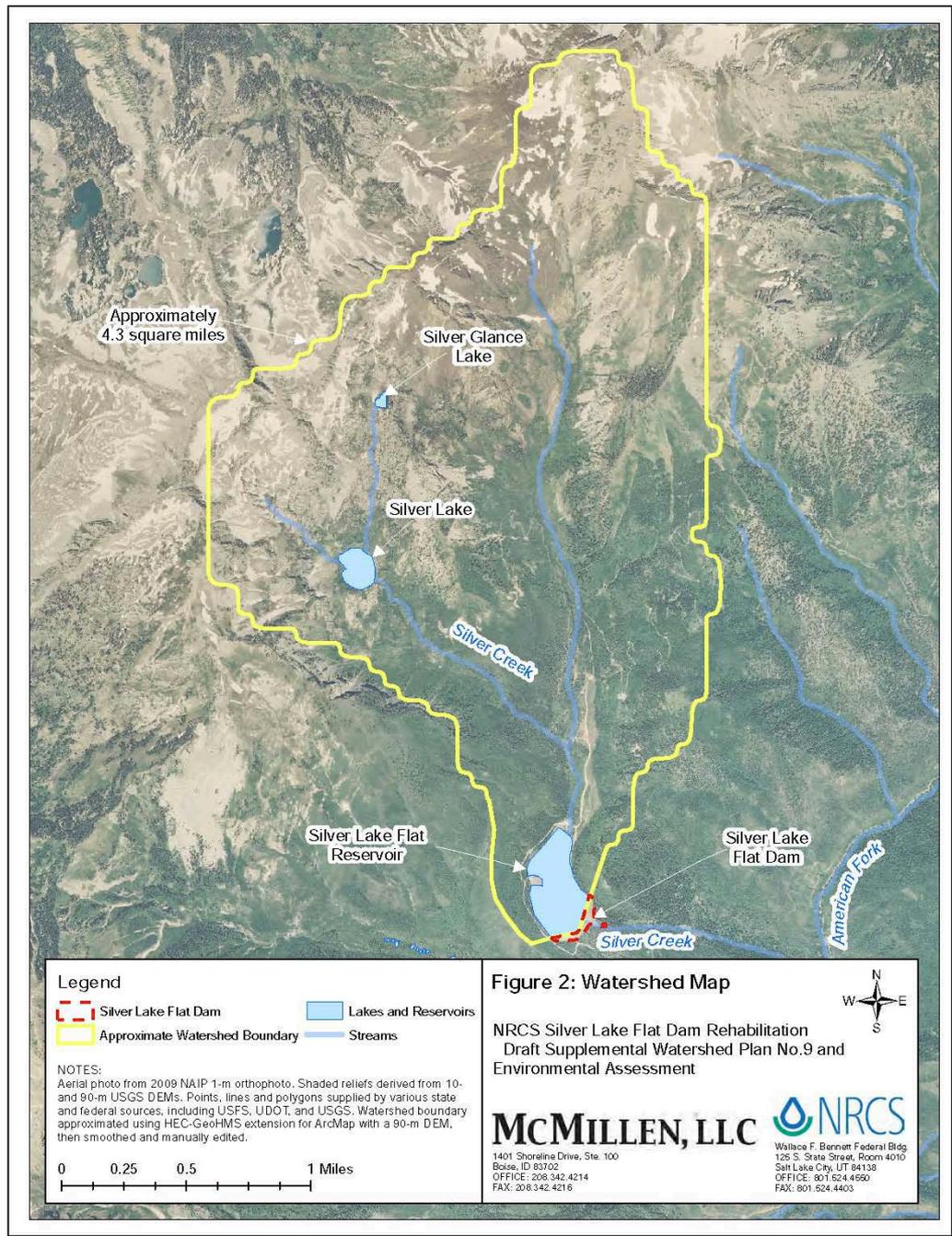
# Silver Lake Flat Dam Rehabilitation

- Alternatives Considered for Detailed Study
  - No Action
    - \$20,000,000
  - Dam Decommissioning
    - \$4,595,000
  - **Rehabilitate Dam – Replace Spillway**
    - **\$3,538,000**
    - **(Preferred and National Economic Development Alternative)**
  - Rehabilitate Dam – Left Abutment Closed Spillway
    - \$4,030,000

# Vicinity Map



# Watershed Map



# Project Map

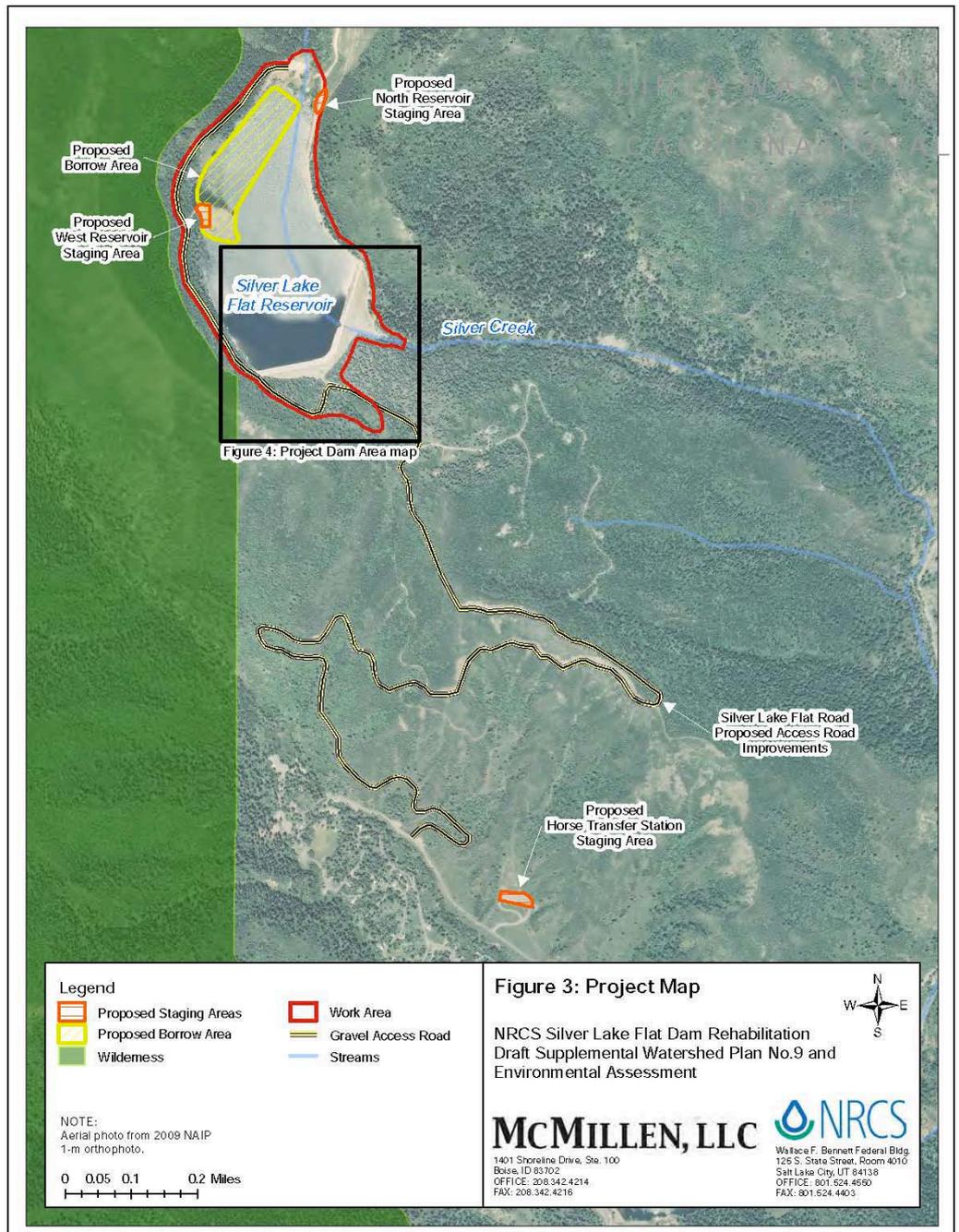
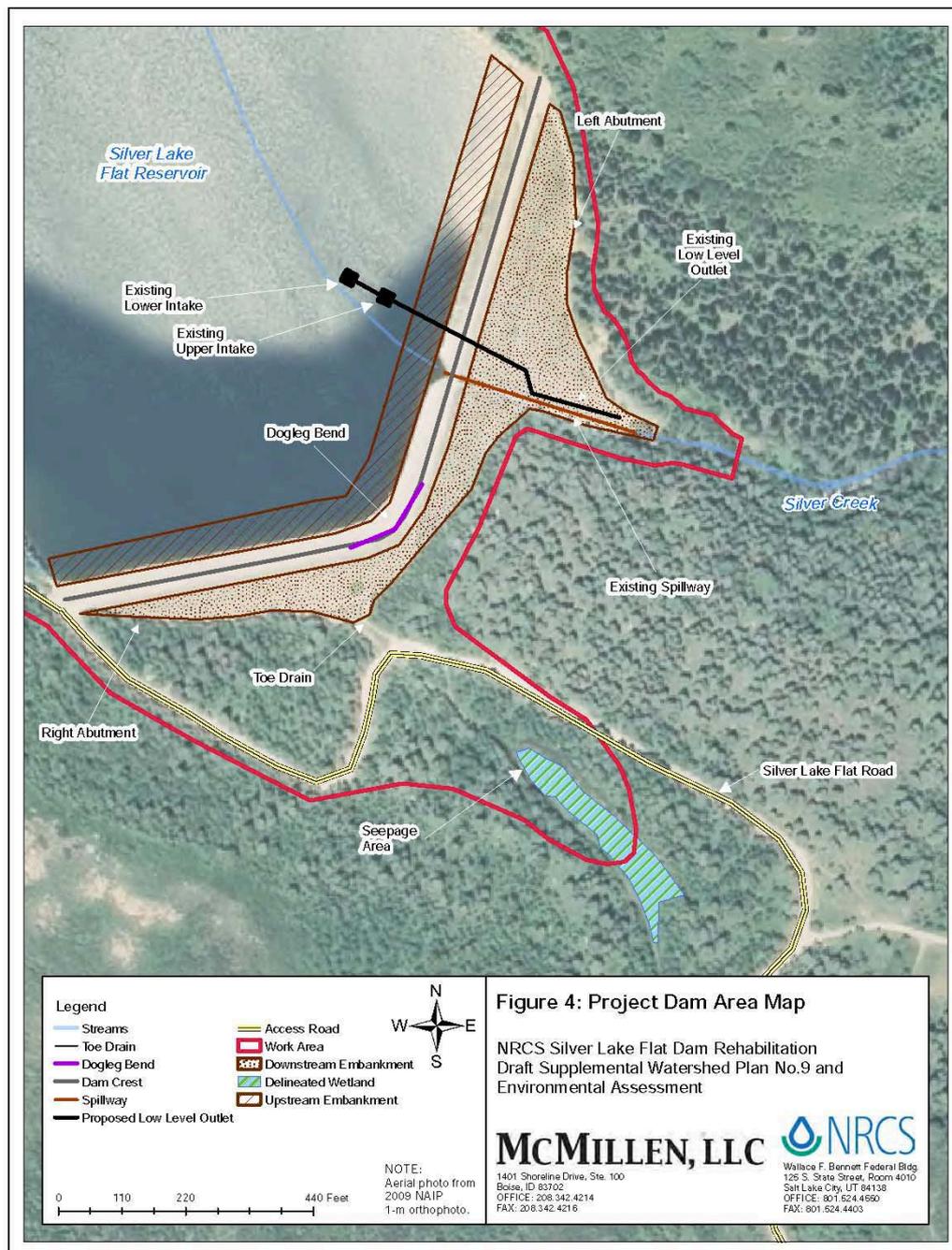


Figure 4: Project Dam Area map

# Dam Area Map



# Dam Area Pictures



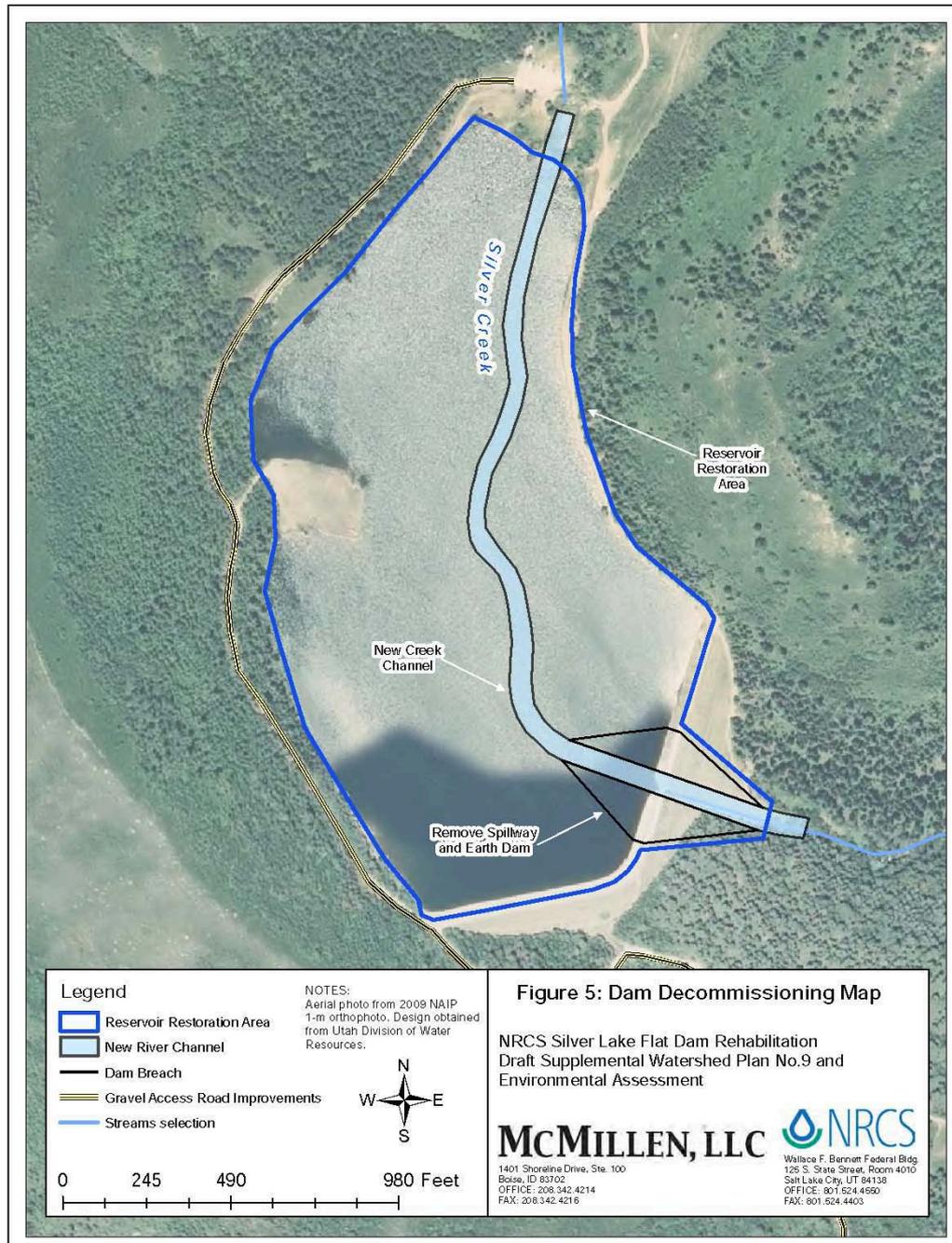
# Dam Area Pictures



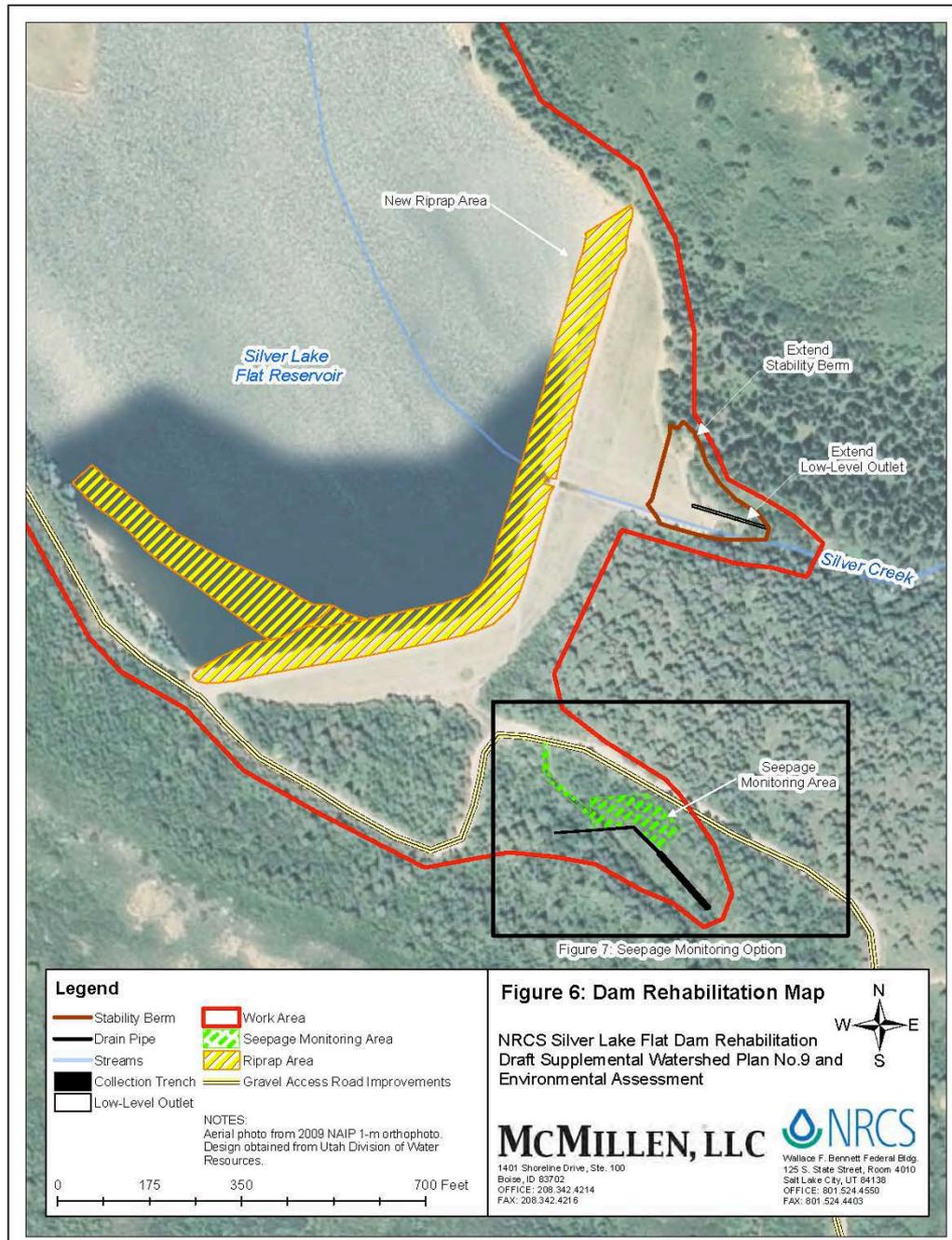
# Dam Area Pictures



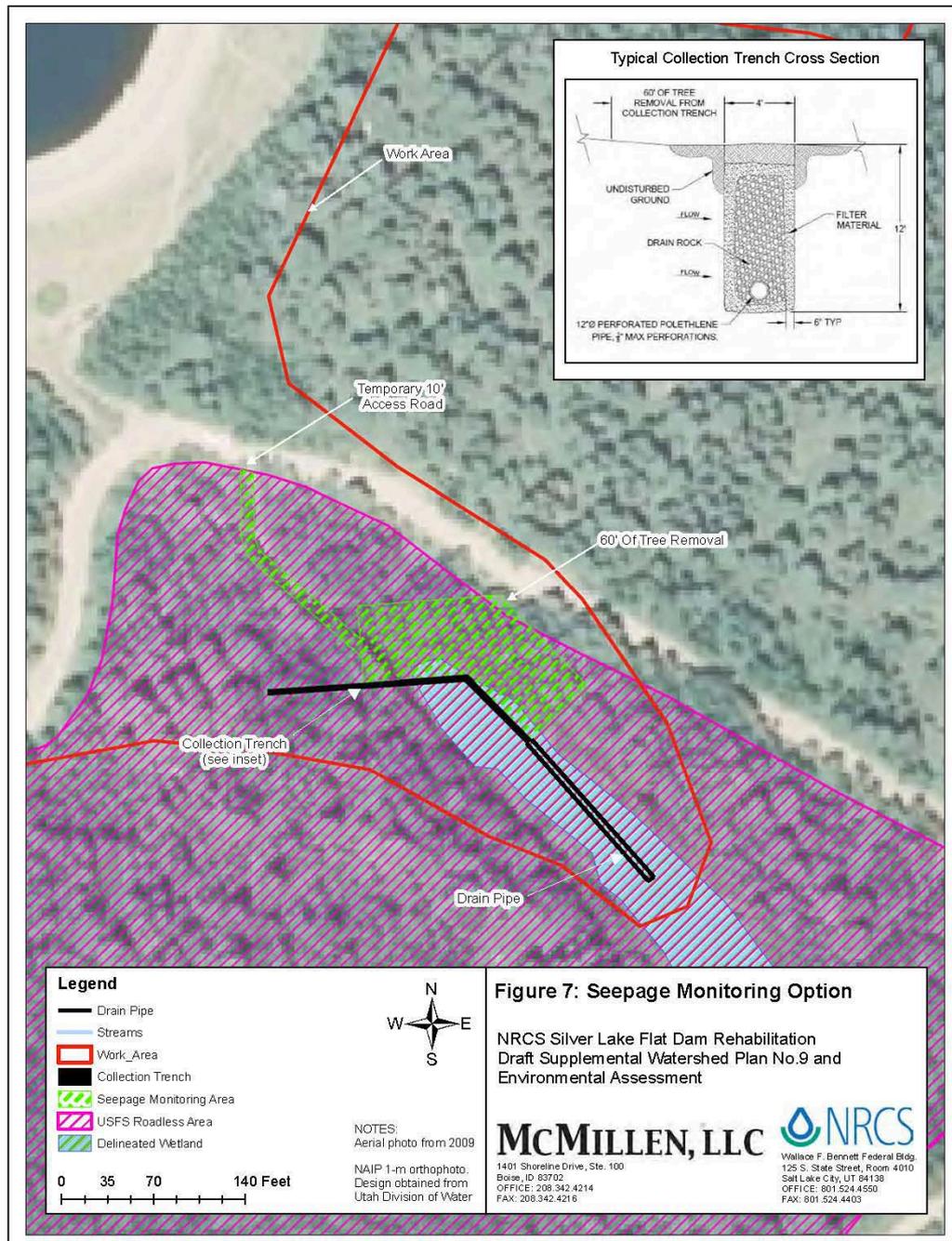
# Dam Decommissioning Map



# Dam Rehab Map



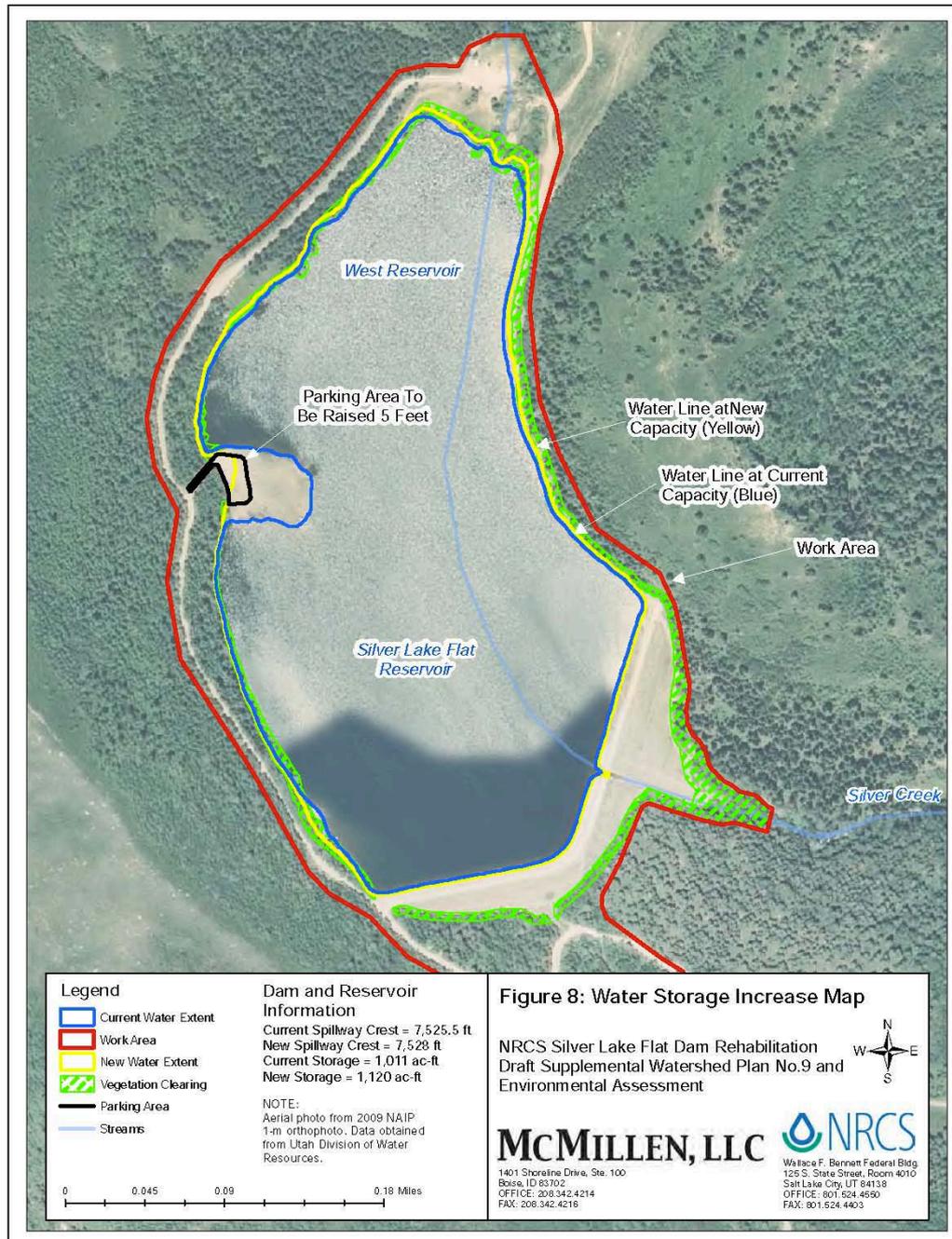
# Seepage Monitoring Map



# Seepage Monitoring Pictures

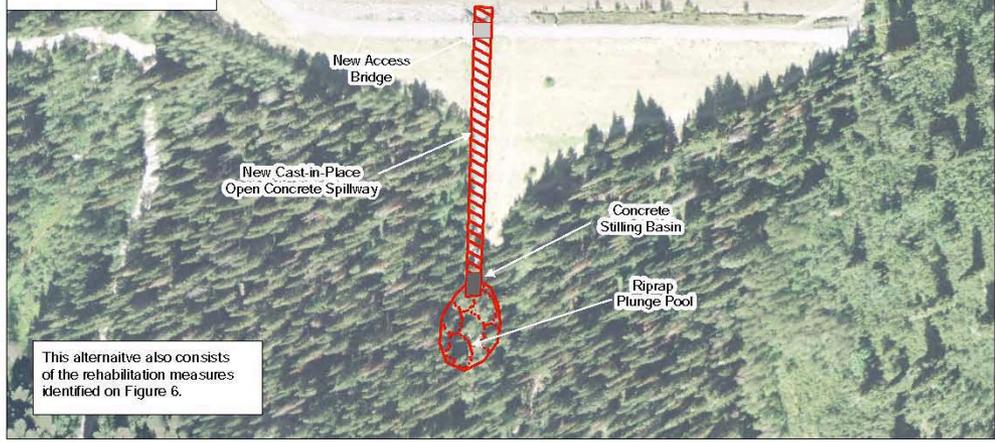


# Storage Increase Map

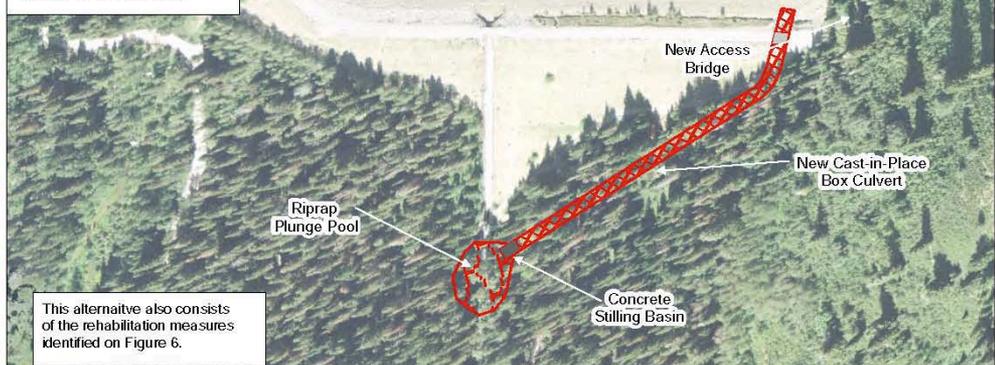


# Spillway Replacement Map

## REHABILITATE DAM- REPLACE SPILLWAY



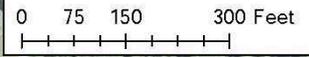
## REHABILITATE DAM- LEFT ABUTMENT CLOSED SPILLWAY



### Legend

-  New Access Bridge
-  Concrete Stilling Basin
-  Riprap Plunge Pool
-  Cast-in-Place Box Culvert
-  Cast-in-Place Concrete Spillway

NOTE:  
Aerial photo from 2009 NAIP  
1-m orthophoto. Design obtained  
from Utah Division of Water  
Resources.



### Figure 9: Spillway Replacement Alternatives

NRCS Silver Lake Flat Dam Rehabilitation  
Draft Supplemental Watershed Plan No.9 and  
Environmental Assessment

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# Spillway Replacement Pictures



# Construction Schedule

- Construction
  - Start: May 2014
  - End: November 2014
- Approx. 20 trucks/day (6 days per week)
- Silver Lake Flat Road Open during Construction
  - Flaggers regulating access
- Reservoir Area Closed
- Horse Transfer Station Closed

# Environmental Consequences

- Preferred Alternative Only
- Environmental Consequences
  - Agricultural Lands
  - Fish
  - Public Health and Safety
  - Recreation
  - Soil and Sediment
  - Streams and Wetlands
  - Transportation
  - Vegetation

# Mitigation

- Preferred Alternative Only
- Mitigation Measures
  - Agricultural Lands: Loss of water during summer 2014
  - Cultural: Only if Cultural Resources are discovered
  - Fish: Fish Salvage
  - Recreation: Not close all recreation areas
  - Soils: BMPs
  - Streams and Wetlands: Coordination with USACE
  - Transportation: Flaggers on Silver Lake Flat Road
  - Vegetation: Replanting

# Cumulative Effects

- Past Actions
  - Silver Lake Dam
- Present Actions
  - None
- Reasonably Foreseeable Projects
  - Tibble Fork Dam Rehabilitation

# NEPA Requirements

- NEPA Process
  - Scoping
    - Express initial concerns and suggest alternatives to be considered
  - **Draft Plan-EA**
    - **Public review of alternatives and environmental impacts**
  - Final Plan-EA
    - Preferred alternative published to public
  - Finding of No Significant Impact (FONSI)
    - Project approval by NRCS and USFS

# NEPA Schedule

- NEPA Plan-EA
  - Start: March 2012
  - Public Scoping: May 2012
  - **Draft Plan-EA Public Comment Closes:  
September 25, 2013**
  - Final Plan-EA and FONSI: Winter 2013



# Draft Plan-EA Comments

- Formal comments may be submitted by:
  - Email
  - Written Letter
  - Comment Card
  - Oral
- Comments will be addressed in the Final Plan-EA



# NEPA Contact Information

- Please contact Greg Allington with McMillen project with questions and comments:



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# Informal Questions

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