

THE CORPORATION OF THE
CITY OF WHITE ROCK
CORPORATE REPORT



DATE: December 5, 2022

TO: Mayor and Council

FROM: Jim Gordon, P.Eng., Director, Engineering and Municipal Operations

SUBJECT: Contract Award – New Water Well #5 Drilling

RECOMMENDATIONS

THAT Council:

1. Receive the corporate report dated December 5, 2022, from the Director of Engineering and Municipal Operations, titled “Contract Award – New Water Well #5 Drilling”;
 2. Approve award of New Water Well #5 Drilling to Drillwell Enterprises Ltd. in the amount of \$279,625 (excluding GST); and
 3. Authorize the Director of Engineering and Municipal Operations to execute all contract documentation required for the project.
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EXECUTIVE SUMMARY

The purpose of this corporate report is to obtain Council approval to award the New Water Well #5 Drilling Contract to Drillwell Enterprises Ltd. in the amount of \$279,625 (excluding GST) as identified in Appendix A.

The city currently has seven ground water wells in order to provide drinking water to the city. The original Well #5, located at Buena Vista Avenue and Oxford Street, was decommissioned in 2018 due to salt water intrusion. This project will replace Well #5 in a new location closer to the city’s Water Treatment Plant.

INTRODUCTION

The city’s water utility provides safe and clean drinking water to its residents and businesses, sourced from Sunnyside Aquifer and treated at the city’s Water Treatment Plant. Population growth, climate change and sea level rise all put increasing pressure on the city’s water supply system.

The city currently operates seven ground water wells that have the capacity to extract between 19 L/s and 28.7 L/s of raw water each (Table 1).

The original Well #5 was decommissioned in 2018 due to saltwater intrusion into the raw water as a result of its close proximity to the ocean. This project will replace Well #5 in a new location closer to the city’s Water Treatment Plant and away from the ocean.

Table 1 - Existing well capacity

Well #	Location	Capacity (L/s)
1	14844 Goggs Avenue (west of Water Treatment Plant)	24.9
2	14844 Goggs Avenue (west of Water Treatment Plant, near center of property)	19.0
3	14844 Goggs Avenue (west of Water Treatment Plant)	28.7
4	1450 High Street	20.0
5	14811 Buena Vista (Water Works Yard)	Decommissioned
6	15334 North Bluff Road (south side of Merklin Reservoir)	24.3
7	15334 North Bluff Road (north side of Merklin Reservoir)	27.8
8	14844 Goggs Avenue (east side of Water Treatment Plant)	25.0

During the heat dome that occurred in summer 2021, demand for potable water reached the maximum capacity of the city’s seven ground water wells. When ground water wells operate at maximum capacity, fine soil grains migrate toward the well head faster, restricting flow through the screen and reducing capacity. This results in more frequent well replacements.

The city’s New Water Well #5 will increase the city’s total well capacity, allowing the city to meet the needs of projected population growth and predicted climate change impacts, while also limiting the amount of time the wells need to operate at maximum capacity therefore extending their service life.

ANALYSIS

Kerr Wood Leidal (KWL) and their subconsultant, Piteau & Associates, were retained in August 2022 to design the civil and electrical components of the project. Subsequently, a tender (WR22-022 Production Well 5 Drilling and Testing) was issued to the market on BC Bid with a tender submission closing date of October 27, 2022. The city received two bids and the results are summarized in the table below.

Table 2 - Bid Summary

Contractor	Price (excluding GST)
Drillwell Enterprises Ltd.	\$ 279,625
Precision Pumps & Service	\$ 350,218

Piteau & Associates reviewed the bids on behalf of the city, including a follow up with each proponent and reference checks. The evaluation determined that Drillwell Enterprises Ltd. will provide best value to the city, in addition to being the lowest bidder. Drillwell Enterprises Ltd. has a proven track record in operating the equipment required for this project and has worked directly with Sunnyside Aquifer installing the city’s Water Well #8 in 2017.

New Water Well #5 will be in the gravel parking lot located next to the Centennial Arena parking lot (Appendix B). This has been determined to be the best location due to its proximity to the city’s Water Treatment Plant, existing water wells and the city’s raw water pipeline.

FINANCIAL IMPLICATIONS

The design and construction of the New Water Well #5 has approved funding in the 2022 Financial Plan. The approved funding includes all work related to the design and construction of the well, including engineering, the connection to the existing raw water pipeline and all required electrical and SCADA components.

A summary of the project budget is as follows:

Table 3 – Project Budget

	Total
Total approved funding (Project code 30048)	\$1,825,000
Spent to date (as of November 28, 2022)	\$46,421
Engineering fees (KWL and Piteau & Associates)	\$150,000
Contract administration (KWL and Piteau & Associates)	\$67,500
Well #5 Drilling and Testing (Drillwell Enterprises Ltd.)	\$279,625
Pipe upsizing (approximation)	\$275,000
Emergency power source (approximation)	\$150,000
Control system upgrades (approximation)	\$200,000
BC Hydro Undergrounding (approximation)	\$200,000
Restoration (approximation)	\$162,500
Contingency (20%)	\$290,000
Remaining budget	\$4,000

INTERDEPARTMENTAL INVOLVEMENT/IMPLICATIONS

Staff will continue to work directly with Recreation and Culture to mitigate impacts of the construction on Centennial Arena, Peninsula Productions and the Center for Active Living operations and nearby parking lot. Recreation and Culture will be informed of the contractor's schedule and laydown area prior to project commencement.

CLIMATE CHANGE IMPLICATIONS

During the heat dome that occurred in summer 2021, demand for potable water reached the maximum capacity of the city's seven ground water wells. With projected climate change impacts, including more extreme weather events, it's prudent the city continues to increase our total well capacity.

ALIGNMENT WITH STRATEGIC PRIORITIES

The replacement of Well #5 aligns with Council's strategic priorities by providing safe, reliable and sustainable infrastructure for the community while minimizing impacts on the environment and managing the delivery of city services efficiently and effectively.

OPTIONS / RISKS / ALTERNATIVES

The following options are available for Council's consideration:

1. Not approve the recommendation to award the New Water Well #5 Drilling project to Drillwell Enterprises Ltd., preventing the increase in the city's total well capacity. This in turn has a risk of compromising future water delivery and requiring the city's existing wells to operate a maximum capacity during extreme weather events, resulting in more frequent well replacements. Additionally, there is a risk that the city may not be able to keep up with water demand if a new well is not installed.

CONCLUSION

Staff recommend that the New Water Well #5 Drilling Contract be awarded to Drillwell Enterprises Ltd. in the amount of \$279,625 (excluding GST) and request a preauthorized contingency in the amount of \$70,000 (20% of contract administration and contractor costs) to support the project. Additionally, staff recommend that the Director, Engineering & Municipal Operations be authorized to execute all contract documentation required for the project to proceed.

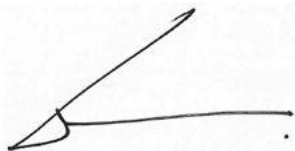
Respectfully submitted,



Jim Gordon, P.Eng.
Director, Engineering and Municipal Operations

Comments from the Chief Administrative Officer

I concur with the recommendations of this corporate report.



Guillermo Ferrero
Chief Administrative Officer

Appendix A: 2022-12-05 Tender Summary and Recommendation
Appendix B: 2022-12-05 New Water Well 5 Location