



## STAFF REPORT

**To:** Honorable Mayor and Members of Town Council

**Through:** David L. Corliss, Town Manager

**From:** Mark Marlowe, P.E., Director of Castle Rock Water  
Matt Benak, P.E., Water Resources Manager  
Lauren Moore, Water Resources Project Manager

**Title:** **Resolution Approving a Construction Contract with Applied Ingenuity, LLC for the 2023/2024 Denver Basin Aquifer Rehabilitation and Pumping Equipment Replacement Project** [*Seven wells within Red Hawk, Woodlands, Castle Oaks and Bell Mountain Ranch subdivisions*]

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### Executive Summary

The purpose of the resolution (*see Attachment A*) is to request Town Council approval of a Construction Contract (*see Exhibit 1*) with Applied Ingenuity, LLC (Applied) for the 2023/2024 Denver Basin Wells Rehabilitation and Pumping Equipment Replacement Project. In 2016, Castle Rock Water started a planned well rehabilitation program. This program is designed to help maintain water production yields from our current deep well assets and to reduce the likelihood of emergency well failures. The program targets wells that are showing declines in well yield and/or have been identified as equipped with older pumping equipment. This program has proven successful over the past few years due to limited well failures during peak demand season, increased well efficiencies, decreased power consumption, and increases in well yield. The 2022 rehab project included seven wells and contributed to an increase in well efficiency of 7% over the past year, as shown below.

Year	Well Production of 2022 Rehab Project Wells
2021 (pre-rehab)	768 gpm
2023 (post-rehab)	830 gpm

In fall 2023 through spring 2024, CRW is targeting four Denver Basin wells for planned rehabilitation and equipment replacement with Applied. **Attachment B** shows the locations of the wells that will be rehabilitated. Additionally, the contract will include a video investigation of three Bell Mountain Ranch Wells, BMR A-1, BMR D-1, and BMR Da-1, that CRW would like to potentially tie in to the newly acquired Bell Mountain Treatment Plant, as these wells are currently piped to discharge directly into East Plum Creek and subsequently capture that water

downstream at CR-1 Diversion. CRW recommends approval of a construction contract with Applied in the amount of \$874,353.00 plus a ten percent Town-managed contingency in the amount of \$87,435.30 for a total project cost with Applied of \$961,788.30. The schedule is critical for this project given the need for these wells during irrigation season. Work will begin immediately upon contract approval and is scheduled for substantial completion by April 17, 2024.

**Notification and Outreach Efforts**

All work will be completed on Town of Castle Rock property. Notification and outreach efforts will include postcard mailers to nearby homes describing the project details such as location, dates, and work hours. Additionally, the project will be listed on the Castle Rock Water website.

**History of Past Town Council, Boards & Commissions, or Other Discussions**

This item was presented to the Castle Rock Water Commission on September 27, 2023 and the Commission voted unanimously 6 to 0 in favor of recommending approval.

**Discussion**

It is important to keep our existing infrastructure operating in an efficient manner to ensure that peak water demands during the summer months can be met, without resorting to water curtailment measures due to well failures. In order to do this, the Water Resources Division has established a yearly rehabilitation and equipment replacement program for priority deep Denver Basin wells. A formalized program helps mitigate emergency well services due to pumping equipment failure. This is accomplished by identifying the wells that are showing declines in production due to biofouling and wells with older pumping equipment. Replacing older pumping equipment often provides the opportunity to resize equipment so that better well efficiency is achieved, reducing the long-term costs of operating the wells. CRW typically budgets \$1,000,000 annually for repair and maintenance

The following wells are identified for the 2023/2024 Denver Basin Rehabilitation and Pumping Equipment Project: Arapahoe Aquifer Well CR-123, Denver Aquifer Wells CR-84, CR-105, and CR-111. The combined daily production from the wells is 1.2 million gallons per day, which collectively represents approximately 7% of our estimated peak summer daily demand. Additionally, the contract will include video investigation of three Bell Mountain Ranch Wells, BMR A-1, BMR D-1, and BMR Da-1, that CRW would like to potentially tie in to the newly acquired Bell Mountain Treatment Plant, as these wells are currently piped to discharge directly into East Plum Creek and subsequently capture that water downstream at CR-1 Diversion.

Castle Rock Water sent out an Invitation to Bid on Rocky Mountain BidNet. The following table is a summary of the bids:

<b>Layne Christensen</b>	<b>Hydro Resources</b>	<b>Applied Ingenuity</b>
\$2,015,511.80	\$972,844.00	\$870,353.00

Following conversations with the bidders related to schedule and pricing, CRW Staff decided to move forward with Applied. Applied has successfully worked with the Town on previous well rehabilitation projects and is also currently the emergency on-call well contractor for our operations team.

**Budget Impact**

Funding for the project will come from the following account: Repair and Maintenance - Wells 210-4250-442.40-37, which has a balance of \$375,315. A budget transfer will be required for the remaining amount of \$586,474 from account 210-4275-442.76-53 (Well Redrills).

<b>Project Account</b>	<b>Contract Amount</b>	<b>Contingency</b>	<b>Total Authorization</b>
210-4275-442.40-37 Repair & Maintenance – Wells – 2023	\$870,353.00	\$87,035.30	\$961,788.30

**Staff Recommendation**

Staff recommends Town Council approval of a Construction Contract with Applied for the 2023/2024 Denver Basin Wells Rehabilitation and Pumping Equipment Replacement Project.

**Proposed Motion**

*“I move to approve the Resolution as introduced by title.”*

**Alternative Motions**

*“I move to approve the resolution as introduced by title, with the following conditions: (list conditions).”*

*“I move to continue this item to the Town Council meeting on \_\_\_\_\_ date to allow additional time to (list information needed).”*

**Attachments**

- Attachment A: Resolution
- Exhibit 1: Construction Contract
- Attachment B: Location Maps