Request for Statement of Qualifications

Ralston Dam Outlet Works and Reservoir Bypass Pipeline Alternatives Study

Summary of Request for Statement of Qualifications

Denver Water, owner of Ralston Dam and Reservoir in Jefferson County, Colorado, is requesting this Statement of Qualifications (SOQ) to solicit information from Consultants regarding their capabilities and capacity to provide engineering services for the Ralston Dam Outlet Works and Reservoir Bypass Line Alternatives Study. Consultants will be selected and invited to propose on the project based upon an evaluation of the submitted SOQs.

The selected consultant must be qualified for this work and contain project specific expertise in the, hydraulic, mechanical, geologic, geotechnical, and heavy civil design disciplines. Additionally, the consultant must include on their team an experienced contractor and/or personnel capable of contractor type cost estimates and evaluation of construction sequencing, constructability, and scheduling. This will be especially critical in evaluating how the construction work can be sequenced relative to reservoir operations or concurrent project work.

Depending on the performance of the consultant and approval of funding for the project to move forward, Denver Water may choose to retain the selected consultant for future phases of design work associated with the Ralston Outlet Works and Reservoir Bypass Project.

Introduction and Background

Ralston Dam is an on-stream facility located on Ralston Creek about 5 miles north of Golden and west of Colorado State Highway 93. The dam was completed in 1937 and is owned and operated by Denver Water. Ralston Dam is a zoned embankment dam 204 feet tall, impounds 10,700 acre-feet of water at elevation 6064, and is classified as a large high hazard dam by the Colorado State Engineer's Office (SEO). Ralston Reservoir receives flows from Ralston Creek and the South Boulder Canal.

The outlet works was initially constructed in the late 1930's and consists of a 60-inch steel pipe located in the right abutment of the dam that connects to a valve house. The total length of the outlet is about 950 feet with approximately 680 feet accessible through a tunnel that leads to a gate chamber which houses a 60-inch slide gate and operator. The upstream 265 feet of the outlet works is not accessible. The outlet works intake includes a 72-inch pivot valve that has not been operable for as long as anyone can remember. Because of this, the inlet up to the 60-inch slide gate has never been inspected, and its condition is unknown. There are several potential failure points around the 60-inch slide gate that would be difficult if not impossible to control. The 60-inch slide gate, 60-inch pipe and associated piping are original. Upgrading the outlet works will provide a means to isolate at the inlet in case of failure at any point downstream.

The valve house and downstream discharge valves have been modified many times over the years, and presently includes 3 valves that discharge to Ralston Creek, connections and control valves to Conduits 16 and 22 that supply the Moffat Water Treatment Plant (WTP), and connections to supply the City of Arvada and North Table Mountain. Replacement of the valve house and downstream discharge valves is planned as part of the overall outlet

works replacement; however, this work is not part of this alternatives analysis except as it relates to construction sequencing and coordination.

The South Boulder Canal delivers water from Denver Water's Moffat Collection System to Ralston Reservoir. The canal is trapezoidal with a base width of 6 feet, a top with of 25.5 feet, 1.25:1 (H:V) side slopes, and is concrete lined. The trapezoidal section transitions to a rectangular section before discharging into Ralston Reservoir via a baffled chute. Currently there is no way to deliver flows from the South Boulder Canal to the Moffat WTP, City of Arvada, or North Table Mountain without first passing through Ralston Reservoir. A bypass line will facilitate bypassing the reservoir when the water quality in the reservoir is deemed unacceptable or construction requires water levels on Ralston Reservoir to be lowered. This bypass system will also eliminate the need to have a multi-level inlet in the re

ervoir.

Alternatives Study Project Description

The Ralston Outlet Works and Reservoir Bypass Pipeline Alternatives Study will consist of the items below.

- Alternatives and recommendation to replace the existing pivot valve on the outlet works intake.
- Considerations for evaluating the condition of the existing 60-inch outlet pipe upstream of the slide gate. Previous attempts have been made to inspect this pipe with ROV units, however visibility has been poor. It is currently anticipated that evaluation will not be part of the study but needs to be considered in the overall sequencing of design and construction.
- Alternatives and recommendation to replace, rehabilitate, or abandon the existing 60-inch slide gate in coordination with Denver Water mechanical engineers.
- Evaluation of options and cost to remove and replace the existing 60-inch outlet works pipe downstream of the slide gate through the outlet tunnel pipe.
- Conceptual layout for a structure to divert flows from the South Boulder Canal to a new reservoir bypass pipeline.
- Alignment for a new reservoir bypass line between the South Boulder Canal and a connection point at the existing conduits downstream of the dam and outlet facilities. This will include sizing the bypass pipeline. It is anticipated that some geotechnical exploration will be necessary to determine the bypass pipeline alignment (establishing a drilling firm as part of the project team is not required).
- Evaluation of connection details for the new bypass pipeline to existing conduits that deliver water to Moffat WTP, City of Arvada, and North Table Mountain.
- Construction schedule, cost, and recommended sequencing for all design and construction work described above in coordination with Denver Water. The construction sequencing should also consider timing for replacement of the downstream valve house and discharge valves to Ralston Creek based on input from Denver Water Mechanical Engineers (no layouts of the valve house will be required by the consultant). Sequencing will need to consider water deliveries to the Moffat WTP, the City of Arvada, and North Table Mountain.

Consultant Selection Process and Project Schedule

Denver Water will use a two step process for selection of a Consultant for the project. The process will first consider the Consultant's SOQ. Accepted Consultants will be invited to submit proposals for the project. Denver Water may elect to follow the proposals with a formal questionnaire and/or interview to assist with the proposal evaluation.

Final selection of a Consultant will be based upon a weighted grading system giving consideration to the project personnel and firm capability, proposed approach, cost and work hours, proposed schedule, and motivation/availability of the firm.

The anticipated project schedule is summarized below:

- July 21, 2014 - Advertisement for Request for SOQ
- August 12, 2014 – SOQ Due
- August 18, 2014 – Prequalified Consultants Identified
- August 18, 2014 – Issue Proposal Documents to Prequalified Consultants
- August 25, 2014 – Mandatory Pre-Proposal Meeting and Site Visit
- September 15, 2014 – Proposals Due
- October 8, 2014 – Selected Proposal recommended to Board of Water Commissioners for Award
- October 9, 2014 – Notice to Proceed Issued to Consultant
- February 25, 2015 - Preliminary Report Due
- February 25-March 13, 2015 -Denver Water Review and Comment Period
- March 30, 2015 - Final Report Due

SOQ Requirements

Consultants must submit a SOQ conforming to a general outline as shown within this Request for SOQ package, and also be tailored specifically to work related to the Ralston Dam Outlet Works and Reservoir Bypass Pipeline Alternative Study.

Consultants wishing to prequalify for the Ralston Dam Outlet Works and Reservoir Bypass Pipeline Alternative Study must be in good standing with previous work performed for Denver Water.

The SOQ package shall follow the outline provided below:

Consultant Required Evidence of Qualifications:

1. **Summary of Experience:** Provide a narrative of the Consultant's history and experience as it relates to the Ralston Outlet Works and Reservoir Bypass Pipeline Alternatives Study. The narrative should outline the core strengths of the Consultant's (and any sub-consultant) areas of expertise relevant to this project.

2. **Organization Char**t: Provide an organization chart showing the team structure, including proposed sub-consultants and their duties. Indicate who will perform the following duties: project manager, contract manager (if different), mechanical engineer, hydraulic engineer, structural engineer, geotechnical engineer, geologist, quality assurance reviewer, and construction sequencing/scheduling and cost estimating.

3. **Qualification of Personnel:** Provide resumes of team members (2 pages maximum per resume) including sub-consultants and contractor.
4. **Project Biographies:** Provide project biographies of at least 3 outlet works (including gates and/or valves), 2 large diameter pipeline projects of a similar nature, and 2 construction sequencing and cost estimating jobs of similar scope:
    a. Projects must have been completed within the last 10 years.
    b. Projects must have been conducted by one or more of the proposed team members.
    c. Each biography shall be limited to no more than one page. The biography shall include a description of the outlet works and/or pipeline components and their similarity to the proposed project site.
    d. An Owner reference(s) for each of the projects shall be provided, including complete and current contact information.

Please limit the SOQ Package to less than 15 pages in length (not including resumes). All SOQ packages must be submitted by 2:00 p.m., local time, on Tuesday, August 12, 2014 to Mr. Bill Dressel, Project Manager. Electronic submittals are acceptable by email to bill.dressel@denverwater.org. Please contact Mr. Bill Dressel at 303-628-6534 with questions regarding this request.

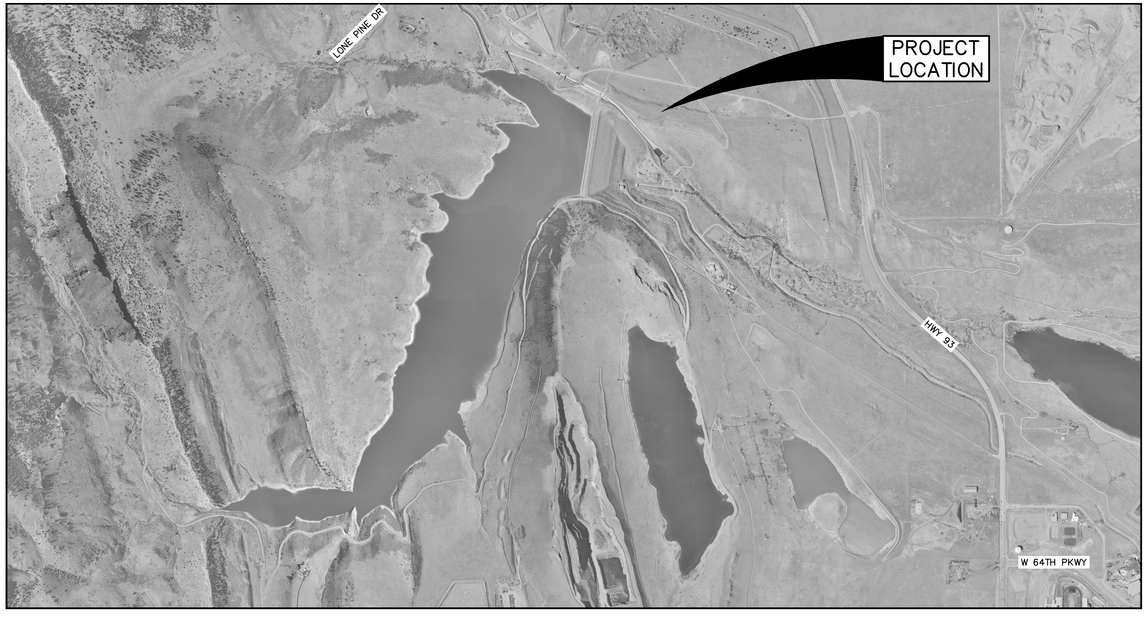
Project Overview Documents

The following documents are attached to convey a level of project overview and understanding to the potential proposers. These documents provide a good representation of the project, and general familiarization with the work. More detailed drawings will be provided to Consultants selected and invited to propose on the project based upon an evaluation of the submitted SOQs.

- Figure G-1 – Cover
- Figure G-2 – Overall Site Plan
- Figure G-3 – South Boulder Canal Inlet Site
- Figure G-4 – Outlet Works Site

DENVER WATER
DENVER, COLORADO
RALSTON RESERVOIR
OUTLET WORKS/INLET ALTERNATIVES STUDY

BOARD OF WATER COMMISSIONERS
DENVER, COLORADO
H. Gregory Austin – President
James S. Lochhead – CEO/Manager
Robert J. Mahoney – Director of Engineering



VICINITY MAP
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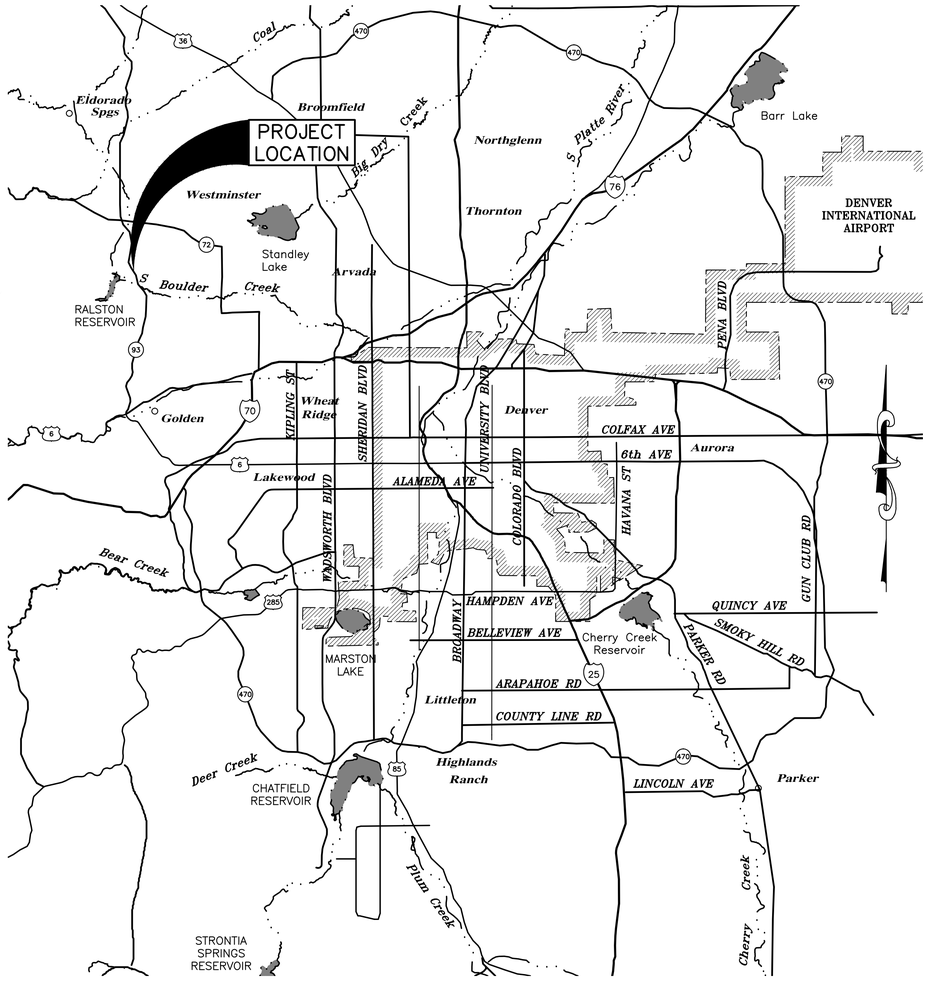

LOCATION MAP
SCALE: 1" = 3 miles

DRAWING INDEX

DWG NO	DWG TITLE
G–1	COVER
G–2	OVERALL SITE PLAN
G–3	SOUTH BOULDER CANAL INLET SITE
G–4	OUTLET WORKS SITE

PROJECT DIRECTORY

OWNER:
DENVER WATER
1600 W 12th AVE
DENVER, CO 80204
303–628–6000

CONTACT:
DESIGN PROJECT MANAGER
BILL DRESSEL
303–628–6534 (OFFICE)
303–525–5309 (CELL)
bill.dressel@denverwater.org

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1600 West 12th Avenue
Denver, Colorado 80204
Phone (303) 628–6000
Fax (303) 628–6851
www.denverwater.org

CONSULTANT

RALSTON RESERVOIR

OUTLET WORKS/INLET ALTERNATIVES STUDY

REFERENCE:
CAPITAL PROJECTS CONSTRUCTION STANDARDS 2014
www.denverwater.org /DoingBusinesswithUs/EngineeringOverview/CPCS

THIS DRAWING IS BASED ON THE DW_RALSTON_GRID COORDINATE SYSTEM

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REVISIONS

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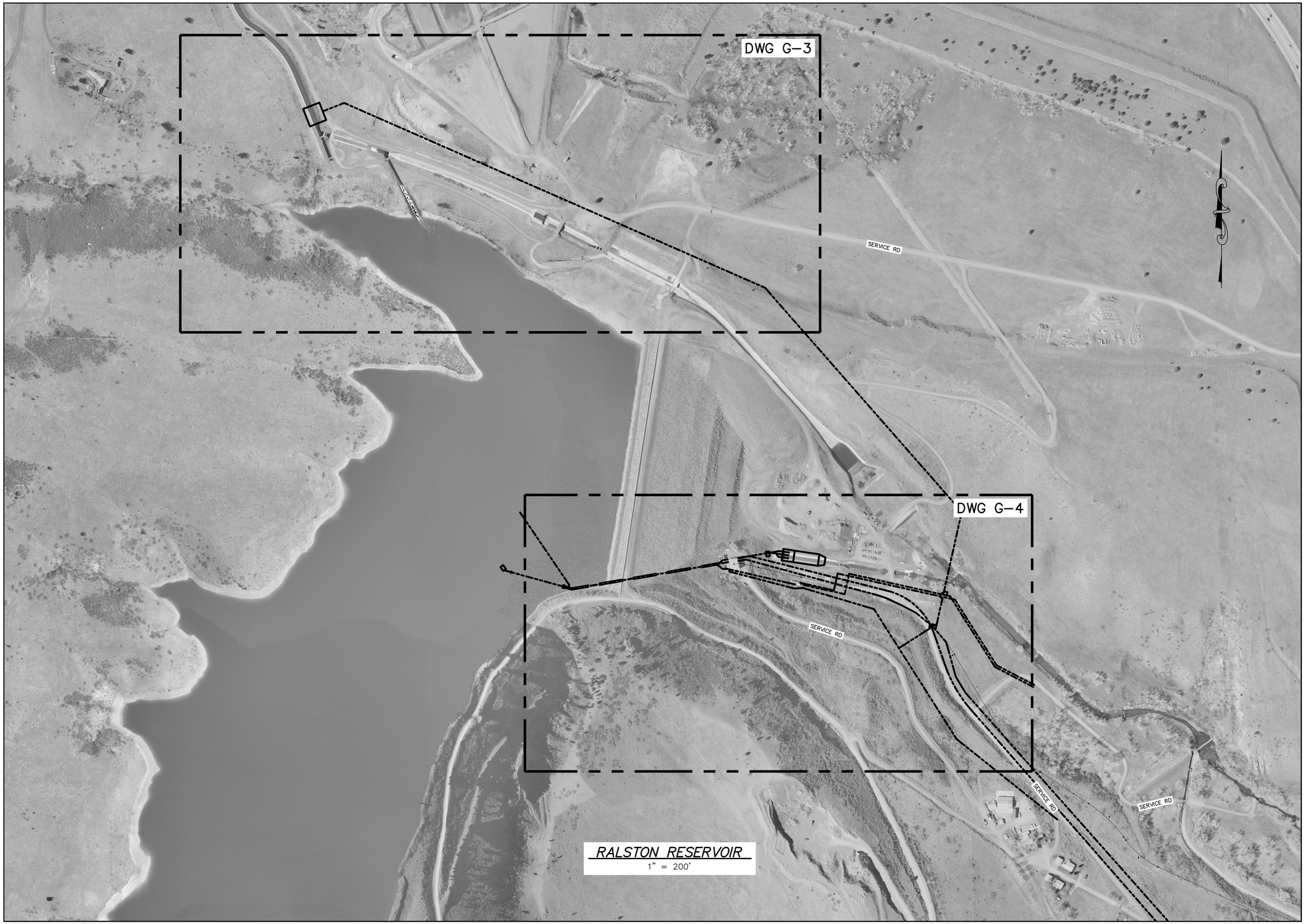
COVER

G–1



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OVERALL SITE PLAN

G-2

PLAN
SCALE: 1" = 100'

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SOUTH BOULDER CANAL INLET SITE

G-3

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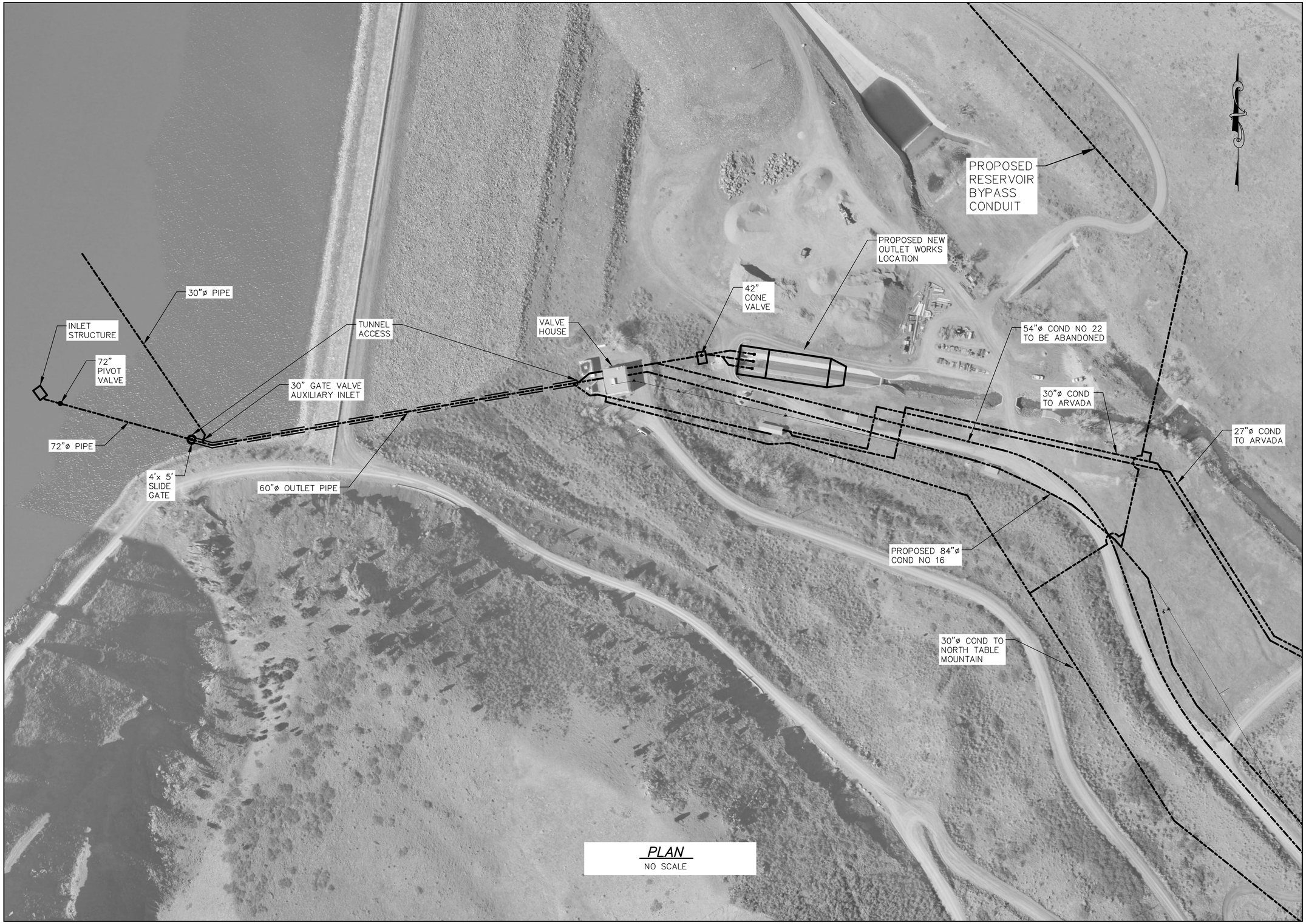

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OUTLET WORKS SITE

G-4