



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

MEETING OF THE HISTORIC PRESERVATION ADVISORY BOARD BOULDER COUNTY, COLORADO

THURSDAY, NOVEMBER 5, 2020 AT 6:00 P.M.

PLEASE NOTE: Due to COVID-19 concerns, this meeting will be held virtually. Information regarding how to participate will be available on the Historic Preservation Advisory Board webpage in advance of the meeting (www.boco.org/HPAB).

This agenda is subject to change. Please call ahead or check the Historic Preservation Advisory Board webpage to confirm an item of interest (303-441- 3930 / www.boco.org/HPAB). For special assistance, contact our ADA Coordinator (303-441-3525) at least 48 hours in advance.

Information regarding how to participate in this virtual meeting will be available on the Historic Preservation Advisory Board webpage in advance of the meeting (approximately October 29th) at www.boco.org/HPAB. If you have comments regarding any of these items, you may mail comments to the Community Planning & Permitting Department (PO Box 471, Boulder, CO 80306) or email to historic@bouldercounty.org. Please include the docket number of the subject item in your communication. Call 303-441-3930 or email historic@bouldercounty.org for more information.

Notice is hereby given that a Public Meeting will be held by the Boulder County Historic Preservation Advisory Board (HPAB) at 6:00 pm to consider the following agenda:

1. Citizen participation for items not otherwise on the agenda
2. Approval of minutes from previous meetings
3. Informational Item only: Presentation and discussion on the Management Plan Update for Carolyn Holmberg Preserve @ Rock Creek Farm – Marni Ratzel of Parks and Open Space (website: <https://www.bouldercounty.org/open-space/management/chp-plan-update/>)
4. Referral:
 - a. **Docket SI-20-0003: Gross Reservoir and Dam Expansion**
Request: Areas and Activities of State Interest (1041) review for the expansion of Gross Dam and Reservoir to store an additional 77,000 acre-feet total of water, which includes increasing the dam height by approximately 131 feet, the dam length by approximately 790 feet, and the spillway elevation by approximately 126 feet; quarry operations to obtain aggregate required for construction; construction of a temporary concrete batch/production plant and an aggregate processing plant; permanent road improvements to Gross Dam Road from State Highway 72 to the Gross Reservoir; temporary road improvements to FS35 (Winiger Ridge Road) and FS 97 (Lazy Z Road); and the relocation of the Miramonte Multi-Use Trail.
Location: 3817 Gross Dam Road, at parcel 1579280000006, north end of Gross Dam Road approximately 5 miles north of its

intersection with State Highway 72, in Section 28, Township 1S, Range 71W.

Zoning: Forestry

Applicant: Denver Water, c/o Jeff Martin

Property Owners: Denver Water, City and County of Denver, U.S. Forest Service

Website: www.boco.org/SI-20-0003

(No public testimony will be taken)

5. Other Business

- a. Report on NAPC Forum 2020 from members Chuck Gray and Larry Powers



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BOULDER COUNTY HISTORIC PRESERVATION ADVISORY BOARD

MINUTES

July 2, 2020

6:00 PM

Hearing Held Virtually

DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT

On Thursday, July 2, 2020 the Boulder County Historic Preservation Advisory Board held a regular meeting, convening at 6:02pm and adjourning at 7:35pm.

Board Members Present: Chuck Gray (interim chair), Jason Emery, Marissa Ferreira, Mark Gerwing, Margo Leach, Caitlin McKenna, Stan Nilson, Larry Powers and Rosslyn Scamehorn

Board Members Excused: none

Staff Present: Denise Grimm, Rick Hackett, Anna Milner and Jessica Fasick with Community Planning & Permitting; Carol Beam with Parks and Open Space

Interested Others: 7, including Erica Duvic from History Colorado

1. CITIZEN PARTICIPATION

None.

2. APPROVAL OF MINUTES

Approval of the March 5, 2020 Historic Preservation Advisory Board Minutes:

MOTION: Rosslyn Scamehorn MOVED to approve the March 5, 2020 minutes as submitted.

SECOND: Margo Leach

Deb Gardner County Commissioner

Elise Jones County Commissioner

Matt Jones County Commissioner

VOTE: Motion PASSED unanimously (vote was 8-0 as Stan Nilson arrived in the meeting at 6:10pm, after the vote)

3. BUILDING PERMIT REVIEWS FOR STRUCTURES 50 YEARS & OLDER

None.

4. LANDMARKS

a. Docket HP-20-0001: Springdale

Request: Boulder County Historic Landmark Designation
Location: 1029 James Canyon Drive, in Section 29, Township 2N, Range 71W of the 6th Principal Meridian.
Zoning: Forestry (F) Zoning District
Owner/
Applicant: Eric Harms

Staff member, Denise Grimm, gave the staff presentation. An application for landmark designation of part of the former settlement of Springdale has been submitted by the owner, Eric Harms. The request is to designate all of the newly reconfigured parcel at 1029 James Canyon Drive and includes the springhouse, a barn, the bathrooms, numerous mineshafts, and stone foundations.

The area of Springdale began as a mining camp in 1874 when precious telluride ores were discovered in the hillsides of the area. At its height, Springdale was a community of about 300 people with many small cabins, a local assayer, a postmaster, a general store, and a saloon constructed along the James Creek. The name “Springdale” was in reference to the few area mineral springs rich in sulphur, radon, and iron. As Springdale’s mining economy began to decline, the area transitioned to be promoted as a summer resort with “healing waters,” and in 1875 the Seltzer House hotel was opened, making it one of the earliest spa resorts in Colorado. The hotel included at least ten small family cottages, a bath house, a bowling alley, and bottling plant. Most of Springdale’s buildings were wiped out during the 1894 flood and the Seltzer House hotel burned down in 1903 – two events which primarily account for the town’s decline.

In 1919-1920, a state-wide analysis on mineral springs was conducted by the U.S. Geological Survey. They found that the Springdale waters were the “most highly radioactive in the state.” This eventually prompted the name change to “Curie Springs,” in honor of Madame Marie Curie, the discoverer of radium. Al and Beatrice Freel purchased the property in 1946 after two decades of finding relief to Beatrice’s arthritis from drinking the spring water. The Freels operated the business until Mr. Freel passed in 1966.

The 2013 Flood Event destroyed the Freels’ house, a bottling house and an open pavilion.

On February 19, 2020, a subcommittee of the HPAB found the remaining historic resources and the site of Springdale, to be eligible for landmark status under Criterion 1. They then reviewed docket SE-20-0001: Harms Boundary Line Adjustment to adjust the boundaries between 1029 James Canyon Drive and 1126 James Canyon Drive. The subcommittee unanimously gave their support

for the proposal with the condition that the historic resources at 1029 James Canyon Drive be landmarked with Boulder County.

SIGNIFICANCE

The property qualifies for landmark designation under Criterion 1.

Criteria 15-501(A)(1) The character, interest, or value of the proposed landmark is part of the development, heritage, or cultural characteristics of the county;

The site is significant for its association with the former settlement of Springdale, a mining camp-turned-recreational town along the James Creek.

RECOMMENDATION

Staff recommends that the Historic Preservation Advisory Board APPROVE and recommend that the BOCC approve Docket **HP-20-0001: Springdale** under Criterion 1 and subject to the following conditions:

1. Alteration of any exterior feature of the structures or construction within the site will require review and approval of a Certificate of Appropriateness (CA) by Boulder County (note: applicable county review processes, including but not limited to Site Plan Review, may be required).
2. Regular maintenance which prolongs the life of the landmark, using original materials or materials that replicate the original materials, will not require review for a Certificate of Appropriateness, provided the Land Use Director has determined that the repair is minor in nature and will not damage any existing features. Emergency repairs, which are temporary in nature, will not require review (note: Depending on the type of work, a building permit may still be required.)

The owner/applicant, Eric Harms, was available for questions.

OPEN PUBLIC COMMENT

- None

CLOSE PUBLIC COMMENT

MOTION: Caitlin McKenna MOVED that HPAB APPROVE and recommended that the Board of County Commissioners APPROVE **Docket HP-20-0001: Springdale** under Criterion 1 and subject to the Conditions in the Staff Recommendation.

SECOND: Margo Leach

VOTE: Motion PASSED unanimously

b. Docket HP-20-0002: McNeil-Mayhoffer House

Request: Boulder County Historic Landmark Designation of the house and site area

Location: 10064 Empire Drive, in Section 9, Township 1S, Range 69W of the 6th Principal Meridian.
Zoning: Agricultural (A) Zoning District
Owner/
Applicants: Kristen and Jay Schultz

Staff member, Denise Grimm, gave the staff presentation. An application for landmark designation of the house and a site area has been submitted by the owners, Kristen and Jay Schultz. The request is to designate the historic house and a 30' perimeter around house. A non-historic shed is within that perimeter and would be a non-contributing resource.

In 1865, David Kerr homesteaded the land just north of this property and then acquired this property in 1883 from the Union Pacific Railway Company. He lived just to the north on what has become known as the Kerr Mayhoffer Farm. In 1898, he deeded this land to his daughter Edith and her husband, Daniel McNeil. It is believed that they built the house around 1905, but soon after they moved to Boulder and rented out the house. Edith's sister, Leanna, married John Mayerhofer and they acquired the large family farm. The rental house was sold out of the family in the 1950s but was brought back into the family by Robert Mayhoffer (note spelling change) sometime after 1970 and was once again used as a rental house.

The house is a nice example of a small Queen Anne. The Queen Anne style was popular for residences from 1880 to around the turn of the century. The style decreased in popularity until about 1910 when it was replaced by Colonial Revival and Edwardian styles. Queen Anne characteristics on the house are the scalloped siding under the gables, turned porch supports and spindlework frieze, and cutaway bay window (although the window has been replaced).

SIGNIFICANCE

The property qualifies for landmark designation under Criteria 1 and 4.

Criteria 15-501(A)(1) The character, interest, or value of the proposed landmark is part of the development, heritage, or cultural characteristics of the county;

The property is significant for its association with the development of agriculture in east Boulder County.

Criterion 15-501(A)(4) The proposed landmark is an embodiment of the distinguishing characteristics of an architectural style valuable for the study of a period, type, method of construction, or the use of indigenous materials;

The house is significant as an example of a Queen Anne vernacular farmhouse constructed in the early 20th century.

RECOMMENDATION

Staff recommends that the Historic Preservation Advisory Board APPROVE and recommend that the BOCC approve Docket **HP-20-0002: McNeil-Mayhoffer House** under Criteria 1 and 4 and subject to the following conditions:

1. Alteration of any exterior feature of the structure or construction within the site area will require review and approval of a Certificate of Appropriateness (CA) by Boulder County (note: applicable county review processes, including but not limited to Site Plan Review, may be required).

2. Regular maintenance which prolongs the life of the landmark, using original materials or materials that replicate the original materials, will not require review for a Certificate of Appropriateness, provided the Land Use Director has determined that the repair is minor in nature and will not damage any existing features. Emergency repairs, which are temporary in nature, will not require review (note: Depending on the type of work, a building permit may still be required.)

The owner/applicant, Jay Schultz, was available for questions.

OPEN PUBLIC COMMENT

- None

CLOSE PUBLIC COMMENT

MOTION: Margo Leach MOVED that HPAB APPROVE and recommended that the Board of County Commissioners APPROVE HP-20-0002: McNeil-Mayhoffer House under Criteria 1 and 4 and subject to the Conditions in the Staff Recommendation.

SECOND: Larry Powers

VOTE: Motion PASSED unanimously

c. Docket HP-20-0003: Marshall Farmhouse

Request: Boulder County Historic Landmark Designation
Location: 1498 Marshall Road, in Section 16, Township 1S, Range 70W of the 6th Principal Meridian.
Zoning: Rural Residential (RR) Zoning District
Owner/
Applicant: McCay Estates LLC

Staff member, Denise Grimm, gave the staff preservation. An application for landmark designation of a site area has been submitted by the owners, McCay Estates LLC. The request is to landmark an irregularly-shaped site within the 36.94-acre parcel designated to encompass the buildings associated with the core of the historic farm with a 20' buffer. The proposed landmark site includes three contributing resources – the historic farmhouse, the springhouse and the milk house; and one non-contributing resource – the historic garage.

The area was homesteaded by Peter Powell in 1865, but, based on the National Folk style, the existing historic farmhouse wasn't built until the 1890s. The National Folk style was a popular trend in the late 1800s for efficient and affordable housing. Most National Folk houses were narrow, two-story houses with steep roof pitches with a front gable shape and simple detailing. This house is very modest in detailing with only the hip-capped return gables.

The property changed hands several times before and after the house was built and was owned by locally-prominent family names such as the DeBackers and the Dunns, although it's not clear who built the house. The house is separated from the other historic structures by the Marshallville Ditch which dates to 1865. The historic springhouse and milk house were stuccoed around 1958 by the Easts who owned the property for several decades and built a raised ranch house to the east of the farmhouse in 1960.

In February 2018, a subcommittee of the HPAB reviewed the historic resources and found the historic farm house, the springhouse and the milk house eligible for landmark status based on the photo documentation subject to an architectural inventory form being done on the property. An inventory form was completed in June 2018 and concurred but with the addition of the historic garage.

In May 2020, the new owners, McCay Estates LLC, were granted permission to deconstruct the 1960 house and a nonconforming residence and construct a new house and barn. With this approval came a condition to landmark the four structures included in this application.

SIGNIFICANCE

The historic resources qualify for landmark designation under Criteria 1 and 4.

Criteria 15-501(A)(1) The character, interest, or value of the proposed landmark is part of the development, heritage, or cultural characteristics of the county;

The property is significant for its association with the development of dairy agriculture in southeast Boulder County.

Criterion 15-501(A)(4) The proposed landmark is an embodiment of the distinguishing characteristics of an architectural style valuable for the study of a period, type, method of construction, or the use of indigenous materials;

The house is significant as an example of a National Folk style farmhouse constructed in the late 19th century.

RECOMMENDATION

Staff recommends that the Historic Preservation Advisory Board APPROVE and recommend that the BOCC approve Docket **HP-20-0003: Marshall Farmhouse** under Criteria 1 and 4 and subject to the following conditions:

1. Alteration of any exterior feature of the structures or construction within the site will require review and approval of a Certificate of Appropriateness (CA) by Boulder County (note: applicable county review processes, including but not limited to Site Plan Review, may be required).
2. Regular maintenance which prolongs the life of the landmark, using original materials or materials that replicate the original materials, will not require review for a Certificate of Appropriateness, provided the Land Use Director has determined that the repair is minor in nature and will not damage any existing features. Emergency repairs, which are temporary in nature, will not require review (note: Depending on the type of work, a building permit may still be required.)

The owner/applicants, Rhonda and David McCay, were available for questions.

OPEN PUBLIC COMMENT

- None

CLOSE PUBLIC COMMENT

MOTION: Margo Leach MOVED that HPAB APPROVE and recommended that the Board of County Commissioners APPROVE Docket HP-20-0003: Marshall Farmhouse under Criteria 1 and 4 and subject to the Conditions in the Staff Recommendation.

SECOND: Marissa Ferreira

VOTE: Motion PASSED unanimously (however, Rosslyn Scamehorn had dropped from meeting, so vote was 8-0)

5. OTHER BUSINESS

- Members introduced themselves
- Election of Officers:

The board moved forward with nominations for officers on the Historic Preservation Advisory Board.

MOTION: Jason Emery motioned that the interim chair, Chuck Gray, continue as the Chair.

SECOND: Marissa Ferreira

VOTE: Motion PASSED unanimously (7-0, without Rosslyn Scamehorn, and with Chuck Gray abstaining)

MOTION: Marissa Ferreira motioned that Mark Gerwing serve as Vice-chair

SECOND: Chuck Gray

VOTE: Motion PASSED unanimously (7-0, without Rosslyn Scamehorn, and with Mark Gerwing abstaining)

- Carol Beam introduced herself to the Board.
- Jason Emery spoke to the memory of Jim Burrus, HPAB's late chair.

6. ADJOURNED

The Boulder County Historic Preservation Advisory Board meeting was adjourned at 7:35pm.

Detailed information regarding the docket items, including maps and legal descriptions are available for public use at the Community Planning & Permitting Department, 13th and Spruce, Boulder, CO 303-441-3930.



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BOULDER COUNTY HISTORIC PRESERVATION ADVISORY BOARD

MINUTES
September 3, 2020
6:00 PM
Hearing Held Virtually

DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT

On Thursday, September 3, 2020 the Boulder County Historic Preservation Advisory Board held a regular meeting, convening at 6:02pm and adjourning at 7:11pm.

Board Members Present: Chuck Gray (Chair), Jason Emery, Marissa Ferreira, Mark Gerwing, Stan Nilson, Larry Powers and Rosslyn Scamehorn

Board Members Excused: Margo Leach and Caitlin McKenna

Staff Present: Denise Grimm and Jessica Fasick with Community Planning & Permitting; Carol Beam with Parks and Open Space

Interested Others: 6

1. CITIZEN PARTICIPATION

None.

2. BUILDING PERMIT REVIEWS FOR STRUCTURES 50 YEARS & OLDER

None.

3. LANDMARKS

a. Docket HP-20-0004: Red Lion Inn

Request: Boulder County Historic Landmark Designation of the site

Deb Gardner County Commissioner

Elise Jones County Commissioner

Matt Jones County Commissioner

Location: 38470 Boulder Canyon Drive, in Section 34, Township 1N, Range 71W of the 6th Principal Meridian.
Zoning: Forestry (F) Zoning District
Owner/
Applicant: Stephen D Tebo
Agent: Mike Verhoogen

Staff member, Denise Grimm, gave the staff presentation. An application for landmark designation of the Red Lion Inn site has been submitted by Tebo Properties on behalf of the owner, Stephen Tebo. The site is a 10.36-acre parcel and includes 7 contributing resources and 4 non-contributing resources.

The contributing resources include the following:

1. Main Lodge
2. Cabin #1
3. Cabin #2
4. Cabin #3
5. Cabin #4
6. Cabin #5
7. Storage Shed

The non-contributing resources include the following:

1. 1980s Apartment Building
2. Septic Building
3. Circle Depression
4. Misc. Shed

Timothy and Isabella Blanchard, early Colorado settlers and ranchers, homesteaded the property along Boulder Creek and, at an unknown date, began the resort known as Blanchard Lodge. By 1920, John C. Doherty, a recent arrival from Maine, began working at the lodge. In the spring of 1927, Doherty married Blanchard's daughter, Elizabeth, and they took over the business. Over the next 40 years they further developed the property by constructing several buildings including the Craftsman-style main lodge around 1930 and numerous guest cottages. The Dohertys donated a right-of-way across their property for Chapman Drive, the road up the west side of Flagstaff Mountain, which presumably contributed to why the Boulder Chamber of Commerce and US Bureau of Public Roads commemorated Doherty's public service contributions with a park in his memory just east of the State Highway 119 tunnel in Boulder Canyon.

Chris Mueller purchased the property in 1963 and eliminated the overnight accommodations to focus on the restaurant renaming it Red Lion Inn. The existing cabins were converted into long-term rental units. Local developer, Stephen Tebo, bought the property in 2014 and has partnered with Wedgewood Events Center to refocus the property.

On July 2, 2018, a subcommittee of the HPAB had a preliminary discussion on the eligibility of the property and, although some of the buildings have been altered, they felt that overall, the property should be considered eligible for landmark status. On February 19, 2020, a subcommittee of the HPAB reviewed the property and found the main lodge the 5 cabins and the storage shed to be eligible for landmark status under Criteria 1 and 4. They then reviewed docket LU-19-0030: Red Lion Inn Use of Community Significance and gave their support for the docket with the condition that the eligible structures be landmarked with Boulder County.

SIGNIFICANCE

The property may qualify for landmark designation under Criteria 1, 3 and 4. Criterion 3 has been added to the landmark application by the applicants as it was alluded to on the Architectural Inventory Form.

Criteria 15-501(A)(1) The character, interest, or value of the proposed landmark is part of the development, heritage, or cultural characteristics of the county;

The property is significant for its association with the development of early 20th century tourism in Boulder County.

Criterion 15-501(A)(3) The identification of the proposed landmark with a person or persons significantly contributing to the local, county, state, or national history;

The property is significant for its association with John C. Doherty and his public service contributions.

Criterion 15-501(A)(4) The proposed landmark is an embodiment of the distinguishing characteristics of an architectural style valuable for the study of a period, type, method of construction, or the use of indigenous materials;

The property is significant for its Craftsman (Arts & Crafts) style of architecture.

RECOMMENDATION

Staff recommends that the Historic Preservation Advisory Board APPROVE and recommend that the BOCC approve Docket **HP-20-0004: Red Lion Inn** under Criteria 1, 3 and 4 and subject to the following conditions:

1. Alteration of any exterior feature of a structure or construction within the site area will require review and approval of a Certificate of Appropriateness (CA) by Boulder County (note: applicable county review processes, including but not limited to Site Plan Review, may be required).
2. Regular maintenance which prolongs the life of the landmark, using original materials or materials that replicate the original materials, will not require review for a Certificate of Appropriateness, provided the Land Use Director has determined that the repair is minor in nature and will not damage any existing features. Emergency repairs, which are temporary in nature, will not require review (note: Depending on the type of work, a building permit may still be required.)

The agent for the owner, Mike Verhoogen, was available for questions and asked that “or existing materials” be added to Condition 2.

OPEN PUBLIC COMMENT

- None

CLOSE PUBLIC COMMENT

MOTION: Marissa Ferreira MOVED that HPAB APPROVE and recommended that the Board of County Commissioners APPROVE Docket HP-20-0004: Red Lion Inn under Criteria 1, 3 and 4 and subject to the Conditions in the Staff Recommendation with the addition of “or existing materials” added to Condition 2.

SECOND: Jason Emery

VOTE: Motion PASSED unanimously

4. REFERRALS

a. Docket SPR-20-TBD: 5 Kneale Road

Request: Preliminary review of cabin in anticipation of SPR for deconstruction and a new building
Location: 5 Kneale Road
Zoning: Forestry (F) Zoning District
Owner: Beverly J Boxberger Trust
Agent: Greg Uitto

Thomas Kneale bought property in Eldorado Canyon in 1923 and plotted Kneales Subdivision in 1925 creating 39 lots. The cabin was built around 1925, but it's unclear if Kneale ever lived at this cabin. Kneale owned 240 acres of farmland in Boulder County, where he lived, and owned 1300 acres of ranch land above Eldorado Springs.

Kneale sold the property in 1927, and it changed owners a couple of times before being bought in 1929 by the same family that still owns it today. The cabin has not been used for years and has fallen into disrepair.

Staff member, Scott Mueller, completed an Architectural Inventory Form on the property and found that the cabin qualifies for landmark status with Boulder County under Criteria 1 “due to the association with the development of the Kneale’s Subdivision and the Eldorado Springs area,” and 4 “due to the unique Vernacular style and materials used.”

On August 19, 2020, a subcommittee of the HPAB reviewed the cabin and agreed that it is eligible for landmark status with Boulder County under Criteria 1 and 4. The subcommittee then reviewed the preliminary proposal to deconstruct the cabin and build a new structure but was unable to come to an agreement on comments for the proposal with one member reluctantly agreeing with staff that the cabin could be deconstructed because of its dilapidated condition, and the other member stating that they would like to see the cabin kept somehow, whether that be through landmark status or decommissioning.

Because the subcommittee was not in agreement, this has been referred to the full HPAB board for review.

The owner, Keith Boxberger, and the architect, Greg Uitto, were available for questions.

OPEN PUBLIC COMMENT

- None

CLOSE PUBLIC COMMENT

The HPAB unanimously agreed (7-0) that the cabin is eligible for landmark status. They then discussed the request to deconstruct the cabin.

MOTION: **Mark Gerwing MOVED that HPAB allow for the deconstruction of the cabin**

SECOND: **Marissa Ferreira**

VOTE: **Motion PASSED unanimously**

5. OTHER BUSINESS

- Denise Grimm spoke about the upcoming board tour of Rock Creek Farm and the subsequent management plan discussion which will be scheduled for a future board meeting.
- Denise Grimm spoke about the National Alliance of Preservation Commissions Forum 2020 that Chuck Gray, Larry Powers, Denise Grimm and Jessica Fasick attended online. Chuck Gray shared that he had learned at the Forum that the City of San Antonio has a program to salvage architectural features from buildings being deconstructed or rehabilitated, and that such a program might be appropriate for Boulder County.

6. ADJOURNED

The Boulder County Historic Preservation Advisory Board meeting was adjourned at 7:11pm.

Detailed information regarding the docket items, including maps and legal descriptions are available for public use at the Community Planning & Permitting Department, 13th and Spruce, Boulder, CO 303-441-3930.



Parks & Open Space

5201 St. Vrain Road • Longmont, Colorado 80503
303-678-6200 • POSinfo@bouldercounty.org
www.BoulderCountyOpenSpace.org

HISTORIC PRESERVATION ADVISORY BOARD

TO:	Historic Preservation Advisory Board
DATE/TIME:	Thursday, November 5, 6:00 p.m.
LOCATION:	Virtual Meeting

AGENDA ITEM:	Update to the Carolyn Holmberg Preserve at Rock Creek Farm Management Plan
PRESENTER:	Marni Ratzel, Resource Planner
ACTION REQUESTED:	Information only

Introduction

Boulder County Parks & Open Space (BCPOS) is in the process of updating the management plan for the Carolyn Holmberg Preserve at Rock Creek Farm (CHPRCF). While overall management of the open space is successful, there are several resource management issues and conflicts that need to be addressed. In the fall of 2019, an internal, multi-disciplinary project team began working to identify topic areas to focus on in the plan update. During 2020 staff has been working through those topics and has now generated recommendations for those items which form the core of the management plan update. Staff welcomes the opportunity to present information about the plan update and receive feedback from the board.

Property Background

The CHPRCF is a multifaceted open space property. Management involves the wide variety of resource activities that reflect the department's mission *to conserve natural, cultural, and agricultural resources and provide public uses that reflect sound resource management and community values*. Beginning in 1980, BCPOS purchased CHPRCF to provide an open space buffer between surrounding communities and preserve the property's cultural resources and agriculturally significant lands. At the time, the property was one of only a few the department owned and managed. As the department's staff and capabilities grew, CHPRCF became the focus of a number of initiatives to improve natural resources and wildlife habitat while retaining the importance of its agricultural heritage and its geographic prominence as a community buffer. While some of these initiatives, such as its use as a tree nursery for the department, have faded from prominence, the establishment of recreational infrastructure has had a lasting impact on the property and has helped it become one of the most visited parks in the entire BCPOS system. Through it all, the department continues to successfully manage the property in a manner that supports and integrates the many values that the community depends on for open space: agriculture, wildlife, cultural resources, community shaping, scenic vistas, and recreation to name the most prominent.

CHPRCF is located along US Highway 287 and Dillon Road and encompasses approximately 1,124 acres. The property borders the City and County of Broomfield to the south, City of Louisville to the northwest, and City of Lafayette to the north.

Leases

BCPOS has leases for the agricultural operation and the Birds of Prey Foundation. The property is now used to raise irrigated and dryland crops, and livestock. There are agricultural lands of local, state, and national significance. Since the early 1980s, the Birds of Prey Foundation rehabilitation center has operated flight cages on the east side of the property and an intensive care unit facility on the west side along 104th Street. There also are currently four operating oil and gas wells on the property.

Recreation

CHPRCF is one of the few open spaces managed for agricultural purposes that also provides public access. A public trail system includes Rock Creek Regional Trail that traverses through the middle of the property and Stearns Lake Trailhead offers fishing and picnic facilities. In 2019, the property was visited by over 75,000 recreationalists who primarily enjoy hiking, running, biking, and fishing as well as watching wildlife.

Wildlife

Black-tailed prairie dogs are the most apparent and readily observable small mammal species on CHPRCF. They are an important species in the property's grasslands that have attracted burrowing owls, bald eagles, and other raptors to nest on this open space. The open space offers native short-grass prairie, three designated Critical Wildlife Habitat areas, a Habitat Conservation Area, and a 40-acre burrowing owl "preserve." The Rock Creek and Buffalo Gulch riparian corridors run through the property, and wetlands are concentrated at Stearns Lake and the south end of the property known as the Parrot's Beak.

Cultural and Paleontological Resources

CHPRCF is a historic vernacular landscape, a type of cultural landscape that evolved overtime by the social and cultural behaviors of the individuals, groups, and families who utilized the property since approximately 6,200 Before Present (BP). Today, the property's landscape reflects the physical, biological, and cultural character of everyday lives of those people through the prehistoric sites, buildings, structures, roads, bridges, railroads, irrigation features, agricultural fields, and the historic coal mine present on the property

Last Plan Update in 2002

Like so many places in the northern Front Range, many things have changed in and around CHPRCF since 2002, when the last management plan update was adopted. Consequently, management of the property has become increasingly complex. After several years of managing through some resource conflicts and a growing internal discussion around needed changes to the property and its management, the department initiated this management plan update process to determine if some overall changes to the property's management can provide some long-term direction to resolve these challenges.

Management Plan Update

The purpose of the management plan update is to renew the vision, goals, and objectives, allowed uses, and implementation strategies for the property. These will be based on an in-depth review and evaluation of areas of concern, opportunities, and constraints for existing uses, and resources to guide an options analysis for achieving a better balance among these activities. Public sentiment and the goals and policies of the Boulder County Comprehensive Plan and other relevant planning documents also will help inform a staff recommendation on refining management direction. The updated plan will document and guide future work plans

and budget allocations. As part of the initial planning process, and to guide future management direction, staff confirmed the following vision statement and project goals.

Vision Statement

Carolyn Holmberg Preserve at Rock Creek Farm is a working landscape of farming, ranching, irrigation features, and reservoirs, intertwined with critical wildlife, wetland, riparian, and grassland habitats, that preserves its distinct history and provides regional trail connectivity and recreational amenities for current and future generations

Plan Goals

Preserve & Enhance

- Critical wildlife habitats
- Unique stands of shortgrass prairie
- Wetlands and riparian areas
- Historic/archaeological resources
- Agricultural production and associated water rights
- Compatible recreational use

The project team also has identified a list of topics to focus on in the update. A summary description of each topic including areas of concern, opportunities to explore, and constraints to consider is outlined in the full plan.

- Farm operations
- Water
- Visitor access and accessibility
- Historic buildings, cultural, and paleontology resources
- Wildlife, riparian, and wetland habitat areas
- Grassland restoration
- Prairie dog management
- Birds of Prey Foundation operations
- Standard Operating Procedures

Cultural and Paleontological Resources

While the property has already yielded important cultural resources, to date only 39% of the property (385 acres) has been surveyed for cultural resources and, as a result, only a portion of the possible total number of cultural resources has been identified and their historic significance assessed. Of the areas that have been surveyed for cultural resources, there are seven prehistoric sites (three open camps and four isolated finds) and 18 historic resources that include the Rock Creek Farm/Stearns Dairy, Goodhue Ditch segments, Burlington Northern Railroad segments, Sunnyside coal mine, and several historic isolated finds.

A paleontological survey has not been completed on the property but is warranted due to the collection of three dinosaur fossil fragments from the property.

In 1998, the Board of County Commissioners designated the entire CHPRCF property a local historic landmark and the State Historic Preservation Office (Office of Archaeology and Historic Preservation) determined the property officially eligible for the National Register of Historic Places (NRHP) in 1990.

The historic buildings and structures are a highly visible resource on the property, an integral component of the CHPRCF history, and are still being used by the current agricultural operation. The buildings and structures at the Rock Creek Farm/Stearns Dairy not only required large scale rehabilitation projects in the past, but ongoing major repairs, and continuous maintenance today.

Since the 2002 management plan, BCPOS completed the Goodhue Farmhouse rehabilitation with its adaptive reuse as a meeting venue, completed the restoration of the lighted curved sandstone walls that flank the entrance driveway along US Highway 287, planted more trees along the length of the driveway, stabilized the section of stream bank below the Rock Creek Site (5BL2712) as part of the BCPOS Plant Ecology led Urban Drainage and Flood Control District project in 2005, and completed numerous large agricultural building repairs, exterior painting projects, and ongoing maintenance at Rock Creek Farm/Stearns Dairy.

Objectives

Identify and record cultural and paleontological resources

Increase tenant stewardship of significant resources

Raise awareness of cultural and paleontological resource values

Protect significant cultural and paleontological resources from adverse effects

Management Status

Less than half the property has been previously surveyed for cultural resources and the need for a paleontological survey has not been addressed. Due to the collection of the cultural resource information over time through various individual projects, the information is fragmented into separate reports instead of one comprehensive report. This results in inefficient and challenging resource management. In addition, the cultural resource information that has been collected is now considered obsolete by the State Historic Preservation Office (Office of Archaeology and Historic Preservation) due to its age. A strategic plan regarding how to best manage the cultural and paleontological resources at CHPRCF is not possible without comprehensive surveys for both resources to identify all resources and determine their historic significance.

The historic buildings and structures are a highly visible and significant resources on the property. Maintaining these resources is labor intensive and costly since they are still being used by the current tenants. Unclear roles and responsibilities by all parties has resulted in deterioration and damages to the resources. Staff is interested in developing educational opportunities at CHPRCF to enhance user experience and raise visitor awareness about the cultural and paleontological resources of the property.

Management Plan Recommendations

- Complete intensive level (Class III) cultural resource survey and paleontological resource assessment.
- Complete archaeology assessment for Rock Creek stage station to determine site location and determine extent and significance of the prehistoric Goat Hill site.
- Develop strategic plan for CHPRCF cultural and paleontological resources based upon the results of the cultural resource survey and paleontological assessment.
- Maintain historic buildings and structures in order retain their historic physical integrity.

- Nominate property to the National Register of Historic Places to acknowledge the property's historic significance.
- Increase tenant stewardship of cultural and paleontological resources.
- Develop educational opportunities in partnership with BCPOS Education and Outreach workgroup.

Agricultural Operation Use of Historic Buildings and Structures

The agricultural operation headquarters at CHPRCF is on the eastern side of the property and utilizes many of the historic buildings and structures. The use of these historic resources presents challenges to today's agricultural operation due to the limitations of their original construction, design, and layout as well as the commitment by BCPOS to retain the resources' historic integrity as part of the local historic landmark designation. BCPOS recognizes that providing adequate facilities is critical to maintain an agricultural operation on the property.

The historic buildings provide some storage for small equipment, tools, and seed, but they are not large enough to accommodate tractors, trucks, or other machinery. The building currently serving as a shop is inadequate. There are no facilities for grain storage. Hay stacking and retrieving equipment will not fit into the low and narrow openings of the historic resources.

The capacity of livestock pens and corrals is limited due to their current configuration. A functional loading chute accessible by semi-tractor trailer trucks is needed.

The 2002 management plan recommended investigating alternative facilities in an area in the north central part of the property that is outside the local historic landmark boundary for the construction of a new shop, equipment storage building, crop storage building, and improved livestock handling facilities. Due to limited funding, the recommendations were not able to be completed.

BCPOS has not clearly discussed, defined, or formalized the tenant's responsibilities and use of the historic buildings and structures as part of their agricultural lease and in their agricultural operating plan. It would be beneficial to clarify BCPOS's expectations regarding tenant use and stewardship of the historic resources, as well as better understand the tenant's agricultural practices and how they impact the historic resources, their needs for new equipment storage, and other related needs in the agricultural lease and the agricultural operating plan.

Objectives

- Improve viability of agricultural operations using the historic buildings and structures
- Build facilities that will adequately support the agricultural operation
- Increase tenant stewardship of cultural and paleontological resources
- Protect and preserve historic buildings and structures

Recommendations

- Explore options and costs to relocate some agricultural operations outside of the local historic landmark boundary to the north central part of the property
- Identify tenant's building needs at new agricultural operation location

- Discuss, define, and formalize tenant's responsibilities and use of the historic resources as part of their agricultural lease and in their agricultural operating plan

Public Input

BCPOS has convened stakeholder meetings with the agricultural operations tenants and the Birds of Prey Foundation to gather their input on what is working well and on areas for improvement. An interagency meeting also was held with representatives from the City and County of Broomfield Open Space Department. In March, BCPOS hosted an open house and comment period to share information and gather feedback on the initial scoping of the management plan update. Staff will hold a virtual public meeting about the draft update on Oct. 27, the Parks and Open Space Advisory Committee meeting on Nov. 19, and the Board of County Commissioners meeting on Dec. 15.



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

HISTORIC PRESERVATION ADVISORY BOARD

Thursday, November 5, 2020 – 6:00 p.m.

Due to COVID-19, Public Meeting to be Held Virtually

STAFF PLANNER: Molly Marcucilli

Docket SI-20-0003: Gross Reservoir and Dam Expansion

Request:	Referral comments related to Request: Areas and Activities of State Interest (1041) review for the expansion of Gross Dam and Reservoir to store an additional 77,000 acre-feet total of water, which includes increasing the dam height by approximately 131 feet, the dam length by approximately 790 feet, and the spillway elevation by approximately 126 feet; quarry operations to obtain aggregate required for construction; construction of a temporary concrete batch/production plant and an aggregate processing plant; permanent road improvements to Gross Dam Road from State Highway 72 to the Gross Reservoir; temporary road improvements to FS35 (Winiger Ridge Road) and Ridge Road) and Use Trail. FS 97 (Lazy Z Road); and the relocation of the Miramonte Multi-Use Trail.
Location:	3817 Gross Dam Road, at parcel 157928000006, north end of Gross Dam Road approximately 5 miles north of its intersection with State Highway 72, in Section 28, Township 1S, Range 71W. Highway 72, in Section 28, Township 1S, Range 71W.
Zoning:	Forestry
Applicant:	Denver Water, c/o Jeff Martin

PURPOSE

The role of the Historic Preservation Advisory Board (HPAB) is to serve as a referral body to review and comment on development proposals which could affect historic properties eligible for landmark designation as determined by HPAB. The application for this project was submitted to the Community Planning & Permitting Department and is currently being sent to all relevant referral agencies for comment. Staff is requesting that HPAB provide any comments, questions, concerns, and recommendations including conditions of approval related to this proposal that the Board finds appropriate.

BACKGROUND

Gross Dam was completed in 1954 and is the primary storage facility for the Moffat Collection System. Denver Water plans to enlarge its Moffat Collection System by expanding Gross Dam and Reservoir to store an additional 72,000 acre-feet of water. Water diverted under existing water rights and facilities from the Upper Williams Fork and Fraser Rivers and South Boulder Creek to the

expanded Gross Reservoir will provide 18,000 acre-feet per year of additional supply. Additional improvements include increasing the dam height by approximately 131 feet, the dam length by approximately 790 feet, and the spillway elevation by approximately 126 feet; quarry operations to obtain aggregate required for construction; construction of a temporary concrete batch/production plant and an aggregate processing plant; permanent road improvements to Gross Dam Road from State Highway 72 to the Gross Reservoir; temporary road improvements to FS359 (Winiger Ridge Road) and FS97 (Lazy Z Road); and the relocation of the Miramonte Multi-Use Trail.

Staff has included in the packet the materials related to cultural and historic resources which were extracted from the application materials. The cultural resources survey concluded that three cultural resources within the Area of Potential Effects (APE) are eligible for listing in the National Register:

- 1) 5BL455.2 Denver & Rio Grande Western Railroad Tunnel;
- 2) 5BL7019.1 Resumption Flume; and
- 3) 5BL10210 Gross Dam, Reservoir, Construction Features, Access Roads

One additional site requires additional field data to determine its eligibility and remains potentially eligible: 5BL4796, Community of Miramonte.

As described below, the Final Environmental Impact Statement (EIS) found that only the Resumption Flume and the Gross Dam and Reservoir were the only cultural resources of those that are eligible for listing in the National Register that will be adversely impacted from the project.

The EIS evaluated potential effects of modification of Gross Dam and the enlargement of Gross Reservoir on cultural resources and found that the dam and reservoir itself (5BL10210) and a portion of the Resumption Flume (5BL7019.1) would be permanently and adversely affected. However, to mitigate against these expected impacts, a Programmatic Agreement (PA) has been signed amongst the Federal Energy Regulatory Commission (FERC), Denver Water, Colorado State Historic Preservation Office (SHPO), the U.S. Army Corps of Engineers, Omaha District, and the U.S. Forest Service. The PA was developed to consider the effects of the project on these two historic properties and to memorialize agreed-upon mitigation for the effects. The PA stipulates that Denver Water complete HAER (Historic American Engineering Record) documentation of Gross Dam and reservoir and the Resumption Flume before modification, and that Denver Water also prepare an HPMP (Historic Properties Management Plan) for the Gross Hydroelectric Project before beginning any construction activities that would affect the character-defining features that make these properties eligible for listing on the National Register. The PA is included in the packet materials and available for a more thorough review. Additionally, the project license requires Denver Water to consult with the Colorado SHPO, the Forest Service, and U.S. Bureau of Land Management about any discovered sites; prepare a plan to evaluate the significance of the sites; and develop measures to avoid or mitigate any impacts on resources determined to be eligible for inclusion in the National Register.

DISCUSSION

Standards for Approval of a 1041 permit are found in Article 8-511 and includes criteria #7: *“The proposal will not cause unreasonable loss of significant cultural resources, including but not necessarily limited to historical structures or sites and archaeological artifacts or sites, as identified in the Comprehensive Plan or identifiable on or near the site.”*

The Final EIS concluded that the Gross Reservoir and Dam, and the Resumption Flume will all be adversely affected by the project. However, this project is necessary to meet the needs of the Colorado community, is being evaluated against a range of criteria which will help determine appropriateness of the project, and the applicant has signed a PA with the state, which stipulates that appropriate mitigation measures will be taken before, during, and after completion of the project.

RECOMMENDATION

After reviewing the application materials and supplemental documents, staff is recommending the following conditions of approval related to historical and cultural resources within the project area:

- 1) The applicant shall provide County staff with a copy of all documentation included in the signed Programmatic Agreement including the HAER documentation and the HPMP.
- 2) The applicant installs interpretational signage related to the history of the dam and flume for public education.

Additionally, staff is requesting that HPAB consider the application materials and provide comments that will assist in the consideration of the above criterion.

minimum, every three years thereafter, the Licensee [Denver Water] shall consult with the Forest Service and the Forest Service will determine if there is a need to implement additional recreation management measures to meet Forest Plan direction.

If the Forest Service determines there is a need for additional mitigation measures due to Project-related effects to meet Forest Plan direction, based on pre-construction inventory results, the new inundation level of the expanded Gross Reservoir, and the ongoing recreation monitoring, the Licensee [Denver Water] shall develop a Recreation Adaptive Management Plan for Winiger Ridge. The [Recreation Adaptive Management] Plan shall be developed in consultation with the Forest Service and is subject to prior Forest Service review and approval. The Licensee [Denver Water] shall file the Recreation Adaptive Management Plan with the Commission. Upon Commission approval, the Licensee [Denver Water] shall implement the [Recreation Adaptive Management] Plan.

The [Recreation Adaptive Management] Plan shall include, but not be limited to, unless otherwise agreed to by the Forest Service:

- *Measures for addressing social, environmental, safety, and/or sanitation concerns that may arise from the proliferation and/or expansion of dispersed campsites at Winiger Ridge and surrounding area. These measures could include triggers for adding bathrooms, trash receptacles or other temporary or long-term mitigation measures as determined necessary by the Forest Service.*
- *Plans for converting obsolete roads to trails.*
- *Plans for formalizing social trails, including social trails for fishing.*
- *Measures for minimizing creation of new social trails.*
- *Fishing Line Recycling. Licensee [Denver Water] shall provide fishing line recycling receptacles at five relocated fishing access points, as described in the Recreation Plan Addendum, for collecting used line to keep it out of the environment. Receptacles shall include labels explaining their purpose to encourage use. Licensee [Denver Water] shall monitor and empty the receptacles as needed, and at a minimum on a monthly basis from May to November, and one time from December to April. Licensee [Denver Water] shall periodically send line for recycling to a fishing line recycling program.*

8-507.D.7.b.vi.A.3, Unique Areas of Geologic, Historic, and Archaeological Importance

Geologic Resources

Figure 24 in Exhibit 1, View Protection Corridors Map, maps Natural Landmarks and Natural Areas from the Boulder County Comprehensive Plan. Geologic features noted on this map in the area of Gross Reservoir include Winiger Ridge (#26 on map).

Cultural Resources

The Project is not located in Historical and Archeological Resource Areas of Statewide Importance or an Archaeologically Sensitive Area as identified in the Boulder County Comprehensive Plan (see Figure 8 in Exhibit 1).

Denver Water has conducted cultural resources surveys for the Area of Potential Effects (APE) of the Project. A Programmatic Agreement (PA) for cultural resources has been developed that stipulates how significant cultural resources are to be treated, including avoidance or protection measures and data recovery, and the actions that would need to be taken by Denver Water in the event that inadvertent discoveries of cultural resources or human remains are made during construction or operation. Denver Water has entered into a Memorandum of Agreement (MOA) with the FERC and the SHPO that will require Denver Water to develop and implement a Historic Properties Management Plan (HPMP) that manages and protects cultural resources identified in the PA for the term of the hydropower license. The PAs are included in this 1041 permit application as Exhibit 7.

The following information and analysis were gathered for Denver Water's License Amendment Application to the FERC (Section 1.3.5):

For the Moffat Collection System Project [the Project], the Corps prepared a Programmatic Agreement (PA) for cultural resources that stipulates how significant cultural resources are to be treated, including site avoidance or protection measures and data recovery. The PA also identifies the actions that would need to be taken by Denver Water in the event that inadvertent discoveries of cultural resources or human remains are made during construction or operation of the Moffat Collection System Project. The PA was prepared with participation or review by Denver Water, the Colorado State Historic Preservation Officer (SHPO), the Advisory Council on Historic Properties, the USFS, the Boulder County Historic Preservation Advisory Board, and various American Indian Tribes.

For the Proposed Project, Denver Water will also enter into a Memorandum of Agreement (MOA) with the FERC and the SHPO that will require Denver Water to develop and implement a Historic Properties Management Plan (HPMP) that manages and protects cultural resources identified in the PA for the term of the hydropower license. The HPMP will include requirements for: 1) notifying the FERC in the case of unanticipated discoveries, 2) procedures to be followed in the event of an emergency at the Project, and 3) reporting requirements for informing the FERC of the execution of the treatment plan developed in accordance with the PA for the Proposed Project's adverse effects to the two historic properties identified in Section 3.3.18. The executed MOA will be incorporated in the order approving the Proposed Project, and the HPMP will be approved by the Commission before initiation of construction.

Conclusions supported by the FERC in its review of the Project impacts related to cultural resources (Final SEA, Section 5.1.12) were as follows.

The description of cultural resources provided in the Final EIS remains unchanged. The APE for the action consists of the area to be affected by construction activities and highest proposed pool levels, plus a 100-foot buffer zone. The APE was intensively surveyed in 1997 for Denver Water's application for a new license, and a second survey was conducted in 2005 of areas that could be affected by reservoir enlargement that are outside of the relicensing APE (URS 2006). By letter dated January 12, 2007, the Colorado SHPO concurred that only three cultural resources within the APE are eligible for listing in the National Register:

- 5BL455.2 Denver & Rio Grande Western Railroad Tunnel;
- 5BL7019.1 Resumption Flume; and
- 5BL10210 Gross Dam, Reservoir, Construction Features, Access Roads.

One additional site requires additional field data to determine its eligibility and remains potentially eligible: 5BL4796, Community of Miramonte.

The description of paleontological resources provided in the Final EIS remains unchanged. The paleontological potential of the project area is rated as Class III and is unlikely to contain fossil materials. For this reason, paleontological surveys were not required.

The Final EIS evaluated potential effects of modification of Gross Dam and the enlargement of Gross Reservoir on cultural resources and found that the dam and reservoir itself (5BL10210) and a portion of the Resumption Flume (5BL7019.1) would be adversely affected. To ensure the Commission remains in compliance with Section 106 of the NHPA for the proposed action [the Project], the Commission, in conjunction with Denver Water and Colorado SHPO, developed and executed a PA to take into account the effects of the proposed action [the Project] on these two historic properties and memorialize agreed-upon mitigation for the effects. The Colorado SHPO and Commission are signatories to the PA, and Denver Water, the Corps, and the Forest Service are concurring parties. The executed PA, and its terms, would be incorporated into the project license by the Commission's amendment order. The PA calls for Denver Water to complete HAER documentation of Gross Dam and reservoir and the Resumption Flume before modification.

The Final EIS also found that no other cultural resources would be affected by modification of the dam and enlargement of the reservoir; however, the Final EIS did not assess the effects of other project-related activities on cultural resources, such as ongoing operation and maintenance of the project, public access, and recreation. To that end, in addition to HAER documentation of the dam, reservoir, and Resumption Flume, the PA requires Denver Water to prepare an HPMP for the Gross Hydroelectric Project before beginning any construction activities that would affect the character-defining features that make these properties eligible for listing on the National Register. The HPMP would contain measures for "considering and managing effects on historic properties of activities associated with constructing, operating, and maintaining the project for the remaining term of the license." The HPMP would be prepared in consultation with the Colorado SHPO, Forest Service, and the Corps and would consider the Commission and Advisory Council's joint document Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects (2002). In its amendment application, Denver Water explains that the HPMP would also include specific requirements for: (1) notifying the Commission in the case of unanticipated discoveries; (2) procedures to be followed in the event of an emergency at the project; and (3) reporting requirements for informing the Commission of the execution of the treatment plan developed in accordance with the PA for the proposed project's adverse effects on the two historic properties. In accordance with the terms of the PA, no construction activities would take place until after the HAER report is accepted by the Colorado SHPO and National

Park Service and after the Commission has issued an order approving and implementing the HPMP.

Additionally, Article 415 of the project license requires Denver Water to consult with the Colorado SHPO, the Forest Service, and U.S. Bureau of Land Management about any discovered sites; prepare a plan to evaluate the significance of the sites; and develop measures to avoid or mitigate any impacts on resources determined to be eligible for inclusion in the National Register. That article would be updated and modified to accommodate the PA and HPMP, which would now guide the management and protection of cultural resources and historic properties for the remainder of the project license. And although the Commission is not a party to the agreement, additional protection measures are found within a separate PA that was fully executed on October 26, 2015, between Denver Water, the Corps, the Colorado SHPO, and the Forest Service and filed on July 24, 2017. The Northern Cheyenne Tribe, Northern Arapaho Tribe, Cheyenne-Arapaho Tribes of Oklahoma, Ute Mountain Tribe, and Boulder County Historic Preservation Advisory Board were invited to sign the PA as concurring parties.

In comments filed on the February 6, 2018 Supplemental EA, a commenter raised concerns about potential effects on the Walker Ranch Historical site. The Walker Ranch Historic District (District) was listed on the National Register on June 14, 1984, and its boundaries were expanded on June 29, 1988. The District is located approximately one-eighth mile east of the Gross Reservoir Dam and outside of the current project boundary. However, a very small portion of the expanded project boundary as proposed would pass within the boundary of the District as shown on a map provided in the National Register Nomination Form (Bell and Weisberger, 1984). Although this area is contained within the District, according to the nomination form, no individual cultural resources that contribute to the District's National Register eligibility are located here. Although noise and dust could reach the District during construction activities, in those sections, we [FERC] conclude that such effects would be similar to those identified in the Corps' Final EIS. For these reasons, we [FERC] find that through execution of the PA and preparation of an HPMP that addresses all eligible or potentially eligible resources identified within the project APE, which would include the portion of the Walker Ranch Historic District located within the proposed project boundary, approving Denver Water's amendment application would not result in any new permanent or temporary impacts on cultural resources from those identified in the Final EIS.

The MOAs were signed subsequent to the issuance of the Final Corps Final EIS. The Programmatic Agreement for the Final EIS (Corps 2015) and the Programmatic Agreement for the Final SEA (FERC 2019) are reproduced in this 1041 permit application as Exhibit 7.

MITIGATION (UNIQUE AREAS OF GEOLOGIC, HISTORIC, AND ARCHAEOLOGICAL IMPORTANCE)

The FERC analysis evaluated the effects of all mitigation measures for cultural resources (Final SEA, Section 5.1.12) and concluded the following.

The Final EIS evaluated potential effects of modification of Gross Dam and the enlargement of Gross Reservoir on cultural resources and found that the dam and reservoir itself (5BL10210)

and a portion of the Resumption Flume (5BL7019.1) would be adversely affected. To ensure the Commission remains in compliance with Section 106 of the NHPA for the proposed action [the Project], the Commission, in conjunction with Denver Water and Colorado SHPO, developed and executed a PA to take into account the effects of the proposed action [the Project] on these two historic properties and memorialize agreed-upon mitigation for the effects. The Colorado SHPO and Commission are signatories to the PA, and Denver Water, the Corps, and the Forest Service are concurring parties. The executed PA, and its terms, would be incorporated into the project license by the Commission's amendment order. The PA calls for Denver Water to complete HAER documentation of Gross Dam and reservoir and the Resumption Flume before modification.

The Final EIS also found that no other cultural resources would be affected by modification of the dam and enlargement of the reservoir; however, the Final EIS did not assess the effects of other project-related activities on cultural resources, such as ongoing operation and maintenance of the project, public access, and recreation. To that end, in addition to HAER documentation of the dam, reservoir, and Resumption Flume, the PA requires Denver Water to prepare an HPMP for the Gross Hydroelectric Project before beginning any construction activities that would affect the character-defining features that make these properties eligible for listing on the National Register. The HPMP would contain measures for "considering and managing effects on historic properties of activities associated with constructing, operating, and maintaining the project for the remaining term of the license." The HPMP would be prepared in consultation with the Colorado SHPO, Forest Service, and the Corps and would consider the Commission and Advisory Council's joint document Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects (2002). In its amendment application, Denver Water explains that the HPMP would also include specific requirements for: (1) notifying the Commission in the case of unanticipated discoveries; (2) procedures to be followed in the event of an emergency at the project; and (3) reporting requirements for informing the Commission of the execution of the treatment plan developed in accordance with the PA for the proposed project's adverse effects on the two historic properties. In accordance with the terms of the PA, no construction activities would take place until after the HAER report is accepted by the Colorado SHPO and National Park Service and after the Commission has issued an order approving and implementing the HPMP.

Additionally, Article 415 of the project license requires Denver Water to consult with the Colorado SHPO, the Forest Service, and U.S. Bureau of Land Management about any discovered sites; prepare a plan to evaluate the significance of the sites; and develop measures to avoid or mitigate any impacts on resources determined to be eligible for inclusion in the National Register. That article would be updated and modified to accommodate the PA and HPMP, which would now guide the management and protection of cultural resources and historic properties for the remainder of the project license. And although the Commission is not a party to the agreement, additional protection measures are found within a separate PA that was fully executed on October 26, 2015, between Denver Water, the Corps, the Colorado SHPO, and the Forest Service and filed on July 24, 2017. The Northern Cheyenne Tribe, Northern Arapaho Tribe, Cheyenne-

Arapaho Tribes of Oklahoma, Ute Mountain Tribe, and Boulder County Historic Preservation Advisory Board were invited to sign the PA as concurring parties.

In comments filed on the February 6, 2018 Supplemental EA, a commenter raised concerns about potential effects on the Walker Ranch Historical site. The Walker Ranch Historic District (District) was listed on the National Register on June 14, 1984, and its boundaries were expanded on June 29, 1988. The District is located approximately one-eighth mile east of the Gross Reservoir Dam and outside of the current project boundary. However, a very small portion of the expanded project boundary as proposed would pass within the boundary of the District as shown on a map provided in the National Register Nomination Form. Although this area is contained within the District, according to the nomination form, no individual cultural resources that contribute to the District's National Register eligibility are located here. Although noise and dust could reach the District during construction activities, in those sections, we [FERC] conclude that such effects would be similar to those identified in the Corps' Final EIS. For these reasons, we [FERC] find that through execution of the PA and preparation of an HPMP that addresses all eligible or potentially eligible resources identified within the project APE, which would include the portion of the Walker Ranch Historic District located within the proposed project boundary, approving Denver Water's amendment application would not result in any new permanent or temporary impacts on cultural resources from those identified in the Final EIS.

8-507.D.7.b.vi.A.4, Environmental Resources

Other sections of this 1041 permit application present environmental impact analyses related to air (Section 8-507.D.7.b.v and Exhibit 14), water (Sections 8-507.D.7.b.ii.B through D), native plant and animal populations and their associated habitat (Sections 8-507.D.7.b.iii through iv), and the unique, distinctive, or significant natural features of the County's landscapes and related ecosystems, as mapped in Boulder County's Comprehensive Plan (Exhibit 1 and 8-511.B.14).

The following soils information and analysis was gathered for Denver Water's License Amendment Application to the FERC (Exhibit E, Section 3.3.6):

Affected Environment (Soils)

Information on soils in the Project area was gathered from literature review, electronic data sources, and agency coordination. Soil descriptions were obtained from published soil surveys for Boulder County. GIS spatial and attribute data were acquired from the Natural Resources Conservation Service (NRCS) and the USFS.

Upland areas at Gross Reservoir consist of shallow gravelly, stony, and cobbly sandy loam soils. Stream terraces, drainageways, alluvial fans, and floodplains consist of gravelly loam, sandy clay loam, and silt loam soils (Escobedo 2005, NRCS 1975, NRCS 2005, see Final EIS for reference materials).

Gross Reservoir and the surrounding areas have a thin cover of soils that grade into highly weathered or decomposed granitic bedrock. Rock outcrops and the presence of large boulders on the surface are also prevalent at Gross Reservoir. Rock outcrops are created when surface soils erode. The underlying

Exhibit 7:

Cultural Resources Programmatic Agreements

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Moffat Collection System Project Final EIS
Proposed Enlargement of Gross Reservoir Programmatic Agreement

Programmatic Agreement

Among the

U.S. Army Corps of Engineers, Omaha District;

Colorado State Historic Preservation Officer;

U.S. Forest Service; and Denver Water

**Regarding Compliance with the National Historic Preservation Act for
Construction and Operation of the Proposed Enlargement of Gross Reservoir,
Boulder County, Colorado**

WHEREAS, the City and County of Denver, acting by and through its Board of Water Commissioners (Denver Water), has submitted a Section 404 Clean Water Act Permit application to the U.S. Army Corps of Engineers (Corps) for the proposed enlargement of Gross Reservoir (Project or the undertaking); and

WHEREAS, the Corps considers the authorization for the Project an undertaking subject to review in accordance with Section 106 of the National Historic Preservation Act (NHPA), 54 United States Code (USC) 306108, and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800; and

WHEREAS, the Corps has determined that the undertaking may have direct, indirect, and cumulative effects on cultural resources included in, or eligible for inclusion in, the National Register of Historic Places (NRHP), hereafter called historic properties [36 CFR 800.16(l)(1)]; and

WHEREAS, the Corps, in consultation with the Colorado State Historic Preservation Officer (SHPO), has defined the area of potential effects (APE) to include all staging areas, borrow areas, access roads, inundation, and other infrastructure associated with the undertaking, to account for direct, indirect and cumulative effects to historic properties (see attached map); and

WHEREAS, public involvement was implemented by the Corps through the Draft and Final Moffat Collection System Project Environmental Impact Statement (EIS) process that included scoping meetings, newsletters, website announcements, public hearings, cooperating agency meetings, news releases, and publication of Federal Register (FR) notices. Historic property impacts were evaluated for all alternatives in the Draft EIS (October 2009) and the Final EIS (April 2014). A draft version of this Programmatic Agreement (Agreement) was included as Appendix L in the Draft and Final EISs; and

WHEREAS, the Corps has notified the Advisory Council on Historic Preservation (ACHP), pursuant to 36 CFR 800.6(a)(1), and the ACHP responded to the Corps' December 18, 2014 letter on January 14, 2015, that they do not wish to participate unless requested to do so in the future; and

WHEREAS, the Corps has consulted with Native Americans pursuant to 36 CFR 800.14(b)(2)(i) and 36 CFR 800.2(c)(2) including the Northern Arapaho Tribe, Northern Cheyenne Tribe, Cheyenne-Arapaho Tribes of Oklahoma, the Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and their associated Tribal Historic Preservation Officers (THPOs) are invited to be Concurring parties to this Agreement; and

Moffat Collection System Project Final EIS
Proposed Enlargement of Gross Reservoir Programmatic Agreement

WHEREAS, the Corps has consulted with the Boulder County Historic Preservation Advisory Board and has invited it to be a Concurring Party to this Agreement; and

WHEREAS, the Corps has consulted with the U.S. Department of Agriculture Forest Service, Arapaho & Roosevelt National Forests (USFS), which has management jurisdiction over all lands reserved as National Forest System Land, and therefore has the responsibility for cultural resources management within the Project boundary, and has invited it to be a Signatory to this Agreement; and

WHEREAS, the Corps has consulted with the Federal Energy Regulatory Commission (FERC), which is responsible for a hydropower license amendment process, inviting them to participate, and the FERC declined in an e-mail/conversation on December 6, 2012; and

WHEREAS Denver Water, which has participated in this consultation and is a Signatory to this Agreement, will be financially responsible for carrying out the terms of this Agreement;

NOW THEREFORE, the Signatories to this Agreement agree that the proposed undertaking, if permitted, shall be administered in accordance with the following stipulations to ensure compliance with Section 106 of NHPA.

STIPULATIONS

The Corps shall ensure that the following measures are carried out:

1. Area of Potential Effects
 - a. The Corps, in consultation with the SHPO, has defined and documented the APE based on direct, indirect, and cumulative effects of the undertaking. The APE applies to federal, tribal, state, and private lands that may be affected by construction of the Project, to include staging areas, access roads, borrow areas, inundated areas, and other related infrastructure for this undertaking. The Corps may modify the APE in accordance with Stipulation 1. e. of this Agreement. The APE is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking [36 CFR 800.16(d)].
 - b. Direct Effects – The Moffat Collection System Project (Moffat Project) Final EIS evaluated direct effects for all alternatives. The APE for the undertaking is the area of potential ground disturbance around Gross Dam and Gross Reservoir (see attached map), to include staging areas, borrow areas, access roads, inundation, and other infrastructure within the construction easement associated with the dam raise (Moffat Project Final EIS p. 3-555). In summary, direct effects were found to be major and permanent (for example, the proposed expansion of the dam itself, and changes to portions of the Resumption Flume would be permanent) (Moffat Project Final EIS p. 5-480). Appropriate mitigation of these effects would be required before construction begins.
 - c. Indirect Effects – The Moffat Project Final EIS evaluated indirect effects for all alternatives and considered visual, atmospheric, and audible elements as well as vibration during construction that could diminish the integrity of the human and built environment (Moffat Project Final EIS p. 5-480). The indirect effects of the undertaking were found to be

**Moffat Collection System Project Final EIS
Proposed Enlargement of Gross Reservoir Programmatic Agreement**

temporary and minor. However, if construction is found to have more severe indirect effects on NRHP-eligible properties, the Corps will notify Signatory and Concurring parties and will consult on appropriate mitigation. For purposes of this Agreement, the APE for indirect effects is the same as that for direct effects.

- d. Cumulative Effects – The Moffat Project Final EIS evaluated cumulative effects, to include reasonably foreseeable future effects caused by the undertaking, that may occur later in time, be farther removed in distance, or be cumulative [36 CFR 800.5(a)(1)]. The Moffat Project Final EIS evaluated cumulative effects for the undertaking, and impacts to cultural resources were found to be minor (Moffat Project Final EIS p. 4-575). For purposes of this Agreement, the APE for cumulative effects is the same as that for direct and indirect effects.
- e. Modifying the APE – The APE, as currently defined, encompasses an area sufficient to accommodate all of the undertaking components under consideration as of the date of the execution of this Agreement. The APE may be modified by the Corps in consultation with the SHPO, and the USFS (if effects occur on National Forest System Land), when additional field research or literature review, consultation with Signatories or Concurring parties, or other factors indicate that the qualities and values of historic properties that lie outside the boundary of the currently defined APE may be affected directly, indirectly, or cumulatively. Agreement to modify the APE will not require an amendment to the Agreement; however, Signatory and Concurring parties and affected land-management agencies will be notified. Updated maps or figures with the accepted date of modification will be appended to this Agreement following consultation as described above (see Attachment A).

2. Notification and Coordination

- a. As the lead federal agency, the Corps (as opposed to Denver Water, the permit applicant) will notify and coordinate with the Signatory and Concurring parties to this Agreement.

3. Historic Property Identification

- a. The Corps, in coordination with Denver Water, shall ensure that intensive-level (or Class III) cultural resource inventories, as outlined within SHPO's *Colorado Cultural Resource Survey Manual Guidelines for Identification: History and Archaeology* (2007), are conducted within the APE (see attached map). These inventories will be conducted by the Corps or any contractor authorized by the Corps prior to any ground-disturbing activities. The inventories will be conducted in a manner consistent with the Secretary of the Interior's *Standards and Guidelines for Identification* (48 FR) 44720-23) and is consistent with ACHP's guidance on archaeology and all applicable National Park Service guidance for evaluating cultural resources for listing in the NRHP.
- b. The Corps shall ensure that the inventories are conducted in consultation with the Signatory and Concurring parties. Inventory reports and site forms will conform to SHPO's survey manual guidelines. Identification on lands managed by the USFS will follow Forest Service Manual (FSM) 2360. Site forms will only be prepared when cultural resources are found within the APE. Draft inventory report and site forms will be submitted by the Corps to the Signatory and Concurring parties for a 30 calendar day review and comment period.

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As appropriate, comments received by the Corps will be resolved. If the Signatory and Concurring parties do not respond to the Corps within 30 calendar days from receipt of the submittal, the Corps shall assume no comment on the Corps' findings and recommendations as detailed in the submittal, in accordance with 36 CFR 800.3(c)(4) and 36 CFR 800.4(d)(1)(i). A Final Inventory Report, including site forms, will be distributed by the Corps to the Signatory and Concurring parties.

- c. Information gathered during inventory shall be adequate to allow assessment of cultural resources' eligibility for the NRHP. The Corps shall evaluate all cultural resources identified within the APE in accordance with 36 CFR 800.4(c). The Corps will consult with the SHPO to determine the eligibility of identified cultural resources pursuant to 36 CFR 800.4(c) and National Register Criteria for Evaluation, 36 CFR 60.4. If the inventory results in the identification of properties that are eligible for the NRHP, the Corps shall apply the criteria of adverse effect within the APE (36 CFR 800.5).
- d. The Corps will ensure that any subsurface evaluative testing is limited to defining the nature, density, and distribution of materials in potential historic properties, and provides adequate data to make evaluations of NRHP eligibility.

4. Treatment Plan to Resolve Adverse Effects

- a. The Corps shall apply the criteria of adverse effects to historic properties identified in the APE, in accordance with 36 CFR 800.5, and require appropriate mitigation wherever adverse effects are found. The Corps shall work with Denver Water to avoid or minimize adverse effects to historic properties, to the extent practicable, through design of Project facilities, relocation of Project facilities, or by other means. If effects occur on National Forest Service Land, the Corps will involve the USFS in avoidance and minimization efforts.
- b. Where the Corps determines that avoidance or minimization is not feasible or prudent, the Corps shall ensure that Denver Water develops a treatment plan designed to mitigate adverse effects to the historic properties. Denver Water will prepare a treatment plan, in consultation with the Corps, SHPO, and the USFS (if effects occur on National Forest System Land), which considers effects to eligible cultural resources where avoidance is not feasible. The plan shall consider the full range of cultural resource types (i.e., historic and prehistoric site types) and the kind of information that each type could be expected to produce. The plan shall consider the Project context (i.e., reservoir basin, reservoir shoreline, facilities, etc.) and the type of effects that could occur within these contexts (i.e., inundation, wave action, blading, etc.). Appropriate data recovery methods and/or *in situ* conservation practices will be proposed accordingly. Provisions for unanticipated discoveries and for a pre-work meeting with the Project contractor in order to provide information on the identification of buried cultural resources shall be included within the treatment plan. Denver Water shall submit the draft treatment plan to the Corps. The Corps will distribute the draft treatment plan to the Signatory and Concurring parties for their comments. As appropriate, comments received by the Corps will be resolved. If no comments are received within 30 calendar days, the Corps shall assume concurrence with the draft treatment plan. For properties eligible under Criterion D (36 CFR 60.4), alternative forms of mitigation may be negotiated with the appropriate parties to this Agreement in lieu of, or in addition to, data recovery (e.g., monitoring, *in situ* protection,

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archival research, etc.). The final treatment plan will be appended to this Agreement as Attachment B.

- c. When archaeological data recovery is the preferred option for a historic property, the Corps shall ensure that Denver Water develops a plan for the recovery of significant archaeological data based on an appropriate research design. The research design shall be developed after all appropriate cultural resource inventory and evaluation work is completed. Data recovery plans shall be consistent with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-37) and shall be implemented prior to any ground disturbance in the vicinity of the historic property. The Corps shall reach agreement with private landowners and will document the final disposition of artifacts prior to commencing work on private land. After reviewing Denver Water's data recovery plan for adequacy, the Corps shall submit the data recovery plan to the Signatory and Concurring parties for review and comments. As appropriate, comments received by the Corps will be resolved. If the Signatory and Concurring parties do not respond to the Corps within 30 calendar days of receipt of the submittal, the Corps shall assume concurrence with the Corps' findings and recommendations as detailed in the submittal. The final data recovery plan(s) will be appended to this Agreement as Attachment C.
- d. If any of the Signatory or Concurring parties object to all or part of the proposed treatment or data recovery plan, the Corps shall attempt to resolve the objection pursuant to Stipulation 10 and shall make the final decision regarding such dispute. Upon completion of the dispute resolution process, the Corps shall ensure that the treatment or data recovery plan and any modifications to it resulting from the resolution effort are implemented.

5. Unanticipated Discoveries

- a. When cultural resources not previously identified are discovered during the conduct of ground-disturbing activities, or when a previously identified historic property is affected in an unanticipated (accidental) manner, all activities within 100 feet of the discovery shall cease immediately, the site will be secured, and Denver Water shall notify either the Corps' Denver Regulatory Office or the Corps' Omaha District Office. The Corps will ensure that the discovery is evaluated and recorded by a qualified archaeologist, as defined in Stipulation 8.
- b. The Corps will notify the Signatory and Concurring parties within 48 hours of the discovery. The Corps shall consult with the parties to seek initial comments regarding the discovery and determine whether testing is needed to evaluate significance.
- c. If the Corps determines, in consultation with the Signatory and Concurring parties, that testing is needed to determine significance, the Corps shall notify the ACHP and will provide the proposed mitigation measures to the Signatory and Concurring parties, and request comments regarding the adequacy of the proposed effort to be provided within a timely fashion. As appropriate, comments received by the Corps will be resolved. If the Signatory and Concurring parties do not respond to the Corps within 7 calendar days of receipt of the submittal, the Corps shall assume concurrence with the Corps' findings and recommendations as detailed in the submittal. Upon receipt of and in consideration of their comments, the Corps shall notify the Signatory and Concurring parties of action necessary prior to resumption of construction.

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- d. In the event that the Signatory and Concurring parties object to the actions proposed for treating a discovery, the Corps shall work to resolve the objection in accordance with Stipulation 10.
 - e. Construction activities in the vicinity of the discovery shall not resume until Denver Water has been notified by the Corps that discovery mitigation is complete and activities can resume.
6. Inadvertent Discovery of Human Remains
- a. Protocols for human remains discovered on federal lands differ from the protocols for human remains discovered on state or private lands. For discoveries on federal land, protocols outlined in FSM 2361.3 and 2364.1 will be followed. Colorado Revised Statute (CRS) 24-80-1301-1305, Unmarked Human Graves, provides procedures regarding the discovery of human remains on any state or private land.
 - b. Should such a discovery take place, Denver Water will contact the county coroner, sheriff, or land managing agency official (see below for contact information), who will determine whether the remains are of forensic value. If the coroner determines that the remains are not of forensic value, the State Archaeologist will be notified and will take the appropriate steps to determine whether the remains are over 100 years old and if they are Native American. If found to be Native American, the State Archaeologist will contact the Colorado Commission of Indian Affairs, who in turn will contact interested Tribes in the region before removal. The State Archaeologist shall submit a notice in the FR as soon as possible. The Corps will approach the landowner(s) with a letter of consent, allowing for the respectful and dignified treatment of any Native American skeletal materials in consultation with any interested Tribes. The letter will also request that any such remains be briefly examined by a qualified archaeologist and physical anthropologist. Should any remains be determined through available evidence to not include Native American skeletal elements, the remains shall be treated in accordance with Colorado State Law.
 - c. In the case of an inadvertent discovery of human remains, all activities within 100 feet of the discovery shall cease immediately, the site will be secured, and Denver Water shall notify either the Corps' Denver Regulatory Office or the Corps' Omaha District Office. Should the remains be determined by a qualified archaeologist to include Native American skeletal materials and any associated funerary objects, the Corps and the USFS if appropriate, will comply with the Native American Graves Protection and Repatriation Act (NAGPRA), Colorado State law, and Section 106 of the NHPA. The Corps and the USFS, if appropriate, will notify the appropriate Tribes and offer opportunities to visit the discovery site. Those Tribes who express an interest in the remains will be consulted. Appropriate treatment and/or repatriation options will be discussed. All potential claims and disputes with regard to the remains will be considered in accordance with NAGPRA and Colorado State law.
 - d. Ground-disturbing activities at the scene will not recommence without express written permission of the Corps' Denver Regulatory Office or the Corps' Omaha District Office. This permission will not be issued until the completion of site-specific consultation with the SHPO and appropriate Tribes.

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BOULDER COUNTY	
Coroner	Sheriff
Coroner Emma R. Hall (or current Coroner) Justice Center 1777 6 th Street, P.O. Box 471 Boulder, CO 80306 303-441-3535 or 303-441-4444 (24 hours) bouldercountycoroner@bouldercounty.org	Sheriff Joe Pelle (or current Sheriff) 5600 Flatiron Parkway Boulder, CO 80301 303-441-3600 or 303-441-4444 jpelle@bouldercounty.org
STATE ARCHAEOLOGIST	
Main Contact	Alternate Contact
Dr. Holly Norton (or current State Archaeologist) State Archaeologist/Deputy SHPO-Archaeology History Colorado 1200 Broadway Denver, CO 80203 303-866-2736 holly.norton@state.co.us	Thomas Carr (or current Staff Archaeologist) Senior Staff Archaeologist History Colorado 1200 Broadway Denver, CO 80203 303-866-3498 thomas.carr@state.co.us
ARAPAHO AND ROOSEVELT NATIONAL FORESTS	
Ron J. Archuleta (or current Forest Supervisor) Forest Supervisor Forest Supervisor's Office 2150 Centre Avenue, Building E Fort Collins, CO 80526 970-295-6600 rarchuleta@fs.fed.us	

- e. The Corps shall ensure that any human remains are treated under the following terms, pursuant to CRS 24-80-1302:
- i. The appropriate Corps' Denver Regulatory Project Manager or Omaha District Archeologist will be notified by Denver Water or the designated field archeologist of the location of the suspected human remains. This will be done within 24 hours of discovery. Appropriate notification may include voice mail or electronic mail for those instances when the Corps' offices are closed.
 - ii. Should there be ground-disturbing activities in progress in the general area, all work must cease immediately within 100 feet of the discovery location. Protective measures, such as covering the area with a tarp and fencing around the area, will be implemented as necessary to prevent deterioration of, or further damage to, the remains and the area associated with those remains.
 - iii. The Corps will notify law enforcement agencies, as appropriate, the State Archaeologist, Tribes, and the USFS. Law enforcement must be offered an opportunity to visit the scene and determine if they wish to conduct an investigation. Until law enforcement formally releases the scene, the discovery location shall be considered a crime scene under the direct supervision of said law enforcement personnel. The

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Corps' Omaha District Archeologist or designated field archeologist can advise law enforcement personnel regarding protective measures and information collection techniques. Upon notification that law enforcement has no interest in the matter, the following procedures will be implemented:

1. The Corps will notify the State Archaeologist and, if appropriate, the USFS, of the release of the scene as a potential crime scene. The Corps shall request advice as to measures to protect the remains and proceed to do so, and will collect sufficient information to complete consultations.
2. The Corps will first assess whether human remains are indeed present. If law enforcement has been involved in the Project as per the above steps, it is likely that the remains have been identified as human. The Corps will consult with the State Archaeologist and Tribes to determine the appropriate steps, as necessary, to retrieve basic information with minimum disturbance to the remains, with particular focus on evidence of cultural affiliation or cultural patrimony. The intent will be to gain the necessary information in a non-destructive fashion.

7. Curation

- a. The Corps shall ensure that all records and materials resulting from identification and treatment efforts on public lands are curated consistent with 36 CFR 79 and the provisions of NAGPRA, if appropriate. Documentation of compliance with 36 CFR 79 or NAGPRA shall be provided by Denver Water to the Signatory and Concurring parties.
- b. The Corps will encourage private landowners through written communication to curate any collections from their lands associated with treatment and discovery in an appropriate facility prior to the commencement of any work. If any such collections are to be returned to the landowner(s), said collections will be maintained as per 36 CFR 79 or according to Colorado State standards until analyses are completed.
- c. The Corps shall ensure that all final reports resulting from actions pursuant to this Agreement are provided to the Signatory and Concurring parties, and submitted to the National Technical Information Service (<http://www.ntis.gov/>). The Corps shall ensure that all such reports are responsive to contemporary professional standards and to the Department of the Interior's *Formal Standards for Final Reports of Data Recovery Program* (48 FR 44716-40). Historic property information as outlined by 36 CFR 800.11(c) will not be made available to the general public.

8. Qualifications

- a. The Corps shall ensure that all historic, architectural, ethnographic, and archaeological work conducted pursuant to this Agreement is carried out by or under the direct supervision of persons meeting qualifications set forth in the Secretary of the Interior's *Professional Qualifications Standards* (36 CFR 61).
- b. The Corps shall ensure that if archaeological work happens on National Forest System Land, Denver Water obtains a USFS Rocky Mountain Region (Region 2) Special Use Permit for Archaeological Investigations prior to any field work.

**Moffat Collection System Project Final EIS
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- c. Denver Water, in cooperation with the Corps, shall ensure that all of its personnel and all the personnel of its Project contractors are directed not to engage in collection of historic and prehistoric materials (e.g., old bottles and cans, projectile points, pottery, etc.) and to exercise caution to prevent inadvertent damage to cultural resources. All environmental inspectors will receive training by qualified cultural resources professionals prior to initiation of construction regarding cultural resources that could be discovered during the course of construction. All personnel involved in Project construction, construction zone rehabilitation, operation, and maintenance of the Project facilities will be instructed prior to initiation of construction on site avoidance and protection measures, including information on the statutes protecting cultural resources.

9. Annual Monitoring Reports and Final Report

- a. The Signatory and Concurring parties may monitor actions carried out pursuant to this Agreement, and the ACHP shall review such actions when so requested. Denver Water shall submit an Annual Monitoring Report to Signatory and Concurring parties on or before December 31st of each calendar year once the Project has been authorized by the Corps, and a Special Use Permit has been issued to Denver Water by the USFS, if needed. This report will be designed to inform the parties to this Agreement of action taken during the previous year pursuant to this Agreement, and shall provide the basis for any amendments or other actions the parties may deem necessary for purposes of compliance with Section 106. The Monitoring Report will be submitted annually until Project construction is complete or upon expiration of the Agreement. The Final Monitoring Report will state that all Project construction has been completed. A meeting of the Signatories shall occur upon request of a Signatory to evaluate the implementation of the stipulations of this Agreement. Failure to submit the Annual Monitoring Report to the Signatory and Concurring parties each calendar year will result in the termination of this Agreement.
- b. A Final Summary Report of all inventories, treatment, discovery situations or other mitigative activities will be submitted by Denver Water to the Corps. The Corps will distribute this Final Summary Report to the Signatory and Concurring parties within 12 months after completion of the Project, unless otherwise agreed to among the parties to this Agreement.

10. Dispute Resolution

- a. Should any Signatory or Concurring Party to this Agreement object in writing to the Corps regarding any action carried out or proposed with respect to the Project or implementation of this Agreement, the Corps shall consult with the objecting party to resolve the objection. If, after initiating such consultation, either party determines that the objection cannot be resolved through consultation, the Corps shall submit all relevant documentation to the ACHP, including the Corps' proposed response to the objection. Within 30 calendar days after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:
 - i. Advise the Corps that the ACHP concurs with the Corps' proposed response to the objection, whereupon the Corps will respond to the objection accordingly;
 - ii. Provide the Corps with recommendations, which the Corps shall take into account in reaching a final decision regarding its response to the objection; or

Moffat Collection System Project Final EIS
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- iii. Notify the Corps that the objection will be referred for comment pursuant to 36 CFR 800.7(c) and proceed to refer the objection and comment. The resulting comment shall be taken into account by the Corps in accordance with 36 CFR 800.7(c)(4) and 110(1) of the NHPA.
- b. Should the ACHP not exercise one of the above options within 30 calendar days after receipt of all pertinent documentation, the Corps may assume the ACHP's concurrence in its proposed response to the objection.
- c. The Corps shall take into account any ACHP recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; the Corps' responsibility to carry out all actions under this Agreement that are not the subject of the objection shall remain unchanged.

11. Amendment

- a. Any Signatory to this Agreement may request that this Agreement be amended, whereupon the parties to this Agreement will consult in accordance with 36 CFR 800.14 to consider such amendment. Amendments to this Agreement will be in writing and signed by the parties.

12. Termination

- a. Any Signatory to this Agreement may terminate this Agreement by providing 30-calendar-days' notice to the Concurring parties to this Agreement, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the Corps will comply with 36 CFR 800.3 through 800.7 with regard to individual actions covered by this Agreement.

13. Execution

- a. Execution and implementation of this Agreement evidences that the Corps has afforded the ACHP a reasonable opportunity to comment on the proposed Project and its effects on historic properties, and that the Corps has satisfied its Section 106 responsibilities for all individual actions associated with the proposed Project.
- b. In the event that the Corps does not carry out the requirements of this Agreement, the Corps shall comply with 36 CFR 800.3 through 800.7 with regard to individual actions covered by this Agreement.
- c. This Agreement shall become effective when the Signatories have all signed below, on the date of the last signature of those parties.

14. Sovereign Immunity

- a. The Signatory parties do not waive their immunity by entering into this Agreement, and each fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this Agreement.

**Moffat Collection System Project Final EIS
Proposed Enlargement of Gross Reservoir Programmatic Agreement**

15. Expiration of Agreement

- a. This Agreement shall expire 10 years after execution of this document or upon completion of the proposed Project, whichever occurs first. If any Signatory wishes to extend this Agreement, a letter requesting that extension must be transmitted through the Corps to the other Signatories at least 90 calendar days prior to the expiration date. The Corps will then consult with the other Signatories to determine the outcome of such a request.

16. Antideficiency Act

- a. All Corps obligations under this Programmatic Agreement are subject to the availability of funds.

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Proposed Enlargement of Gross Reservoir Programmatic Agreement**

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SIGNATORIES



John W. Henderson
Colonel, Corps of Engineers
District Commander

26 OCT 15

Date

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Proposed Enlargement of Gross Reservoir Programmatic Agreement**

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SIGNATORIES



Edward C. Nichols
Colorado State Historic Preservation Officer
HISTORY COLORADO

10/1/15
Date

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Proposed Enlargement of Gross Reservoir Programmatic Agreement

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SIGNATORIES



10/11/15

Ron J. Archuleta

Date

Acting Forest Supervisor, Arapaho & Roosevelt National Forests

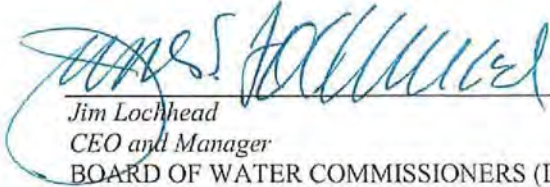
U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE (USFS)

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SIGNATORIES

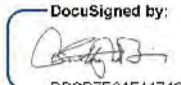


Jim Lochhead
CEO and Manager
BOARD OF WATER COMMISSIONERS (DENVER WATER)

10/1/15
Date

APPROVED AS TO FORM


LEGAL DIVISION

REGISTERED AND COUNTERSIGNED:
CITY AND COUNTY OF DENVER

By:  
DBCB7E81F4174C0...Brien, CPA
Auditor

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CONCURRING PARTIES

Designated Representative
NORTHERN ARAPAHO TRIBE

Date

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Proposed Enlargement of Gross Reservoir Programmatic Agreement**

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CONCURRING PARTIES

Designated Representative
NORTHERN CHEYENNE TRIBE

Date

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CONCURRING PARTIES

Designated Representative

CHEYENNE-ARAPAHO TRIBES OF OKLAHOMA

Date

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CONCURRING PARTIES

Designated Representative
SOUTHERN UTE INDIAN TRIBE

Date

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CONCURRING PARTIES

Designated Representative
UTE MOUNTAIN UTE TRIBE

Date

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Proposed Enlargement of Gross Reservoir Programmatic Agreement

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CONCURRING PARTIES

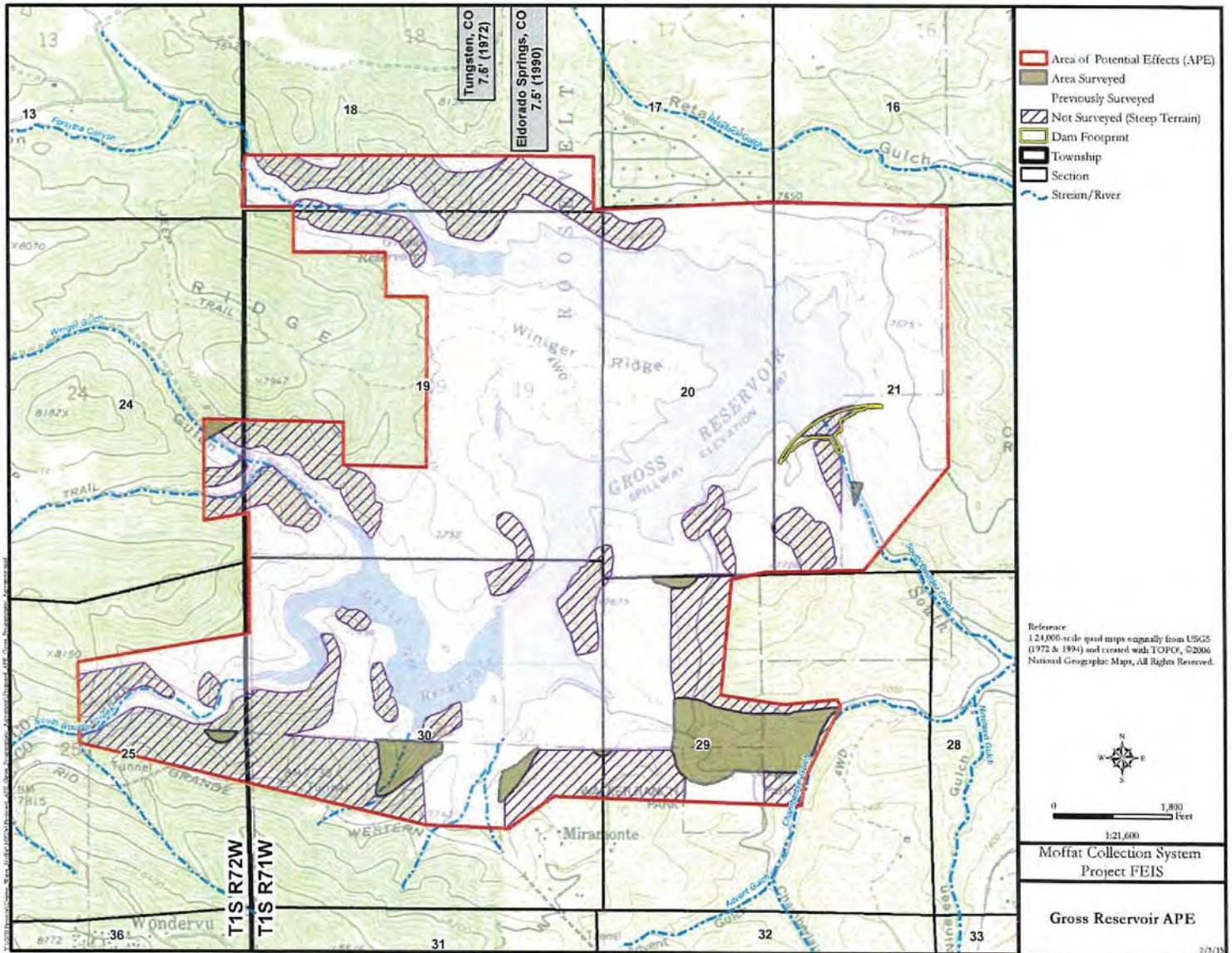
Karen Hagler
Chair

Date

BOULDER COUNTY HISTORIC PRESERVATION ADVISORY BOARD

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Proposed Enlargement of Gross Reservoir Programmatic Agreement

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FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2035-099 – Colorado
Gross Reservoir Hydroelectric Project
City and County of Denver, Colorado

September 13, 2018

Mr. Steve Turner
Colorado State Historic Preservation Officer
Office of Archaeology and Historic Preservation
History Colorado Center
1200 Broadway
Denver, CO 80203

Subject: Programmatic Agreement for Managing Historic Properties under Section 106

Dear Mr. Turner:

On November 25, 2016, Denver Water filed with the Commission an application to raise the Gross Reservoir Hydroelectric Project's (FERC No. 2035) dam, enlarge Gross Reservoir, and amend the project's license.¹ The project is located on South Boulder Creek near the City of Boulder, Boulder County, Colorado. It occupies federal lands within the Roosevelt National Forest administered by the U.S. Forest Service, and lands administered by the U.S. Bureau of Land Management. Enlargement of Gross Reservoir is a component of Denver Water's plan to enlarge its Moffat Collection System to increase collection and storage of raw water.

Specifically, Denver Water proposes to increase the height of Gross Dam by 131 feet, from 340 to 471 feet high, and to raise the normal maximum elevation of Gross Reservoir by 124 feet, from 7,282 to 7,406 feet mean sea level (msl). This would increase the normal maximum surface area of the reservoir from 418 to 842 acres, and increase its maximum storage volume from 41,811 to 118,811 acre-feet. Denver Water would install a pressure reduction valve to maintain the project's existing authorized installed capacity, but the proposal would increase the project's annual generation by approximately 4.4 gigawatt-hours (GWh). Under its proposal, Denver Water would add 12 acres of privately owned land, three acres of Forest Service land, and 40 acres of its

¹ *City and County of Denver, Colorado*, 94 FERC ¶ 61,313 (2001), amended, 109 FERC ¶ 62,002 (2004).

own land to the project boundary. It would also remove 321 acres of Forest Service land and 68 acres of its own land from the project boundary. In addition, Denver Water seeks a 10-year extension to the 40-year term of the project license. These actions constitute the Commission's undertaking under section 106 of the National Historic Preservation Act (NHPA).

The undertaking would adversely affect two historic properties that are eligible for listing on the National Register of Historic Places: the dam and reservoir itself (Site 5BL10210), and the Resumption Flume (Site 5BL7019.1). To mitigate for these unavoidable adverse effects, Commission staff have worked with Denver Water, the Colorado State Historic Preservation Officer (Colorado SHPO), and the Forest Service to develop a programmatic agreement (PA) that would memorialize mitigation necessary for the proposed action's adverse effect. The agreement document was originally written as a Memorandum of Agreement (MOA); however based on comments by your office filed with the Commission on June 22, 2018, we have changed it to be a PA. We have also incorporated comments from the Forest Service filed with the Commission on May 8, 2018 into the PA. On July 12, 2018, the Commission requested comments on the PA from the Advisory Council on Historic Preservation (Advisory Council) pursuant to 36 C.F.R. 800.14(a)((2), and asked if the Advisory Council wanted to participate. The Commission received no comments from the Advisory Council.

The enclosed PA states that the Commission, subsequent to any authorization of the proposed amendment, and prior to project construction activities, would ensure that the measures stipulated in the PA are carried out, including, but not limited to: (1) development and submittal of Historic American Engineering Record (HAER) documentation of the project dam, reservoir, and Resumption Flume to the National Park Service, Colorado SHPO, and the Forest Service; and (2) development of a Historic Properties Management Plan (HPMP) for the entire Gross Reservoir Project. The HPMP would be prepared in accordance with Commission and Advisory Council guidelines, and would contain measures to avoid, protect, or resolve any adverse effects on historic properties within the project's area of potential effects (APE) over the remaining term of the project's license. Implementation of the HPMP would require Commission approval.

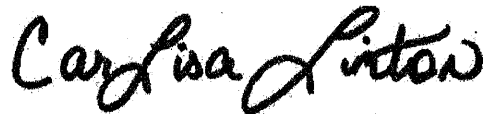
By this letter, we are requesting your signature on the PA. Once it is executed by your office, the Commission staff will incorporate it to the license for the project. We will also forward you a copy of the executed PA for your files.

We are aware that a separate PA has already been fully executed by Denver Water and several federal and state agencies on October 26, 2015, for the overall Moffat Collection System expansion project. Please note that the enclosed PA applies specifically to the adverse effects to historic properties occurring within the project boundary of the Gross Reservoir Hydroelectric Project only.

The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at <http://www.ferc.gov/docs-filing/efiling.asp>. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, please send a paper copy to: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426. The first page of any filing should include docket number P-2035-099.

If you have any questions concerning this letter, please contact Kurt Powers at (202) 502-8949.

Sincerely,



Carlisa Linton-Peters
Acting Director
Division of Hydropower Administration
and Compliance

Enclosure: Programmatic Agreement

Cc: Mr. Monte Williams
Arapaho and Roosevelt National Forests
Forest Supervisor's Office
U.S. Forest Service
2150 Centre Avenue, Building E
Fort Collins, CO 80526

Ms. Martha S. Chieply
Chief, Omaha District Regulatory
U.S. Army Corps of Engineers
1616 Capitol Ave., Ste. 9000
Omaha, NE 68102

Ms. Anne E. Sibree, Attorney
Denver Water
Office of General Counsel
1600 West 12th Avenue
Denver, CO 80204-3412

**PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL ENERGY REGULATORY COMMISSION
AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
REGARDING ENLARGEMENT OF THE RESERVOIR AT THE
GROSS RESERVOIR HYDROELECTRIC PROJECT
(FERC NO. 2035-099)**

WHEREAS, the Federal Energy Regulatory Commission ("Commission"), and the City and County of Denver, Colorado, acting by and through its Board of Water Commissioners ("Denver Water"), have determined that enlarging the reservoir at the Gross Reservoir Hydroelectric Project by a total of approximately 77,000 acre-feet ("Undertaking"), will have an adverse effect on historic properties eligible for listing in the National Register of Historic Places ("National Register"); and

WHEREAS, the Commission is the responsible federal agency in the Programmatic Agreement ("PA") and is a Signatory to this PA; and

WHEREAS, the Undertaking will adversely affect Gross Dam and Reservoir (5BL.10210) and the Resumption Flume (5BL.7019.1), ("historic properties"); both of which are historic sites eligible for inclusion in the National Register; and

WHEREAS, the Commission has consulted with the Colorado State Historic Preservation Officer (SHPO) pursuant to the regulation 36 CFR § 800 implementing Section 106 of the National Historic Preservation Act (16 USC 470f) and has notified the Advisory Council on Historic Preservation (Council), of the adverse effect finding pursuant to 36 CFR § 800.6(a)(1); and

WHEREAS, Denver Water has participated in the consultation for the Undertaking, will implement the mitigation measures in Stipulation I below, and has been invited to concur in this PA; and

WHEREAS, the U.S. Army Corps of Engineers ("Corps") has participated in the consultation regarding the Undertaking and have been invited to concur in this PA; and

WHEREAS, the U.S. Department of Agriculture Forest Service, Arapaho & Roosevelt National Forests ("Forest Service") has lands within the project boundary, has participated in the consultation regarding the Undertaking, and has been invited to concur in this PA; and

NOW, THEREFORE, the Commission and the SHPO (hereinafter "signatory parties") along with Denver Water, the Corps, and Forest Service ("concurring parties"), together termed "PA parties", agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties.

STIPULATIONS

The Commission shall ensure that the following measures are carried out to resolve adverse effects to historic properties.

I. MITIGATION AND PLANS

1. PREPARE HISTORIC AMERICAN ENGINEERING RECORD ("HAER") DOCUMENTATION FOR GROSS DAM AND RESERVOIR AND THE RESUMPTION FLUME

Prior to the start of any work that could adversely affect any characteristics that qualify the Gross Dam and Reservoir or the Resumption Flume as historic properties, Denver Water shall undertake HAER documentation of the Gross Dam and Reservoir and the Resumption Flume. Denver Water shall ensure that the photographs and other physical documentation are completed prior to any alteration of the historic properties.

A. Large-format (4 x 5 inches or larger negative size) black and white photographs shall be produced showing the historic properties in context, as well as details of historic engineering features. These photographs shall be processed for archival permanence and include a photographic index.

B. Should original construction drawings of the Gross Dam and Reservoir be available, selected drawings shall be reproduced photographically in accordance with the following photographic specifications: the preferred negative format for reproducing drawings is 8 x 10 inches.; however, a 4 x 5 inch format may be used as long as the prints are enlarged to 8 x 10 inches in order to maximize their legibility.

C. A written historical and descriptive report shall be prepared according to the "Narrative Format" of the National Park Service (NPS) Guidelines for HAER documentation. The report shall include the following detailed descriptions:

- i) A detailed description of the Gross Dam and Reservoir as well as an explanation on how this feature functions in the hydroelectric system. A site plan on 8 ½ X 11 inch archival paper should be incorporated into the report.
- ii) A detailed description of the Resumption Flume as well as an explanation on how this feature functioned within in a placer mine circa 1880's. A site plan on 8 ½ X 11 inch archival paper should be incorporated into the report.

Production of an interpretive brochure that synthesizes the detailed HABS reports of the Gross Reservoir and the Resumption Flumes within their specific historical contexts.

D. The Commission shall ensure that the licensee submits a copy of the draft HAER documentation to the NPS and the Colorado SHPO for review prior to transmitting the final HAER documentation. The Colorado SHPO will review and comment on the draft HAER documentation within 30 days of receipt. The licensee shall notify the PA parties when the final HAER documentation has been accepted by the NPS within 30 days of the acceptance date, and shall ensure that copies of the final HAER documentation are made available to the Boulder County Historic Preservation Advisory Board, the Forest Service, and appropriate local archives designated by the Colorado SHPO.

2. DEVELOP A HISTORIC PROPERTIES MANAGEMENT PLAN ("HPMP")

Prior to the start of any work that could adversely affect any characteristics that qualify the Gross Dam and Reservoir or the Resumption Flume as historic properties, Denver Water shall develop a HPMP for considering and managing effects on historic properties of activities associated with constructing, operating, and maintaining the project for the remaining term of the license. The HPMP should conform to the *Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects*, jointly developed by the Council and the Commission and issued May 20, 2002. Denver Water will develop the HPMP in consultation with the Colorado SHPO, the Forest Service, and the Corps. Denver Water will submit the final HPMP, along with documentation of consultation, to the Commission for approval.

II. ADMINISTRATIVE PROVISIONS

A. PROFESSIONAL QUALIFICATIONS.

1. Professional Qualifications. All activities prescribed by stipulation part I of this PA shall be carried out under the authority of the Commission by or under the direct supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-39) (PQS) in the appropriate disciplines.

2. Documentation Standards. Written documentation of activities prescribed by stipulation part I of this PA shall conform to Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (FR 44716-4470) as well as applicable standards and guidelines established by the SHPO.

B. DISPUTE RESOLUTION

1. Should any PA party object to the manner in which the terms of this PA are implemented, to any action carried out or proposed with respect to the implementation of the PA, or to any documentation prepared in accordance with and subject to the terms of this PA, the objecting party shall notify the Commission and the Commission shall immediately notify the other parties to this PA of those objections, and shall consult with the objecting party and with the other parties for no more than 14 days to resolve the objection. The Commission shall determine when its consultation efforts reasonably will commence. If the objection is resolved through such consultation, the action subject to dispute may proceed in accordance with the terms of that resolution. If, after initiating such consultation, the Commission determines that the objection cannot be resolved through consultation, the Commission shall forward all documentation relevant to the objection, including the Commission's proposed response to the objection, to the Council, with the expectation that the Council will, within 30 days after receipt of such documentation, do one of the following:
 - a. advise the Commission that the Council concurs in the Commission's proposed response to the objection, whereupon the Commission will respond to the objection accordingly. The objection thereby shall be resolved; or
 - b. provide the Commission with recommendations, which the Commission will take into account in reaching a final decision regarding its response to the objection. The objection thereby shall be resolved; or

- c. notify the Commission that the objection will be referred for comment, pursuant to 36 CFR 800.7(c), and proceed to refer the objection and comment. The Commission shall take the resulting comment into account, in accordance with 36 CFR 800.7(c)(4) and section 110(1) of the Act. The objection thereby shall be resolved.
2. Should the Council not exercise one of the foregoing options with 30 days after receipt of all pertinent documentation, the Commission may assume the Council's concurrence in its proposed response to the objection and proceed to implement that response. The objection thereby shall be resolved.
3. The Commission shall take into account any Council recommendation or comment provided in accordance with section B.1 above, with reference only to the subject of the objection. The Commission's responsibility to carry out all actions under this PA that are not the subjects of the objection will remain unchanged.
4. At any time during the implementation of the measures stipulated in this PA, should an objection pertaining to such implementation be raised by a member of the public, the Commission shall notify the PA parties in writing of the objection and take the objection into consideration. The Commission shall consult with the objecting party and, if the objecting party so requests, with the other PA parties for no more than 15 days. Within 10 days following closure of that consultation period, the Commission will render a decision regarding the objection and notify all consulting parties hereunder of its decision in writing.
5. The Commission shall provide all PA parties, the Council when the Council has issued comments hereunder, and any parties that have objected pursuant to section B.4 above, with a copy of its final written decision regarding any objection addressed pursuant to this stipulation.
6. In reaching its decision under this section B, the Commission will take into account any comments from the consulting parties,

including the objecting party, regarding the objection. The Commission's decision regarding the resolution will be final.

7. The Commission may authorize any action subject to objection under section B of this stipulation to proceed after the objection has been resolved in accordance with the terms of section B.

III. AMENDMENTS

Any PA party may propose that this PA be amended, whereupon the PA parties will consult for no more than 30 days to consider such amendment. The Commission may extend this consultation period. The amendment process shall comply with 36 CFR 800.6(c)(1) and 800.6(c)(7). This PA may be amended only upon the written agreement of the signatory parties. If it is not amended, this PA may be terminated by any signatory party in accordance with section IV of this stipulation.

IV. TERMINATION

- A. If this PA is not amended as provided for in section III of this stipulation, or if any signatory party proposes termination of this PA for any other reasons, the signatory party proposing termination shall, in writing, notify the other PA parties, explain the reasons for proposing termination, and consult with the other PA parties for at least 30 days to seek alternatives to termination. Such consultation shall not be required if the Commission proposes termination because the Undertaking no longer meets the definition set forth at 36 CFR 800.16(y). In the event of termination, the Commission will comply with 36 C.F.R. Sections 800.3 through 800.7(c)(3), with regard to individual actions covered by this Programmatic Agreement.
- B. Should such consultation result in an agreement on an alternative to termination, then the parties shall proceed in accordance with the terms of that agreement.
- C. Should such consultation fail, the signatory party proposing termination may terminate this PA by promptly notifying the other PA parties in writing. Termination hereunder shall render this PA without further force or effect.
- D. If this PA is terminated hereunder, and if the Commission determines that the Undertaking nonetheless will proceed, then the Commission either shall consult in

accordance with 36 CFR 800.6 to develop a new PA, or request the comments of the Council pursuant to 36 CFR Part 800.

V. DURATION OF THE MEMORANDUM OF AGREEMENT

- A. Unless terminated pursuant to section IV of this stipulation, or unless it is superceded by an amended PA, this PA will be in effect following execution by the signatory parties until the Commission, in consultation with other PA parties, determines that all of its stipulations have been fulfilled satisfactorily. This PA will terminate and have no further force or effect on the day that the Commission notifies the other PA parties in writing of its determination that all stipulations of this PA have been fulfilled satisfactorily.

VI. EFFECTIVE DATE

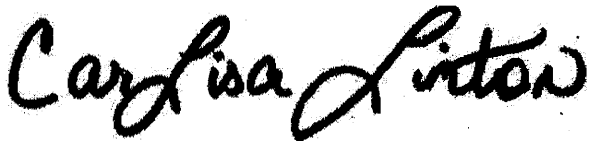
This PA will take effect on the date that it has been fully executed by the Commission and the SHPO and incorporated into the license.

EXECUTION and implementation of this PA, pursuant to 36 CFR § 800.6, including its transmittal by the Commission to the Council in accordance with 36 CFR § 800.6 (b)(1)(iv), shall evidence that the Commission has taken into account the effects of this Undertaking on historic properties in order to resolve (avoid, minimize or mitigate) any adverse effects on historic properties and thereby comply with Section 106 of the Act, and shall further evidence that the Commission has afforded the Council an opportunity to comment on the Undertaking and its effect on historic properties.

**PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL ENERGY REGULATORY COMMISSION
AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
REGARDING ENLARGEMENT OF THE RESERVOIR AT THE
GROSS RESERVOIR HYDROELECTRIC PROJECT
(FERC NO. 2035-099)**

SIGNATORY:

**FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF ENERGY PROJECTS**



Date: 9/13/2018

Carlisa Linton-Peters, Acting Director
Division of Hydropower Administration and Compliance
Federal Energy Regulatory Commission

**PROGRAMMATIC AGREEMENT
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REGARDING ENLARGEMENT OF THE RESERVOIR AT THE
GROSS RESERVOIR HYDROELECTRIC PROJECT
(FERC NO. 2035-099)**

SIGNATORY:

COLORADO STATE HISTORIC PRESERVATION OFFICER

Steve Turner
Colorado State Historic Preservation Officer

Date: _____

**PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL ENERGY REGULATORY COMMISSION
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REGARDING ENLARGEMENT OF THE RESERVOIR AT THE
GROSS RESERVOIR HYDROELECTRIC PROJECT
(FERC NO. 2035-099)**

CONCURRING PARTY:

BOARD OF WATER COMMISSIONERS (DENVER WATER)

 Date: 9/20/2018
James S. Lochhead
CEO/Manager, Board of Water Commissioners (Denver Water)

**PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL ENERGY REGULATORY COMMISSION
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GROSS RESERVOIR HYDROELECTRIC PROJECT
(FERC NO. 2035-099)**

CONCURRING PARTY:

U.S. ARMY CORPS OF ENGINEERS

Martha S. Chieply
Chief, Omaha District Regulatory

Date: _____

**PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL ENERGY REGULATORY COMMISSION
AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
REGARDING ENLARGEMENT OF THE RESERVOIR AT THE
GROSS RESERVOIR HYDROELECTRIC PROJECT
(FERC NO. 2035-099)**

CONCURRING PARTY:

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

Date: _____
Monte Williams
Forest Supervisor, Arapaho & Roosevelt National Forests



United States
Department of
Agriculture

Forest
Service

Arapaho and Roosevelt National
Forests and Pawnee National
Grassland

2150 Centre Avenue Building E
Fort Collins, CO 80526
970-295-6600
TDD: 970-295-6794
Fax: 970-295-6696

ORIGINAL

File Code: 2360
Date: **SEP 20 2010**

Carlisa Linton-Peters
Acting Director - Division of Hydropower Administration and Compliance
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Dear Ms. Linton-Peters:

Enclosed please find the original signature page for the "*Programmatic Agreement Between the Federal Energy Regulatory Commission and the Colorado State Historic Preservation Officer, Regarding Enlargement of the Reservoir at the Gross Reservoir Hydroelectric Project (FERC No. 2035-099)*". I look forward to finalizing this matter. Please send the executed PA to:

Heritage Program Manager

Arapaho and Roosevelt National Forests

2150 Centre Ave., Building E

Fort Collins, CO 80526.

If you have questions regarding this project, please feel free to contact Heritage Program manager, Sue Struthers at (970) 295-6622, or at sstruthers@fs.fed.us.

Sincerely,

MONTE WILLIAMS
Forest Supervisor

Enclosure

cc: Mark Tobias, Greg Smith, Angela Gee, Mike Johnson, Sarah Beck

FILED
SECRETARY OF THE
FEDERAL ENERGY
REGULATORY COMMISSION
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GROSS RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2035-099
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**PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL ENERGY REGULATORY COMMISSION
AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
REGARDING ENLARGEMENT OF THE RESERVOIR AT THE
GROSS RESERVOIR HYDROELECTRIC PROJECT
(FERC NO. 2035-099)**

CONCURRING PARTY:

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

 _____ Date: 9-20-2018
Monte Williams
Forest Supervisor, Arapaho & Roosevelt National Forests

Document Content(s)

15092411.tif.....1-2

MOFFAT COLLECTION SYSTEM PROJECT EIS:
CULTURAL RESOURCES SURVEY OF
GROSS RESERVOIR, BOULDER COUNTY,
COLORADO



Prepared for:

U.S. Army Corps of Engineers
Omaha District
106 South 15th Street
Omaha, NE 68102-1618

Written By:

Gordon C. Tucker Jr., Ph.D.
Juston J. Fariello, B.A.



URS Corporation
8181 E. Tufts Avenue
Denver, Colorado 80237

Project No.: 22236176.40508

December 2006

COLORADO CULTURAL RESOURCE SURVEY

Cultural Resource Survey Management Information Form

Please complete this form and attach a copy behind the Table of Contents of each standard survey report.

I. PROJECT SIZE

Total federal acres in project: _____

Acres surveyed: _____

Total state acres in project: _____

Acres surveyed: _____

Total private acres of project: _____

Acres surveyed: _____

Other: **Local (Denver Water)** **2,008**

Acres surveyed: **69**

Total acres surveyed: **69**

II. PROJECT LOCATION

County: **Boulder** Principal Meridian: **6th**

USGS Quad map name(s) and date(s): **Eldorado Springs, CO (1965; rev. 1994); Tungsten (1972)**

NOTE: The legal location information below is meant to summarize the location of the survey and does not need to be precise.

Township: **1S** Range: **71W** Sec: **29** 1/4s _____ **SE** **SW** **NW**

Township: **1S** Range: **71W** Sec: **29** 1/4s _____ **S** **SE** **NW**

Township: **1S** Range: **71W** Sec: **29** 1/4s _____ **SW** **SW** **NE**

Township: **1S** Range: **71W** Sec: **29** 1/4s _____ **NW** **NW** **SE**

Township: **1S** Range: **71W** Sec: **30** 1/4s _____ **NE** **NE** **SW**

Township: **1S** Range: **71W** Sec: **30** 1/4s _____ **NE** **NW** **SE**

Township: **1S** Range: **71W** Sec: **30** 1/4s _____ **W** **NE** **SE**

Township: **1S** Range: **71W** Sec: **30** 1/4s _____ **NE** **NE** **NE**

Township: **1S** Range: **72W** Sec: **24** 1/4s _____ **NW** **NE** **SE**

Township: **1S** Range: **72W** Sec: **24** 1/4s _____ **NE** **NE** **SE**

Township: **1S** Range: **72W** Sec: **25** 1/4s _____ **NW** **NE** **SE**

Township: **1S** Range: **72W** Sec: **25** 1/4s _____ **NE** **NE** **SE**

III. SITES

Smithsonian Number	Resource Type				Eligibility				Management Recommendations						
	Prehistoric	Historical	Paleontological	Unknown	Eligible	Not Eligible	Need Data	Contributes to National Register District	No Further Work	Preserve/Avoid	Monitor	Test	Excavate	Archival Research	Other
5BL7019.1		X			X					X					
5BL7020		X				X			X						
5BL10208		X				X			X						
5BL10209		X				X			X						
5BL10210		X			X					X					

IV. ISOLATED FINDS

Please note that by definition IFs are not eligible to the National Register and require no further work.

Smithsonian Number	Resource Type			
	Prehistoric	Historical	Paleontological	Unknown
5BL10205		X		
5BL10206		X		
5BL10207		X		

Smithsonian Number	Resource Type			
	Prehistoric	Historical	Paleontological	Unknown

Abstract

The U.S. Army Corps of Engineers (Corps) is preparing an Environmental Impact Statement (EIS) to analyze the effects of a proposed water supply project called the Moffat Collection System Project. The project proponent is the City and County of Denver, acting by and through its Board of Water Commissioners (Denver Water). The Corps is using a third-party contractor, URS Corporation (URS), to prepare the EIS. Several of the EIS alternatives include expanding Gross Reservoir in Boulder County.

URS completed an intensive cultural resources survey of selected parcels within the Gross Reservoir study area, these parcels encompassing a total of 69 acres. The survey documented five sites (including two that had been previously recorded) and three isolated finds (IF). These resources typify the regionally pervasive themes of mining, recreation, and municipal water supply. The three IFs are prospect pits, which vary in size and orientation and represent a ubiquitous feature in the Colorado mountains. The five sites are a segment of the Resumption Flume, a sheltered area with rock wall and deadfall covering, two mining sites, and Gross Dam and Reservoir. The flume has been officially determined eligible for listing in the National Register of Historic Places (NRHP). It will not be affected by the expanded reservoir. The sheltered area and the mines lack most aspects of integrity and are considered not significant. Gross Dam and Reservoir retains all aspects of integrity and is an important component of the historically significant Moffat Collection System. It is considered eligible for listing in the NRHP. The proposed expansion of the dam and reservoir is considered a compatible use, however, and additional cultural resources work at this location is unnecessary.

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The U.S. Army Corps of Engineers (Corps) is preparing a Draft Environmental Impact Statement (DEIS) for analysis of the direct, indirect, and cumulative effects of a water supply project called the Moffat Collection System Project. The project proponent is the City and County of Denver, acting by and through its Board of Water Commissioners (Denver Water). The purpose of the proposed project is to meet an immediate need for additional water, while addressing an imbalance in Denver Water's existing overall supply system by providing new supply to the Moffat Treatment Plant. The Corps is assisted by a team of third-party contractors led by URS Corporation (URS), working under the direction of, and in cooperation with, the Corps.

The Moffat Tunnel Collection System captures water from the Williams Fork River, Fraser River, and South Boulder Creek, and subsequently delivers this water to the Moffat Treatment Plant and several raw-water customers upstream of the plant. Water from the Fraser River and Williams Fork River basins is conveyed through the Moffat Tunnel to South Boulder Creek and Gross Reservoir. Gross Reservoir is located on South Boulder Creek and formed by a gravity arch-concrete dam that is approximately 340 feet (ft) high with a storage capacity of 43,065 acre-feet (af). Water from the reservoir flows into South Boulder Creek and is diverted through the South Boulder Diversion Structure to Ralston Reservoir. This reservoir serves as an operating reservoir for settling water from Gross Reservoir before delivery to the Moffat Treatment Plant in north Denver.

Among its tasks as a third-party consultant, and in support of the EIS, URS evaluated project impacts on cultural resources in the area of potential effects (APE) at Gross Reservoir, pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966 (P.L. 89-665, 16 U.S.C. 470 *et seq.*), as amended through 2000. The APE (hereafter, the Study Area) is defined as all lands, public or private, upon which the project may have direct, indirect, or cumulative effects. Figure 1-1 depicts the Gross Reservoir Study Area, within which the existing reservoir, expanded reservoir, and a 200-ft buffer, are shown. The area shown encompasses 2,008 acres.

Most of the area shown within the Study Area boundaries was previously surveyed for cultural resources (Späth 1997). Consequently, URS conducted intensive pedestrian inventories of only those areas that lie outside this previously surveyed area, including a proposed spillway at the southeast corner of the study area and four areas within the 200-ft buffer, as shown in Figure 1-1. These areas encompass a total of 69 acres. URS personnel revisited two sites (**5BL7019.1** and **5BL7020**) so that their present conditions could be evaluated, and also documented Gross Reservoir Dam and associated facilities (including construction areas) because this property is now more than 50 years old.

Cultural resources investigations in the Gross Reservoir Study Area were conducted on September 23-27, 2005. The project principal investigator is Robert J. Mutaw, cultural resources team leader in the URS Denver office. Gordon C. Tucker Jr., URS Senior Archaeologist, directed the field investigations, assisted by Juston J. Fariello, URS Staff Archaeologist. Mr. Fariello also completed the record forms, site maps, and photographs. Dr. Tucker wrote the summary report, with contributions by Mr. Fariello. Dr. Mutaw reviewed the report for accuracy and completeness.

The following report describes the methods, background, and results of a cultural resources inventory of the Gross Reservoir Study Area. The report complies in form and content with guidelines issued by the Colorado Historical Society, Office of Archaeology and Historic Preservation (1998).

Figure 1-1. Gross Reservoir Study Area

Human use of an area, today and in the past, is conditioned to some extent by environmental parameters. The environment does not determine how and to what extent human groups will respond; rather, it provides opportunities for, and imposes constraints upon, human behavior, ameliorated to a greater or lesser extent by culture. To understand how human groups in an area adapted to the local situation, the regional environmental milieu should be understood. A description of the modern environment is followed by a discussion on past environmental conditions, necessary because the regional and local environmental conditions have changed dramatically during the 12,000+ years that humans have inhabited eastern Colorado.

2.1 PRESENT ENVIRONMENT

The project area is located in the Front Range section of the Southern Rocky Mountains physiographic province (Moreland and Moreland 1975: 82). Elevations range from 7,150 ft above mean sea level (amsl) at the Gross Reservoir Dam to nearly 7,800 ft amsl around the perimeter of the reservoir. The principal drainage in the area is South Boulder Creek, which heads at Rogers Pass Lake near the Continental Divide and flows east to Gross Reservoir. It continues east for another 15 mi to join Boulder Creek in Boulder.

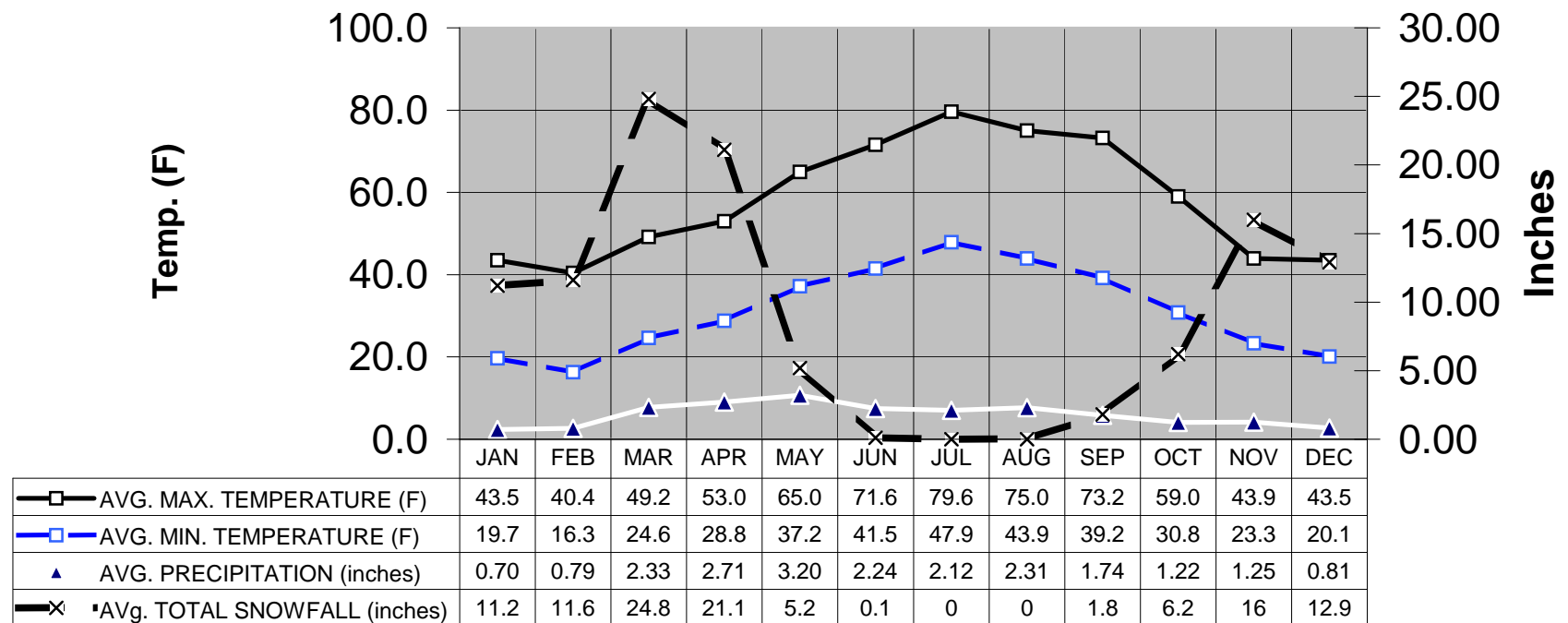
Climate in the area is typical of the Front Range mountains, characterized by low humidity, ample amounts of snow, moderate to high winds, abundant sunshine, and a wide range in daily temperatures. As recorded at Gross Reservoir, Colorado (Figure 2-1), the average annual precipitation is 21.4 inches for the period 1978-2005 (WRCC 2005). Most of the precipitation falls as snow from November through April. Average snowfall is 111.1 inches. The average daily maximum and daily minimum temperatures are 58.1°F and 31.1°F, respectively. The growing season—the number of days between the last freeze in the spring and first freeze in the fall, at a daily minimum temperature of 32°F—ranges from 90 to 100 days (Moreland and Moreland 1975: 83). The average wind speed in this area exceeds 20 miles per hour (mph) (AVS Truewind 2005).

The bedrock geology consists of Precambrian granitic rocks (Tweto 1979). As a result, the local topography is characterized as rugged with steep, rocky ridges and deep, narrow canyons. Soils are typically shallow and consist of very gravelly coarse sandy loams that developed in residuum and/or slope alluvium derived from igneous and metamorphic rock. Rock outcrops are common.

Local vegetation is characterized as montane forest, dominated by ponderosa and lodgepole pine, Douglas fir, and Rocky Mountain juniper, with scattered groves of aspen. The understory consists of various shrubs (antelope bitterbrush, common juniper, mountain big sagebrush, buffaloberry, currant, and kinnikinnick), forbs (mountain muhly and western yarrow), and grasses (mountain brome, prairie Junegrass, slender wheatgrass, and spike fescue).

The project area provides habitat for a large and diverse assemblage of fauna. Principal wildlife species include elk, deer, bear, cottontail rabbit, jackrabbit, dusky grouse, mourning dove, ring-necked pheasant, and various species of waterfowl (Moreland and Moreland 1975: 52). The area prehistoric inhabitants (and, to a lesser degree, the historic populace) could have exploited many of these animals for their meat, hide, bone, sinew, and other elements.

CLIMATIC SUMMARY GROSS RESERVOIR, COLORADO (1978-2005)



Data Source: WRCC (2005)

Figure 2-1. Climatic Summary for Gross Reservoir, Colorado

2.2 PALEOENVIRONMENT

Eastern Colorado has undergone dramatic climate changes following the end of the Pleistocene epoch. These changes affected the distribution of plants and animals on the landscape and the human populations that exploited them. Table 2-1 summarizes past environmental conditions in the Platte River Basin, which includes the mountain foothills, for the past 18,000 years (Tate and Gilmore 1999). In general, the regional climate has fluctuated between cool/dry conditions and warm/moist conditions. Because such changes occurred over centuries, if not millennia, the human inhabitants had ample time to adjust their lifestyle. Such adjustments may have ranged from simple modifications in their way of life to more severe changes such as abandonment of the area.

In the past 100 years, the climate has alternated between wet and dry periods (McKee et al. 2000): 15). The longest drought lasted 12 years, from 1893 until 1905. This was followed by the longest recorded wet period in Colorado history, lasting 26 years from 1905 until 1931. The most severe, and famous, drought occurred between 1931 and 1941, peaking in 1934 and early 1935. Colorado's second longest sustained wet period in recorded history occurred from 1979 to 1996. Human communities were affected to a greater or lesser degree by these climatic perturbations.

Table 2-1
PAST ENVIRONMENTAL CONDITIONS IN NORTHEASTERN COLORADO

Cultural Episode		Dates (B.P.)*	Paleoenvironmental Conditions
Stage	Period		
Paleoindian	Pre-Clovis	18,000-12,000	Full glacial conditions at the outset, with gradually ameliorating climatic conditions
	Clovis	12,000-11,000	Warming trend, with possible drought during the late Clovis period (11,300-10,800 B.P.)
	Folsom	11,000-10,000	Continued warming and drying, shrinking of pine-spruce woodlands in foothills, and expansion of mixed tall grass/short grass prairie
	Plano	10,000-7500	Continued drying and warming with increasing aridity toward the latter part of the Plano period
Archaic	Early Archaic	7500-5000	Once thought to be a period of universal aridity throughout the West and Southwest (Altithermal), now considered to have included two drought periods separated by a period of increased effective moisture
	Middle Archaic	5000-3000	Increased effective moisture, punctuated by discontinuous periods of aridity
	Late Archaic	3000-1800	Warmer and drier conditions, possibly changing to periods of increased precipitation and cooler temperatures
Late Prehistoric	Early Ceramic	1800-800	Initial period of warmer and drier conditions followed by conditions slightly wetter and cooler than present
	Middle Ceramic	800-400	Xeric conditions initially, followed by slightly cooler and wetter conditions
Protohistoric		400-100	Cooler and wetter conditions with expansion of mountain glaciers
Modern		1893-1905	Dry—most pronounced over eastern Colorado
		1905-1931	Wet—longest recorded wet period
		1931-1941	Dry—most widespread and longest lasting drought
		1941-1951	Wet—widespread
		1951-1957	Dry—extremely dry
		1957-1959	Wet—widespread
		1963-1975	Dry/Wet—alternating very wet and fairly dry periods
		1975-1978	Dry—sustained multi-year drought
		1979-1996	Wet—second longest sustained wet period

Data sources: Tate and Gilmore (1999); McKee et al. (2000).

Note: *B.P., Before Present.

Humans have inhabited eastern Colorado for at least 12,000 years, and perhaps longer. This lengthy period of occupation includes prehistoric and historic eras, the highlights of which are described below.

3.1 CULTURE HISTORY

3.1.1 Prehistoric Era

The prehistoric era embraces more than ten millennia and is divided into chronologically ordered cultural stages: Paleoindian, Archaic, Late Prehistoric, and Protohistoric. Each stage encompasses one or more periods, which are generally distinguished by technological attributes and subsistence strategies (Chenault 1999a: 1).

The Paleoindian Stage (ca. 12,000-7500 B.P.) is a specialized adaptation to late Pleistocene/early Holocene environments and characterized by the hunting of now-extinct species of large game such as mammoth, camels, and bison (Chenault 1999b: 51). Paleoindian components are recognized by the presence of large, well-made, flaked stone tools that distinguish three cultural periods: large, fluted lanceolate points for the Clovis period; smaller, finely pressure-flaked and fluted lanceolate dart points for the Folsom period; and lanceolate and stemmed dart points for the Plano period. Most Paleoindian sites are camps, animal kill sites, animal processing sites, or a combination of those types.

The succeeding Archaic Stage (ca. 7500-1800 B.P.) was a time of changing environmental conditions that required modifications of the Paleoindian lifestyle. Archaic people broadened their resource base by hunting both large and small game animals, as well as increasing their emphasis upon plant resources (Tate 1999: 91). Archaic components are recognized by a diversified tool kit, with ground stone artifacts, smaller stemmed and notched projectile points, as well as firepits, storage cists, and architectural features. The Archaic stage includes three periods, distinguished primarily by distinctive artifacts: large, side- and corner-notched dart points during the Early Archaic period; stemmed, indented-base projectile points, as well as several large side-notched, corner-notched, and stemmed points during the Middle Archaic period; and large, corner-notched and side-notched dart points during the Late Archaic period.

The Late Prehistoric Stage (ca. 1800-400 B.P.) represents a continuation of the Archaic lifestyle, with several important technological innovations: the bow and arrow, ceramics, and limited horticulture (Gilmore 1999: 175). The stage is divided into two periods based upon the presence of distinctive artifacts: the Early Ceramic period, characterized by small, corner-notched arrow points and cord-marked pottery; and the Middle Ceramic period, characterized by small, side-notched arrow points and shouldered, globular pottery vessels with partially to completely obliterated cord marks (Gilmore 1999: 177-180). The Early Ceramic period campsites appear to have been occupied for longer periods of time and/or with greater regularity than the preceding Late Archaic period, and this pattern continues into the Middle Ceramic period.

The concluding Protohistoric Stage (ca. 400-100 B.P.) begins with European contact and ends with the period of permanent settlement by non-aboriginal groups (Clark 1999: 309). The introduction of the horse and guns resulted in dramatic cultural and territorial changes throughout the High Plains, resulting in a period of cultural dynamism. Protohistoric components are often identified through diagnostic artifacts, especially those of European and/or

American manufacture, unique features (e.g., peeled trees, wikiups, and tipi rings), or ethnographic analogy (Clark 1999: 310).

It has been generally accepted that, except for occasional hunting forays onto the plains by the Utes, Apaches dominated the eastern plains of Colorado from the A.D. 1500s to the 1700s (Clark 1999: 310). Starting in the early 1700s, the Apache began to have conflicts with the Comanche, who had recently acquired the horse. The Comanche, with assistance from the Utes, were able to force the Apache into New Mexico by 1730. In the early 1700s, a splinter group of Apaches began living among the Kiowas. These Kiowa-Apaches maintained their linguistic identity, but lived as Kiowas. Ethnohistoric records and oral history indicate that the Arapahos, who were quickly followed by the Cheyenne, occupied the Platte River Basin after the Comanche. Although they formerly lived near the Black Hills, the Cheyenne began to winter along the South Platte and Arkansas rivers by the early 1800s. Seasonal hunting parties of various groups of Lakota Sioux may also have entered northeastern Colorado during the 1800s.

3.1.2 Historic Era

The first encampment of non-native settlers in Boulder County occurred in 1858, when a small group in search of gold camped at the mouth of Boulder Canyon. In 1859, the first major discovery of gold in Boulder County was made, and hundreds of prospectors soon rushed into the area. Agriculture, and the irrigation associated with it, and ranching were underway by 1860 (Fetter 1983).

The principal historic activities in this area have been mining and logging (Späth 1997: 6). A significant mining center developed around Magnolia, located two miles north of Gross Reservoir. Although no mines are known to exist in the project area, prospects and small claims are likely to be present. In 1864, the Boulder Valley & Black Hawk Wagon Road Co. built a road from the mouth of South Boulder Creek Canyon, upstream through the area that would become Gross Reservoir and Dam, continuing on to Black Hawk in Gilpin County (Scott 1999: 9). Rights-of-way for the narrow-gauge Denver, Utah & Pacific (DU&P) through the project area were established in 1880 and 1881 (Späth 1997: 6). The effort was abandoned soon after construction began, but remnants of the grade are still present to the east in the Walker Ranch and Eldorado historic districts. The Denver, Northwestern & Pacific (DN&P) standard-gauge line, also known as the Moffat Road, was built south of the project area, and its high line remained in use from 1904 until the Moffat Tunnel was completed in 1927 (Späth 1997: 6).

Denver Water licensed Gross Reservoir in 1950. Between 1952 and 1954, Denver Water constructed a 340-foot-high concrete dam at a deep, narrow location in South Boulder Creek. Gross Dam contains approximately 627,559 cubic yards of concrete and Gross Reservoir has a surface area of 440 acres and 10.9 miles of shoreline (Denver Water 2005a).

3.2 PREVIOUS WORK

On September 20, 2005, URS requested that the Colorado Historical Society, Office of Archaeology and Historic Preservation (CHS-OAHP), conduct a search of the Colorado Inventory of Cultural Resources for Township 1 South, Range 71 West, Sections 29 and 30, and Township 1 South, Range 72 West, Sections 24 and 25. The results, summarized in Tables 3-1

and 3-2, and illustrated in Figures 3-1 and 3-2, show that five surveys have been conducted and 11 cultural resources localities recorded in those four sections.

The previous surveys ranged in size from 28 to 1,015 acres, with an average of 360 acres, and identified 22 sites and 8 isolated finds (IF). The previously recorded resources in the study area include seven sites and five IFs. The sites are all historic, including two railroad tunnels on the Denver & Rio Grande Railroad, the community of Miramonte, the Resumption Flume and an unnamed flume, a sheltered site, and a mine. The IFs include one prehistoric utilized flake and four historic prospect pits. The railroad tunnels were built during the first decade of the twentieth century and are the only sites that have been assigned age ranges. The other three sites and all of the IFs lack temporally diagnostic artifacts or features, which would allow their ages to be estimated. The Resumption Flume (**5BL7019.1**) and one of the railroad tunnels (**5BL455.2**) have been officially determined eligible for listing in the NRHP. The Miramonte site (**5BL5796**) requires additional data before its eligibility can be evaluated. The other four sites and all of the IFs are either officially not eligible or field not eligible.

**Table 3-1
PREVIOUS SURVEYS IN VICINITY OF PROJECT AREA**

Report Id	Report Title	Author(s)	Institution	Completion Date(s)	Total Acres	Sites	Isolated Finds
BL.E.R2	Final Report: Gross Reservoir Hydroelectric Project Class III Cultural Resource Inventory Boulder County (FERC 2035)	C. Spath	Greystone Environmental Services, Inc.	6/11/1997 3/26/2003	1,015	3	6
BL.FS.NR19	Cultural Resources Survey of the Winiger Gulch Timber Sale Boulder County, Colorado	R. Allison J. Slay	Arapaho & Roosevelt National Forests	7/14/1990 2/27/2003	28	0	0
BL.FS.NR66	Goldan-Fed Timber Sale (TI-86-BD-250-PP)	R. Allison R. Reinschmidt	Arapaho & Roosevelt National Forests	12/4/1988 11/7/2003	30	0	0
BL.FS.R47	A Class II Cultural Resource Inventory for the Winiger Analysis Area, Boulder Ranger District, Arapaho & Roosevelt National Forests Boulder County, Colorado	J. Overturf E. Gantt T. Webmoor A. Riley	Medicine Bow National Forest Arapaho & Roosevelt National Forests	12/29/2000 5/1/2001 5/2/2001 12/12/2001	632	16	2
BL.R.C	Community Ditch Portion of Coal Creek Dam	T. Lincoln	Bureau of Reclamation—Missouri Basin	12/1/1981	93	3	0

Table 3-2
KNOWN SITES IN VICINITY OF PROJECT AREA

Site No.	Site Name	Recording Date(s)	Doc. Id(s)	Site Type	Estimated Age	NRHP Eligibility*
5GL.56	Tunnel 26	8/31/1982	---	Railroad Tunnel	1900-1909	Field Not Eligible
5BL455.2	Denver & Rio Grande Western	5/6/1981 9/23/1988	BL.LG.R6 MC.LG.R20	Railroad Tunnel	1900-1909	Officially Eligible
5BL905	---	7/2/1985	MC.AE.R1	Utilized Flake	Unknown Prehistoric	Field Not Eligible
5BL2372	---	7/18/1988 6/2/1997	BL.LG.R6 BL.E.R2	Flume	1907-1914	Officially Not Eligible
5BL5796	Miramonte	8/23/1996	BL.SHF.R49	Railroad Siding?	Unknown Historic	Field Needs Data
5BL.7019.1	Resumption Flume	6/10/1997	BL.E.R2	Flume	Unknown Historic	Officially Eligible
5BL7020	---	6/11/1997 6/29/2000	BL.FS.R47 BL.E.R2	Sheltered Architectural	Unknown Historic	Officially Not Eligible
5BL7023	---	6/6/1997	BL.E.R2	Prospect Pit	Unknown Historic	Field Not Eligible
5BL7024	---	6/11/1997	BL.E.R2	Prospect Pit	Unknown Historic	Field Not Eligible
5BL7025	---	6/11/1997	BL.E.R2	Prospect Pit	Unknown Historic	Field Not Eligible
5BL7026	---	6/11/1997	BL.E.R2	Prospect Pit	Unknown Historic	Field Not Eligible
5BL7890	---	6/9/1999 6/29/2000	BL.FS.R47	Mine	Unknown Historic	Officially Not Eligible

Note: *NRHP, National Register of Historic Places.

4.1 SURVEY OBJECTIVES

The purpose of this survey is to inventory selected areas within the study area as shown in Figure 1-1, document all cultural resources, and evaluate the eligibility of each resource for listing in the National Register of Historic Places (NRHP), according to the criteria shown at 36 CFR 60.4. The survey data are interpreted within the context of the regional culture history.

4.2 SURVEY METHODS

The areas within the 200-ft buffer that had not previously been surveyed were plotted on the appropriate USGS topographic quadrangle maps. URS personnel then conducted an intensive pedestrian survey of these areas. A crew of two individuals walked multiple parallel transects across these areas spaced 30 meters (m) (100 ft) apart. In areas of steep (30-45 percent) slopes, the transect intervals were widened. Extremely steep (greater than 45 percent) slopes were reconnoitered. As they walked, team members closely inspected the ground surface for any evidence of past, patterned human activity, 50 years or older.

When such evidence was found, the area was quickly reconnoitered to determine if the find was isolated or a site. An isolated find (IF) is defined as a spatially scattered and/or disassociated manifestation, comprising a single artifact or feature, or relatively few artifacts, which lack contextual information. A site is described as several artifacts or features in proximity (10 m or 30 ft apart). Each IF was described, its location determined using a Global Positioning System (GPS) instrument, and sketched or photographed. In similar fashion, each site was described fully, its location determined with the GPS instrument, sketched in plan view, and photographed from several directions to illustrate its setting. No artifacts were collected.

In the laboratory, all field data were compiled, forms completed, maps finalized, and photographs developed and printed. Each IF was described on the Colorado Cultural Resource Survey (CCRS) Isolated Find Record Form, accompanied by a sketch or photograph of the find, and its location plotted on the project map. Each site was minimally described on the CCRS Management Data Form, plotted on the project map, and accompanied by a detailed sketch map and black-and-white photographs. Prehistoric components were further described on the Prehistoric Archaeological Component Form, while historic components were described on the Historical Archaeological Component Form. Should standing structures be present on the site, then a Historic Architectural Component Form was completed. Linear sites (e.g., roads or trails) were described on the Linear Component Form.

The intensive inventory of approximately 69 acres around Gross Reservoir resulted in the discovery and documentation of five sites and three IFs. The most salient aspects of these sites and IFs are summarized in Table 5-1, followed by brief descriptions of the recorded resources. The site/IF locations are plotted on the project maps, included as Appendix A. Additional details about each resource can be found in the IF and site forms, included as Appendix B.

Table 5-1
DESCRIPTION OF CULTURAL RESOURCES IN STUDY AREA

Number	Site/IF	Era	Activity or Theme	Description
5BL7019.1	Site	H	Agriculture	Resumption Flume
5BL7020	Site	H	Recreation	Rock shelter
5BL10208	Site	H	Mining	Adits, prospect pits, and tailing piles
5BL10209	Site	H	Mining	Adit, prospect pits, and tailing piles
5BL10210	Site	H	Municipal Water Supply	Gross Dam and Reservoir
5BL10205	IF	H	Mining	3 Prospect Pits
5BL10206	IF	H	Mining	1 Prospect Pit
5BL10207	IF	H	Mining	1 Prospect Pit

Abbreviations: IF, isolated find; H, historic.

5.1 SITES

The five sites recorded in the study area embody several socioeconomic themes: mining, agriculture, recreation, and municipal water supply. These are themes that appear with some regularity throughout the region.

5.1.1 Resumption Flume (5BL7019.1)

This site is a badly deteriorated segment of the Resumption Flume. Carl Späth of Greystone, Inc. originally recorded the site on June 10, 1997, and it was officially determined eligible for listing in the NRHP on November 11, 1997. The flume runs along the cliffs and slopes above the canyon of South Boulder Creek (Figure 5-1). Where it is intact, the flume consists of a wooden trestle, which measures approximately 5 ft wide and is constructed of 4-inch by 6-inch wooden braces built out from the cliff face or slope. On top of these braces is a U-shaped “box” made of 1-inch by 6-inch planks set tight against each other. The wooden sections are held together with 12 penny (3½-inch) and 20 penny (4-inch) wire nails.

According to Späth (1997: 10), the flume may be associated with the operations of the nearby Alonzo Coan Resumption Placer, patented in 1896. It could not, however, be matched with any of the water rights appropriations on file with the State Engineer’s Office, and no other historical documentation has been located.



Figure 5-1. Overview of Site 5BL7019.1, Resumption Flume, looking SW.

5.1.2 Site 5BL7020

Carl Späth of Greystone, Inc. originally recorded this site on June 11, 1997, and it was officially determined not eligible for listing in the NRHP on June 29, 2000. The site was described as a bedrock overhang that has been enclosed by a low boulder wall and deadfall poles (Späth 1997: 11). The interior of the shelter measures approximately 5 m by 4 m and is spacious enough for storage, and perhaps even habitation. Its location above a side canyon draining into South Boulder Creek suggests a possible use as a hunting blind, historic or prehistoric. When the site was recorded, however, no artifacts or features were found that would suggest its age and/or cultural affiliation. Archaeologists from the Medicine Bow-Routt National Forest tested the site on June 21, 1999. The results were inconclusive, but the Forest Service archaeologists noted that some of the wooden poles had saw marks, which would indicate historic use.

The site and a large swath of land surrounding land on Winiger Ridge were burned in a recent wild fire. Only two of the original deadfall poles remains, and both of these are severely burned (Figure 5-2). The site is more likely historic than prehistoric, but even that age assignment is problematic. It is equally probable that individuals using one of the modern campgrounds on Winiger Ridge built the rock wall and set up the deadfall poles as a shelter of some kind.



Figure 5-2. View of Site 5BL7020, historic rock shelter, looking west. Note charred poles.

5.1.3 Site 5BL10208

This is a historic mining site. It includes one large and one small adit, three prospect pits, and two tailing piles, found within an area measuring approximately 0.7 acres (Figure 5-3). The site is located on a steep (30°) slope below Gross Dam Reservoir. The smaller adit opening measures 4 ft by 4 ft and is of unknown depth. Just below that feature is a large prospect pit that measures 15 ft in diameter and 6 ft deep. Excavated materials have been piled on the downhill side of the pit. Approximately 10 ft west is another prospect pit that measures 20 ft by 8 ft and 2½ ft deep. Approximately 5 ft downslope from these prospect pits is a larger pit dug into bedrock with an adit opening on the north side. The pit measures 16 ft by 12 ft and 8 ft deep, and the adit opening is 4 ft wide by 3 ft tall. A tailing pile wraps around the circular prospector pit and large adit. Adjacent to the tailing pile and 5 ft south of the large adit is a linear prospect pit, which measures 35 ft by 15 ft and 3 ft deep and aligned N25°W. Immediately below this pit is a large tailing pile, which measures 50 ft (perpendicular to slope) by 25 ft. The age and association of these features cannot be determined from available evidence.



Figure 5-3. View of Site 5BL10208, historic mining site, looking NW.
Looking upslope from tailing pile, vertical shaft at right.

5.1.4 Site 5BL10209

The site is a historic mining site. It includes one adit, two prospect pits, and a tailing pile, encompassed within an area of 0.25 acres (Figure 5-4). The site is located on a steep (30°) slope below Gross Dam Road and east of Site 5BL10208. The adit opening measures 2 ft by 2 ft and has partially collapsed. In front of the adit is a linear pit, which is aligned N60°W and measures 20 ft by 10 ft and 2 ft deep. Below this pit is a tailing pile, which measures 30 ft by 30 ft. North of the adit entrance are two linear prospect pits. One measures 20 ft by 10 ft by 1½ ft deep and aligned N64°W, while the other pit measures 20 ft by 10 ft by 1 ft deep and aligned N80°W. The two pits are located on top of a small terrace, which also contains several older sawn trees. The age and association of these features cannot be determined from available evidence.



Figure 5-4. View of Site 5BL10209, historic mining site, looking SE.
Person at left is standing next to the prospect pits; the adit is at right.

5.1.5 Gross Dam and Reservoir (5BL10210)

The site is a large freshwater reservoir and concrete dam sited in the canyon of South Boulder Creek (Figure 5-5). Originally known as Reservoir No. 22, the dam and reservoir were named for Denver Water former Chief Engineer Dwight D. Gross when the project was completed in 1954 (Denver Water 2005a). It serves as combination storage and regulating facility for water that flows under the Continental Divide through the Moffat Tunnel.

Construction of the dam required several support facilities, including a primary crusher, screening plant, concrete mixing plant and cement storage silo, water storage tank, aggregate stockpiles, cableway headtowers and guy anchors, several miles of access roads, and borrow pits. Figure 5-6 is an as-built drawing showing the relationships of most of these features, and Figure 5-7 is a historic photo that illustrates several features. After construction was completed, many of these features were dismantled or removed.



Figure 5-5. View of Site 5BL10210, Gross Dam and Reservoir, looking south.

Features recorded within the study area include the dam (Feature A), primary crusher (Feature B), cableway head tower and anchors (Feature C), a borrow pit (Feature D), associated access roads (Feature E), and the outlet works (Feature F). Each feature is described further below.

5.1.5.1 Gross Dam (Feature A)

Gross Dam is a gravity dam with a center spillway. Standing 340 ft above the South Boulder Creek streambed, the dam contains over 627,00 cubic yards of concrete (Denver Water 2005a) and has a crest length of 1,022 ft. (Mermel 1963: 105). Gross Reservoir has a surface area of 440 acres, a storage capacity of 41,811 acre-feet, and 10.9 miles of shoreline (Denver Water 2005a). According to records maintained by Denver Water, a joint venture between Macco Corporation of Paramount, California, and Puget Sound Bridge & Dredging Company of Seattle, Washington, built the dam under contract to the Denver Municipal Water Works (DMWW).

Figure 5-6. As-built drawing of Gross Dam and Reservoir (June 14, 1952), showing construction features.

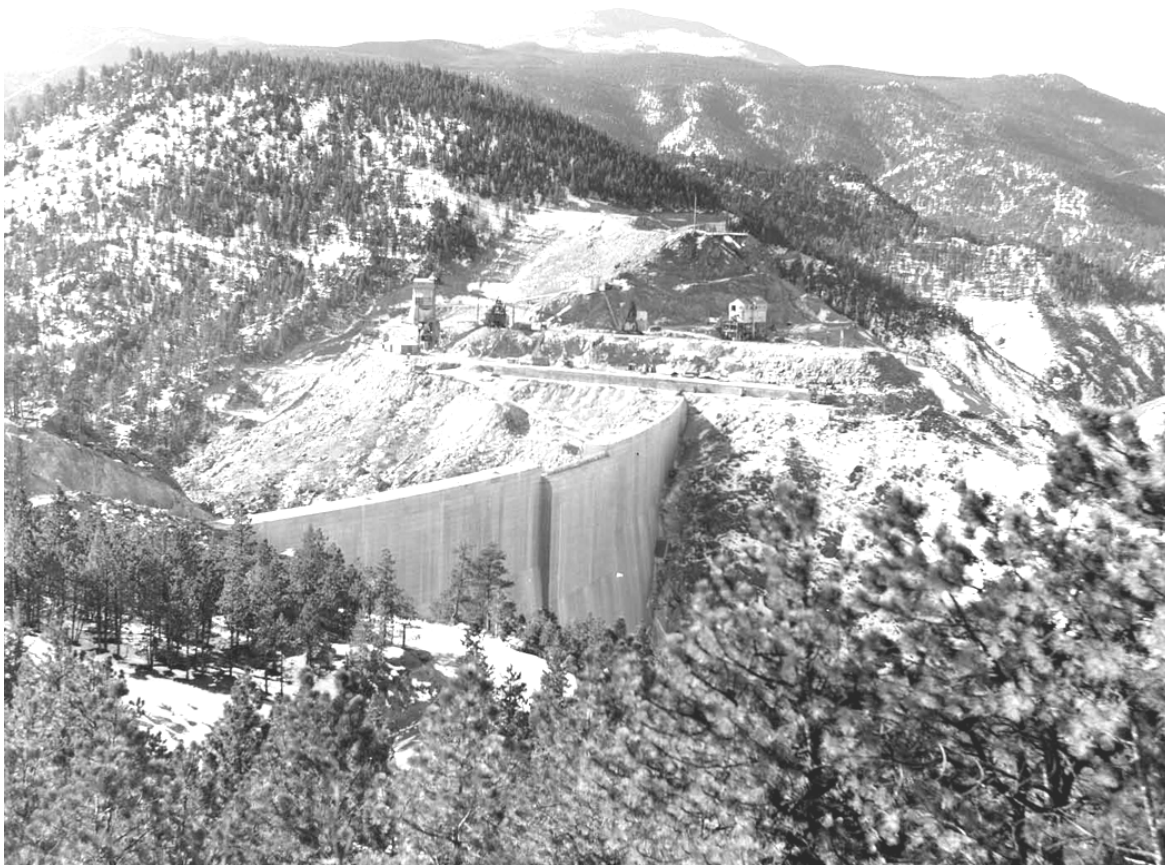


Figure 5-7. Historic photo of Gross Dam, taken January 25, 1955. Besides the dam itself, visible features include (from left to right in the middle of the photo) the concrete mixing plant, water storage tank, screening plant, and aggregate stock pile. The primary crusher is faintly visible above and slightly left of the screening plant (Photo from the archives of Denver Water).

5.1.5.2 Feature B—Primary Crusher

“To build Gross Dam, aggregate was trucked 14 mi. to the dam site, processed, batched, mixed into concrete, transported in a shuttle car, transferred to 8 cubic yard buckets, and deposited in the dam by means of two cable ways.” (Denver Water 2005b). These activities were conducted at several locations within the project area. Portions of some of these features are still extant; others have been removed. One of the remnant features is the primary crusher, which has two sections. According to the Gross Dam Final Concrete Report (Denver Water 2005b), “...material was passed through an 8-inch Grisley above the primary crusher, with the oversize material going to a 42” x 40” Allis Chalmers Superior Jaw Crusher.” From there, it was separated into sand and coarse aggregate fractions, which were washed, screened, and stockpiled. During peak production, approximately 25,000 cubic yards of sorted materials were stockpiled above the primary crusher in the event of a truck breakdown. The sand and coarse aggregate were carried by conveyer to a concrete mixing plant. Cement was kept nearby in a plant storage silo.

Two remnants of the primary crusher were documented. The first remnant is a formed concrete foundation, located on the edge of a man-made terrace, above and overlooking Gross Reservoir (Figure 5-8). It measures 34 ft long, 15 ft wide, and approximately 20 ft tall. On top of the foundation, on each side of a center indentation, is a shelf that measures 12 inches wide. Evenly spaced on each side of this shelf are two threaded 12-inch-diameter metal rods. Bolted to the rear wall of the revetment is a short L-shaped metal bracket. Northeast of the foundation are two loops of $\frac{3}{4}$ -inch-diameter metal rope, either buried or anchored into the ground. Another piece of metal rope has been tied around and anchored to a tree.



Figure 5-8. Rock crusher foundation (Feature A) at Gross Dam and Reservoir, looking SW

The second remnant consists of several concrete walls arranged along the side and base of a steep slope, just below the first section. The height of this section varies between 9 ft at the top and 25 ft at the lower end. Two large concrete walls stand parallel with each other, 20 ft apart, at the top of the steep slope (Figure 5-9). These walls measure approximately 12 ft long and 4 ft thick, and several pieces of $\frac{3}{4}$ -inch u-shaped rebar protrude from the front (north) side. Large wood beams are placed within an indentation of the larger walls. Four logs are set upright in the ground along the inside of the two walls and a large piece of iron sheeting is attached to the east side of the easternmost wall. A segment of iron track from some of the former machinery is still present, and large iron bolts protrude from the top and front (north) face of the wall. Below these walls, at the base of the slope, are two smaller concrete walls, parallel with each other and approximately 8 ft apart (Figure 5-10). They measure 6 ft long by 18 inches thick and 3 ft tall. Farther downslope is another concrete wall that measures 6 ft long by 18 inches thick and 2 ft tall. This wall has several slots or notches along its top where something was attached. East of the walls, along the upper slope and just below a granite outcrop, is a small concentration of historic artifacts, including metal food containers and beverage cans.



Figure 5-9. Large concrete walls (Feature A) at Gross Dam and Reservoir, looking ESE.



Figure 5-10. Smaller concrete walls (Feature A) at Gross Dam and Reservoir, looking NE.

5.1.5.3 Feature C—Cableways

Two cableways were used in construction. Cableway No. 1 was a 20-ton machine, which was joined on the left (facing downstream) abutment to a stationary headtower, which was 109 ft high. The traveling tailtower track was located on the right abutment. Cableway No. 2 was a 10-ton machine, which operated on the same track with a stationary tailtower, 75 ft high, opposite the headtower of Cableway No. 1. Cableway No. 2 permitted lateral coverage of the spillway section. A historic photo of the two cableways, taken on May 21, 1955, is included as Figure 5-11. Several structures are visible at the base of the Cableway No. 1 headtower.

Remnants of Cableway No. 1, consisting of three concrete foundations, were discovered on the slopes above and east of the dam. The first foundation consists of a wall measuring 28 ft long by 18 inches wide by 5 ft tall and oriented N35°W. Immediately behind this wall is a four-sided, 5 ft-high concrete block, which tapers from a 20-inch high base to a flat top that is 3 ft square (Figure 5-12). Four 1-inch diameter metal rods, which were cut off with a torch, protrude slightly from the top of the block. The same type of metal rods are embedded in the sloping sides of the block. Southeast of this tapered block is a small square platform that measures 78 inches square and 20 inches tall. In its center is a small raised platform with four metal rods. Downslope from these features is a low concrete foundation, oriented S34°W, with two parallel sidewalls, a depressed center, and a square extension on the northwest side. On top of the parallel walls are 12 hollow pipes with metal rods placed inside. The extension has six of these pipes and embedded rods. Approximately 18 ft downslope from this foundation is another concrete block, 8 ft square and 3 ft tall. On its top are three grooves, one of which still retains a 3½-inch square wooden beam. Inscribed in one corner of the top of this block is “2 BLOCK 1954 5/28” and provides an age (May 28, 1954) for the feature. Upslope from these foundations are several metal rods placed into the bedrock, forming tie-downs or “dead men.” Also upslope, are several metal beverage (beer) cans. At the very top of the hill, portions of the outcrop have been cut away to allow for the guide wires to connect to three concrete anchors. At the top of the rocky outcrop is a shallow depression, at the bottom of which is a triangular concrete anchor. Each side of the anchor measures 16 ft long and 42 inches tall. Two more concrete anchors are located on the north side of the rocky outcrop. One measures 24 ft long by 10 ft wide, while the second anchor is mostly buried and its size cannot be determined.



Figure 5-11. Historic photo (5/21/1955) of Cableway No. 1 and Cableway No. 2 features (Feature C). Note the building complex at the base of the headtower (left), which is taller than the tailtower (right) (Photo from the archives of Denver Water).



Figure 5-12. Cableway No. 1 foundations (Feature C) at Gross Dam and Reservoir, looking ESE.

5.1.5.4 Borrow Pit (Feature D)

Most of the borrow pits that were used during dam construction are located outside the study area. However, a large excavated area, which may be a borrow pit, is located approximately 0.75 mi. south of Gross Dam. This area measures approximately 450 ft long (north-south) by 300 ft (east-west), encompassing an area of approximately 3 acres. The area is highly eroded and largely denuded of vegetation.

5.1.5.5 Access Roads (Feature E)

Several miles of access roads were built during the construction of Gross Dam. Some have been upgraded over the years and are presently used for recreational access. Others are abandoned and used only by hunters and other backcountry visitors. One such abandoned road segment, which provides access to the borrow pit (Feature D), is illustrated in (Figure 5-13).



Figure 5-13. Abandoned construction access road (Feature E), looking east.

5.1.5.6 Outlet Works (Feature F)

Below the face of the dam, on the outworks (south) side, are remnants of the original outlet works. The valve chamber is in an underground structure and used a 10-ft box flume to carry the water to the stream. The valve chamber is still present but no longer used. The access tunnel to the valve chamber has a two-door bunker type entrance into the bedrock (Figure 5-14). Outside the entrance, on both sides, are mortared stone retaining walls made of local rocks. The 10-foot concrete box flume was removed in the 1970s, when the new and current outlet works were

constructed. Current construction of the new hydro-power generator has exposed a remnant of the box flume. It is a wall section that is buried approximately 5 ft beneath the present ground surface. Just north of the wall, the tunnel entrance into the bedrock wall of the 10-foot box flume is barely visible. It is made of concrete walls and most of it is buried, except for the upper one or two feet. A new concrete vault was put in just in front of this entryway.



Figure 5-14. Photo of outlet works, looking NE. Entrance to valve chamber access channel is visible near top of photo; more recent (1970s) outlet in foreground.

5.2 ISOLATED FINDS

All three IFs are prospect pits. They are ubiquitous remnants of historic mining in the area. Table 5-2 summarizes the physical characteristics of these pits. The orientation of each prospect pit is undoubtedly related to the supposed direction of the underlying mineral vein. The size of each pit (Figure 5-15) reflects the level of effort invested to verify the existence (or lack thereof) of a productive vein. The pits are generally found on moderately steep slopes.

Table 5-2
SUMMARY OF ISOLATED FINDS

ID	ORIENTATION	SIZE (ft)			ELEVATION (ft)	SLOPE(°)	
		Length	Width	Depth		Site	Surrounding
5BL10205A	N47°E	16	11	3	7400	5	15
5BL10205B	N80°E	8	6	1			
5BL10205C	S20°E	14	8	2			
5BL10206	N0°E	9	7	0.83	7240	20	20
5BL10207	N0°E	10	10	2.5	7360	10	10

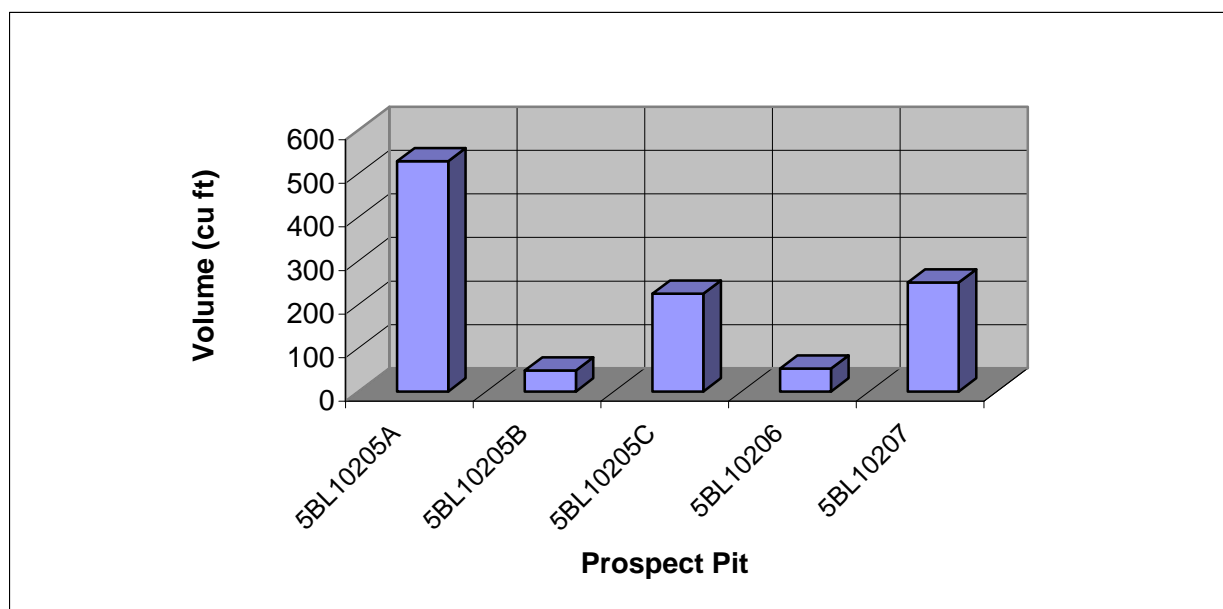


Figure 5-15. Comparison of prospect pit sizes.

The eligibility of each recorded site for listing in the National Register of Historic Places (NRHP) was evaluated according to the criteria set forth at 36 CFR 60.4:

The quality of significance in American history, architecture, archeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 15 directs that “integrity is the ability of a property to convey its significance” and “to retain historic integrity a property will always possess several, and usually most, of the aspects.” (Townsend et al. 1993: 17). The NRHP recognizes seven aspects or qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association (Noble and Spude 1992: 19). Eligible sites are those that retain integrity and satisfy one or more of the aforementioned criteria. Non-eligible sites (including all isolated finds) are those that lack integrity and/or do not satisfy any of the evaluation criteria. Table 6-1 summarizes the significance and integrity of the five sites in the study area.

Table 6-1
EVALUATIONS OF SIGNIFICANCE AND INTEGRITY FOR
SITES RECORDED IN GROSS RESERVOIR STUDY AREA

SITE NO. (Name)	SIGNIFICANCE (NRHP Criterion)	ASPECT OF INTEGRITY						
		Location	Design	Setting	Materials	Workmanship	Feeling	Association
5BL7019.1 (Resumption Flume)	Significant (a)	•						•
5BL7020	Not significant	•						
5BL10208	Not significant	•					•	•
5BL10209	Not significant	•					•	•
5BL10210 (Gross Dam & Reservoir)	Significant (a,b)	•	•	•	•	•	•	•

The Resumption Flume (5BL7019.1) retains integrity of location and association because it remains in the place where it was constructed and the historical activity that occurred at this location can still be discerned. It lacks integrity of design, materials, and workmanship because much of the flume has significantly deteriorated and segments are missing. It lacks integrity of design and feeling because Gross Dam and Reservoir, which attract recreational activity and nearby development, have altered the setting. The site has **officially been determined eligible** for listing in the NRHP for its association with significant local events (placer mining in Boulder County). The site lies above the 200-ft buffer line and will not be affected by the expanded reservoir.

The sheltered site (5BL7020) retains only integrity of location. It retains none of the other aspects of integrity because a wild fire destroyed the deadfall covering and most of the interior space has been systematically excavated. The site is not historically significant because it is not associated with important local events or persons, does not embody distinctive architectural or engineering characteristics, and is unlikely to yield additional important data about the local history. For these reasons, the site is considered **not eligible** for listing in the NRHP.

The two mining sites (5BL10208 and 5BL10209) retain integrity of location, feeling, and association because they remain in the places where activities occurred, they still convey a strong sense of the historic mining activities that occurred throughout the region, and these activities can still be distinguished. They are not, however, considered historically significant because they are relatively unassuming features and represent a ubiquitous element of a common historic theme (i.e., hardrock mining in the Colorado mountains). Therefore, these two sites are considered **not eligible** for listing in the NRHP.

Gross Dam and Reservoir (5BL10210) retains all aspects of integrity. The complex is historically significant because it represents an integral component of the Moffat Collection System, which provides high quality, dependable, and safe drinking water to the residents of the City and County of Denver and represents a significant trans-mountain water project in Colorado. For these reasons, the site is considered **eligible** for listing in the NRHP.

Cultural resources are widespread and relatively abundant in the study area. They attest to the region's long use by different peoples for various purposes. Aboriginal use of the area was apparently focused in different locations, which explains their absence in the study area. The more numerous historic resources represent the regionally pervasive theme of mining, municipal water supply, and recreation—themes that have dominated the area for more than a century. Some of these themes continue to be vital contributors to the regional economy. This research has expanded our knowledge and understanding of the region's remarkable history.

Advance Visualization Systems (AVS) Truwind

2005 Wind Speed Map of Colorado. Available from the Internet at:

<http://www.awstruwind.com/inner/windmaps/Colorado.htm> Accessed on November 11, 2005.

Berry, Joseph W.

1968 The Climate of Colorado. In *Climates of the States: Volume II – Western States including Alaska and Hawaii*, pp. 595-613. Water Information Center, Inc., Port Washington, New York.

Chenault, Mark L.

1999a Introduction. In *Colorado Prehistory: A Context for the Platte River Basin*, by Kevin P. Gilmore, Marcia Tate, Mark L. Chenault, Bonnie Clark, Terri McBride, and Margaret Wood, pp. 1-5. Colorado Council of Professional Archaeologists, Denver.

1999b Paleoindian Stage. In *Colorado Prehistory: A Context for the Platte River Basin*, by Kevin P. Gilmore, Marcia Tate, Mark L. Chenault, Bonnie Clark, Terri McBride, and Margaret Wood, pp. 51-90. Colorado Council of Professional Archaeologists, Denver.

Clark, Bonnie

1999 The Protohistoric Period. In *Colorado Prehistory: A Context for the Platte River Basin*, by Kevin P. Gilmore, Marcia Tate, Mark L. Chenault, Bonnie Clark, Terri McBride, and Margaret Wood, pp. 309-335. Colorado Council of Professional Archaeologists, Denver.

Colorado Historical Society-Office of Archaeology and Historic Preservation

1998 *Colorado Cultural Resource Survey Manual. Volume 1: The Steps*. Colorado Historical Society, Denver.

Denver Water

2005a Gross Reservoir. Available from the Internet:

<http://www.water.denver.co.gov/indexmain.html> Accessed on November 17, 2005.

2005b Gross Dam Final Concrete Report. Ms. on file (Drawer 55, No. 5-5) at Denver Water, Denver.

Fetter, Richard

1983 *Frontier Boulder*. Johnson Books, Denver.

Gilmore, Kevin P.

1999 Late Prehistoric Stage (A.D. 150-1540). In *Colorado Prehistory: A Context for the Platte River Basin*, by Kevin P. Gilmore, Marcia Tate, Mark L. Chenault, Bonnie Clark, Terri McBride, and Margaret Wood, pp. 175-307. Colorado Council of Professional Archaeologists, Denver.

McKee, Thomas B., Nolan J. Doesken, John Kliet, and Catherine J. Shrier

2000 *A History of Drought in Colorado: Lessons Learned and What Lies Ahead*. Colorado State University, Fort Collins.

Mermel, T.W. (editor and compiler)

1963 *Register of Dams in the United States, Completed, Under Construction and Proposed as of January 1, 1963*. U.S. Committee on Large Dams, Washington, D.C.

Moreland, Donald C. and Ronald E. Moreland

1975 *Soil Survey of the Boulder County Area, Colorado*. USDA Soil Conservation Service. U.S. Government Printing Office, Washington, D.C.

Mutel, Cornelia Fleischer and John C. Emerick

1992 *From Grassland to Glacier. The Natural History of Colorado and the Surrounding Region*. Johnson Books, Boulder, Colorado.

Noble, Jr., Bruce J. and Robert Spude

1992 *Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties*. USDI National Park Service, Interagency Resources Division, Washington, D.C.

Scott, Glenn R.

1999 *Historic Trail Map of the Denver 1° x 2° Quadrangle, Central Colorado*. Geologic Investigations Series I-2639. U.S. Geological Survey, Denver.

Späth, Carl

1997 Final Report Gross Reservoir Hydroelectric Project Class III Cultural Resources Inventory, Boulder County, Colorado. Report prepared for Denver Water by Greystone, Englewood, Colorado.

Tate, Marcia J.

1999 Archaic Stage. In *Colorado Prehistory: A Context for the Platte River Basin*, by Kevin P. Gilmore, Marcia Tate, Mark L. Chenault, Bonnie Clark, Terri McBride, and Margaret Wood, pp. 91-173. Colorado Council of Professional Archaeologists, Denver.

Tate, Marcia J. and Kevin P. Gilmore

1999 Environment. In *Colorado Prehistory: A Context for the Platte River Basin*, by Kevin P. Gilmore, Marcia Tate, Mark L. Chenault, Bonnie Clark, Terri McBride, and Margaret Wood, pp. 7-40. Colorado Council of Professional Archaeologists, Denver.

Townsend, Jan, John H. Sprinkle, Jr., and John Knoerl

1993 *Guidelines for Evaluating and Registering Historical Archeological Sites and Districts*. National Register Bulletin 36. U.S. Department of the Interior, National Park Service, Washington, D.C.

Tweto, Ogden (compiler)

1979 *Geologic Map of Colorado*. U.S. Geological Survey, Reston, Virginia.

Western Regional Climate Center (WRCC)

2005 *Boulder, Colorado Period of Record Monthly Climate Summary*. Available from the Internet at www.wrcc.dri.edu/cgi-bin/cliRECtM.pl?cocast. Accessed on 26 September 2005.