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Chance Baxter
Bear River Water Conservancy District
102 W. Forest St.
Brigham City, UT 84302

July 10, 2026

Re: Proposal for Harper Ward and Brigham City Evaluation

Dear Mr. Baxter,

We are pleased to help Bear River Water Conservancy District (BRWCD) evaluate the Harper Ward Drinking Water System's ability to serve Brigham City. The proposed scope of work is described below.

PROJECT UNDERSTANDING

Brigham City has requested to purchase water from the BRWCD Harper Ward system at a flow rate of 800 gpm. Preliminary hydraulic analysis indicates that a pump station would be required to support the City's requested flow rate. With high pressures occurring in both systems, impacts of a pump station on existing customers must be carefully studied. Further evaluation is needed to determine the location and power requirements for the pump station and the impacts the pump station would have on the BRWCD and Brigham City systems and their customers.

Key objectives for the evaluation are as follows:

- Determine feasibility of supplying Brigham City's requested flow rate using a pump station.
- Determine the impacts a pump station would have on existing customers and system pressures.
- Determine an ideal location for a pump station.
- Identify key information about the pump station, including power requirements, location, and estimated capital and operating costs.

SCOPE OF WORK

The proposed work plan is presented in the input, activities, and output format. The input section describes information to be provided by others or from previous work. The activities section describes the work to be performed by HAL. The output section describes the products to be delivered to BRWCD.

TASK 100 EVALUATE EXISTING CONDITIONS

Input:

- Brigham City Hydraulic Model
- Harper Ward Hydraulic Model

Activities:

101. Coordinate with Brigham City to obtain current hydraulic model.
102. Integrate the Brigham City model with Harper Ward Model.
103. Identify available flow to Brigham City under existing conditions.

Output:

- Integrated Brigham City and Harper Ward Model
- Existing conditions evaluation

TASK 200 EVALUATE PUMP STATION

Input:

- Integrated Brigham City and Harper Ward Model.

Activities:

201. Simulate a pump station in the hydraulic model at the location specified by BRWCD.
202. Identify high and low service pressures to Brigham City and BRWCD customers at a flow rate of 800 gpm.
203. Test multiple pipe roughness values in the model to investigate how pressures may change over time as pipes age.
204. Identify pumping total dynamic head and power requirements.

Output:

- High and low service pressures
- Pumping requirements

TASK 300 EVALUATE ALTERNATIVE PUMP STATION LOCATIONS

Input:

- Integrated Brigham City and Harper Ward Model

Activities:

301. Simulate up to two alternative locations for the pump station.
302. Identify high and low service pressures, pumping dynamic head, and power requirements for the alternative pump station locations.

Output:

- Pump station location recommendation with respective high and low service pressures

TASK 400 TECHNICAL MEMORANDUM

Input:

- Results from hydraulic modeling efforts

Activities:

401. Estimate construction and ongoing operational costs for the pump station.
402. Produce a memorandum summarizing results of hydraulic modeling.
403. Meet with BRWCD staff to discuss findings.
404. Present findings at a BRWCD board meeting.

Output:

- Memorandum
- Board meeting to present findings

ASSUMPTIONS

Assumptions for this modeling evaluation are listed below:

- The existing Harper Ward and Brigham City water models will be used as the basis for the analysis. Minimal updates to the models will be required.
- BRWCD personnel will respond to all requests for meetings, data, and document review in a timely manner.
- A total of two meetings are assumed – one remote meeting to review results and one in-person board meeting to present findings.

ESTIMATED SCHEDULE

We estimate that this project can be completed within four weeks after receiving a Notice to Proceed and all requested information.

ESTIMATED FEE

It is estimated that this effort can be completed for $8,875. A summary of our estimated fee is presented below.

Task	Labor Hours	Estimated Fee
Task 100: Evaluate existing conditions	16	$2,700.00
Task 200: Evaluate pump station	15	$2,500.00
Task 300: Evaluate alternative pump station locations	10	$1,625.00
Task 400: Technical memorandum	13	$2,050.00
Total	**54**	**$8,875.00**

Please reach out with any questions. If needed, we are happy to adjust to best meet your needs.

Sincerely,

HANSEN, ALLEN & LUCE, INC.

Ridley J. Griggs, M.Eng., P.E.
Project Manager