

**Subject: Water Works Capital Projects - Update**

**Department: Infrastructure Services**

**Division: Environment**

**Report #: INS-2020-011**

**Meeting Date: 2020-12-14**

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## **Recommendations**

**That Report INS-2020-011, Water Works Capital Projects - Update, be received.**

## **Background and Analysis**

There is currently a backlog of approved water works capital projects that have not yet commenced. A total of four significant projects are currently on hold. This report speaks to the reasons for this backlog and provides Council with an estimate of when these projects may proceed.

The four projects are as follows:

**Well 5/5A Building and Drainage:** This project was approved with a budget of \$455,000 as part of the 2014 capital budget. Wells 5 and 5A are located west of Veterans Way and north of the Greenwood Cemetery. Occasionally during spring thaw or significant rainfall events, the area around the two wells has experienced flooding. The well house is old and includes no flood proofing, leading to operational challenges during flooding events. This project involves the design and construction of drainage and well house improvements.

**Well 7 Filtration Equipment:** This project was approved for a total of \$124,000 as part of both the 2012 and 2014 capital budgets. Well 7 is located in Ryan Meadows Park just off of Meadow Drive. While the water supply from Well 7 meets the provincial aesthetic objectives for iron, reducing or removing the naturally occurring iron at the source will minimize water quality complaints and significantly reduce the amount of water main flushing required. The funds allocated are for analysis and design only – additional funds will be required for construction as part of a future capital budget.

**United Lands Well Decommissioning Study:** This project was approved with a budget of \$50,000 as part of the 2016 capital budget. Many years ago while searching

for a new water supply source, a developer drilled a well in what is now Open Space land south of the Settlers Creek development. This project involved retaining professional hydrogeological services to assist with the development of a management or decommissioning plan for this well.

**GUDI Well Treatment Upgrades:** This project was approved for a total of \$975,000 as part of both the 2016 and 2019 capital budgets. Through the Municipal Drinking Water License and Drinking Water Works Permit renewal process in 2015, the Ministry of Environment and Climate Change advised the Town that additional disinfection would be required to meet the treatment requirements of the Safe Drinking Water Act, 2002. These upgrades involve ensuring sufficient chlorine contact time at Wells 2A, 5, 5A, 8B, 8C, 9A, 9B, 10, and 12. Engineering and SCADA programming services are required to assess the optimum capital and operating improvements needed to meet this regulatory requirement. Note that in the interim, the Town has met the requirement for additional disinfection by increasing the concentration of chlorine in the drinking water from each of these wells.

There are several factors that have resulted in these projects have been put on hold, including staffing challenges, focus on other high priority projects and initiatives and the sudden loss of capacity at Well 6 in 2018.

The 2016 Operating Budget included a Service Level Change to add a Project Technologist position to manage water and waste water capital projects. The need for this additional position became apparent in the preceding years as these projects were delayed while staff prioritized other initiatives. The expansion and upgrades at the Water Pollution Control Plant, the replacement of the Roof of Digester No. 1, securing access to the Pullen Well and the initiation of a Risk Management Office to implement the policies of the Source Water Protection Plan were all high priority initiatives that were prioritized by staff. While Council approved the addition of the Project Technologist position, challenges with recruiting delayed hiring until 2019.

It should also be noted that the Project Technologist currently does not focus solely on water and waste water capital projects as envisioned due to involvement with other departmental priorities, such as transit. The draft 2021 Operating Budget includes a proposed Service Level Change to add an Engineering Technician to the Infrastructure Services department to assist in a number of areas, including transit and water works compliance. This additional staff member would minimize the likelihood that the Project Technologist would be drawn into other matters.

As noted above, another reason for project delays was the issue that arose at Well 6 in the fall of 2018. Turbidity issues were encountered at Well 6 which resulted in a significant loss of capacity. The sudden onset of this issue and the possibility of the situation worsening made staff reluctant to commence a capital project that would require that another well be taken off line for a significant period of time.

The four projects identified above are still required, however the context for some of these projects has changed. The GUDI Well Upgrades that are required for Wells 5 and 5A will be undertaken in conjunction with the Well 5 Building and Drainage project. In addition, it should be noted that the pre-design work associated with the rehabilitation of the West Sector Reservoir (WSR) and the Standpipe is now underway. The consultant has identified concerns about the possibility of interruptions in water service in Zone 4 while the WSR is out of service. One of the options to reduce the likelihood of service interruptions would be to move ahead with the Well 5 GUDI Well Upgrades prior to removing the WSR from service.

The available water supply from the Town's twelve water supply wells has decreased by approximately 1,000 m<sup>3</sup>/day since 2018. This is due primarily to turbidity issues encountered at Well 6 in fall 2018 and the need to reduce the taking at both Wells 11 and 2A due to increased draw down during pumping. A capital project will be included in the draft 2021 capital budget to evaluate the status of our existing wells and provide recommendations to re-establish lost capacity. This project will evaluate all options for increasing our supply capacity, including the possibility of increasing the permitted taking at Well 7, and re-evaluating the United Lands Well as a potential source of supply. If it is determined that the rate of taking from Well 7 can be increased, filtration equipment will be designed for the new rate and installed as part of the modifications to the well and associated infrastructure to implement the new rate of taking.

Thus, the timing of the four projects identified above will be dictated, in part, by the results of other projects. Staff will report to Council with additional information and request additional approvals as these projects proceed.

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## **Strategic Alignment**

### **Orangeville Forward – Strategic Plan**

Priority Area: Sustainable Infrastructure

Objective: Maintain Existing Assets

### **Sustainable Neighbourhood Action Plan**

Theme: Natural Resources and Environment

Strategy: Continue to provide access to safe drinking water that meets the needs of the community

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## **Notice Provisions**

None.

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### **Financial Impact**

There is no financial impact associated with this report. However, the scope of the projects identified in this report may change as a result of the outcome of other work. Staff will report on any such changes and request additional funds if necessary.

Respectfully submitted

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