
Ardley Dam Scoping and Feasibility Study

Red Deer River Watershed Alliance Fall Forum

Peter Bezeau, Alberta Environment and Protected Areas

October 4, 2024

Outline

- Background and Context
- Scoping and Feasibility Study
- Next steps
- Other initiatives



Background and Context

- Alberta Environment and Protected Areas (EPA) is evaluating the feasibility of constructing a new dam and water storage reservoir on the Red Deer River near Ardley
- \$4.5 million investment committed in Budget 2024
- Similar in scope to the Bow River Reservoir Options initiative and Eyremore Dam Feasibility Study

General Ardley Dam Study Area



Esri Canada, Esri, TomTom, Garmin, SafeGraph, METI, NASA, USGS, EPA, USDA, NRC, Parks Canada, Esri, NASA, NGA, USGS, FEMA

Background and Context

- 1967: Preliminary Engineering Report by Saskatchewan Nelson Basin Board
 - Feasibility of constructing a dam at Ardley Site assessed
 - Concluded: feasible to construct a dam
- 2008: Water for Life – Assessment of Potential Water Storage
 - Ardley Dam assessed as a 'better' option
 - Limited information limited assessment
- 2016: Climate Vulnerability and Sustainable Water Management Project
 - Concluded: dam would strengthen basin's resilience to climate change

Background and Context

1967 Preliminary Engineering Report

- 67 m tall earth filled dam
- 570,000 dam³ live storage
- Reservoir extension nearly to the City of Red Deer
- Geotechnical investigations conducted



Scoping and Feasibility Study

- Request for Proposal posted August 26, 2024
- Closed September 30, 2024
- Contractor expected to start in fall 2024



Alberta Environment and Protected Areas
Resilience Infrastructure and Grants
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9820-106 Street NW
Edmonton, Alberta T5K 2J6

REQUEST FOR PROPOSALS ("RFP") NUMBER 25TDRRSD918

Ardley Dam Scoping and Feasibility Study

Alberta Environment and Protected Areas

RFP Issue Date:	August 26, 2024
RFP Closing Date and Time:	September 30, 2024, no later than 14:00:59 Alberta Time
Contracting Manager:	Peter Bezeau
Telephone:	780-405-6304
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Scoping and Feasibility Study

- Study objective is to assess whether a new dam on the Red Deer River near Ardley can be:
 - Designed, constructed, and operated safely within the current regulatory environment
 - Provide benefits to irrigation, drought management, water security, and flood protection
 - Delivered at a cost that provides value to Albertans and the economy
- Two phases – scoping and feasibility

Scoping and Feasibility Study

Scoping Phase

- Desktop technical assessment – including available geotechnical and hydrotechnical information
- Site visit
- Development, review and refinement conceptual dam options
- Stakeholder engagement
- Confirm option(s) that will advance to the feasibility phase

Scoping and Feasibility Study

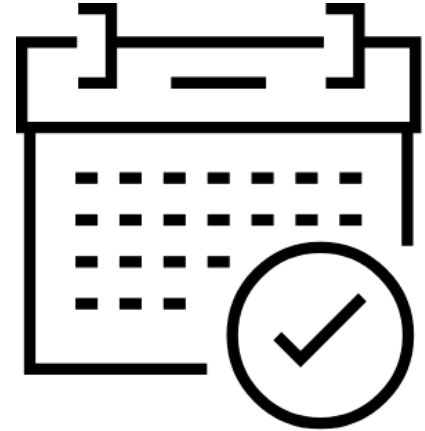
Feasibility Phase

- Site investigation
- Engagement
- Conceptual and feasibility level dam design(s)
- Geotechnical investigation
- Hydrotechnical assessment
- Assess environmental and regulatory requirements
- Detailed cost-benefit analyses

Next Steps

- Scoping and feasibility study start – fall 2024 (target late October)
- Scoping phase complete – target December 2025
- Feasibility phase complete – target March 2026

- Information and updates will be provided



Other Initiatives

- Water Storage Opportunities Study (provincial)
- Drought and Flood Protection Program
 - Second Intake – Fall 2024
 - Guidelines and intake updates available at <https://www.alberta.ca/drought-and-flood-protection-program>

Thank-you

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