

Regulatory Context

City of Saskatoon:

City of Saskatoon currently uses potable water for park irrigation, similar to many other cities in western Canada. Potable water has historically been the preferred option because the water is clean and reliable. In 2017, the Parks Division spent approximately \$2.4M on potable water to irrigate parks and open spaces, making water the most expensive input (other than salaries) to support over 600 ha of irrigated park and open space areas.

The cost of irrigation per park varies depending on the size of the park and the irrigation service level required. For example, Victoria Park is 9Ha and has two water meters. In dry years (such as 2017) it could cost up to \$35,000 to irrigate. The amount that Parks spends on potable water has increased in past years and is anticipated to continue increasing due to:

- The cost of potable water is increasing annually (9.25% in 2018 and 9.25% in 2019).
- On average, an additional 75,000 cubic metres of water per year is required to irrigate new park space (approximately 30 Ha) added to Parks inventory.
- One of the anticipated impacts of climate change in Saskatoon is increased periods of drought.
- The continued trend and preference of developers is to design green grassed areas in parks and open spaces.

The City's irrigation specification for parks, as outlined in the "*Park Development Guidelines and Standard Construction Specifications*," is currently written for potable water only. In order to accommodate raw water the specification would need to be revised. It is anticipated that there would be no difference to install the irrigation system itself (pipes and valves), however, there would need to be compliance with the *Saskatchewan Plumbing Regulation* to prevent cross contamination with the potable water system. Currently, there are no specifications for raw water pump stations, water intakes, and onsite water treatment. These specifications for raw water infrastructure and products would have to be developed.

The City's irrigation service level as outlined in the '*Service Level for Park Maintenance and Design*' dictates that Class 1 and 2 sport fields receive 38mm of water per week and all other irrigated turf areas receive 25mm per week. This water delivery target is a combination of precipitation and irrigation water. The service level does not reference water source for irrigation service and no changes would be anticipated if raw water were to be used.

The City's current use of raw water for irrigation is limited, but includes the following:

- Holiday Park and Silverwood Golf Courses are irrigated with raw river water.
- Access Transit bus storage facility harvests rain water for irrigation, as well as flushing toilets and bus washing.
- Urban Forestry contractors used approximately 33,900 gallons of raw water from the Stonebridge retention pond for tree watering in 2017.

The use of raw water for irrigation in the broader Saskatoon community is unknown but includes some private golf courses such as Riverside, Saskatoon Golf and Country Club, The Willows, Dakota Dunes, and Moon Lake. The City's plumbing permits do not regulate or monitor raw water used for irrigation.

Provincial Regulators:

The Water Security Agency (WSA) oversees water allocation for various purposes including agricultural, industrial, municipal, and, in some cases, domestic use. Requests for water allocation must undergo a regulatory review and are subject to licensing and conditions to ensure water resources are managed properly. Specific projects that seek to use raw water for park irrigation would need to be assessed to determine permit and licence requirements. Depending on the proposed water source, existing allocations and permits may be used or a new application may be required.

The Water Security Agency does not regulate the use of raw water for irrigation purposes after it has been withdrawn. For example, the Agency has no water quality standards in place for water that is withdrawn for irrigation. The WSA recommended that the City consult with the Health Authority on this matter (see below).

The Ministry of Environment would need to be consulted during the planning stages of specific raw water park irrigation projects to identify regulations that may apply.

The *Saskatchewan Plumbing Regulation* would need to be followed when a raw water park irrigation system relies on the potable water system for back up to prevent contamination of the potable water source.

SaskWater is Saskatchewan's commercial Crown water utility, helping communities, First Nations and industry gain access to reliable water and wastewater services. In addition to potable water services, SaskWater currently owns and operates non-potable water systems in the areas surrounding Saskatoon.

The Saskatchewan Health Authority (formerly the Saskatoon Health Region) has assessed that there would not be a health concern provided that that definition of raw water is any untreated water source, such as rainwater, river water, storm water before collection (i.e. rainwater again), lake water, well water, and is not storm water storage lagoons, or other grey water sources; and provided that the proposed use is not

intended to provide aerosols like a spray park/mist, or allow a cross connection with the potable water system. Any project that does not meet these conditions would require further consultations with the Saskatchewan Health Authority.

Meewasin Valley Authority: Any changes made to the river channel and lands within Meewasin's jurisdiction would have to go through Development Review Approval to ensure that the change is compatible with the Authority's Development Plan.

Federal Regulators:

In the case of new water intakes, the Department of Fisheries and Oceans' regulations on fish habitat, screening and impingement, as well as Transport Canada's navigable waters regulations to ensure travel ways remain open, would apply.