

WATER TREATMENT PLANT UPGRADE: PHASE ONE

\$8.4 MILLION

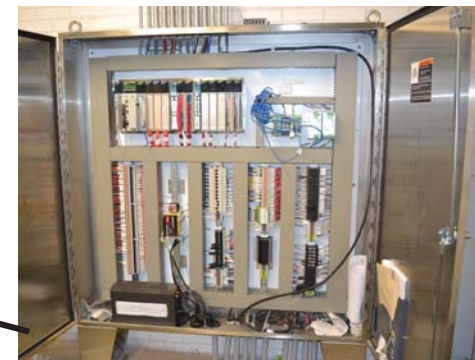
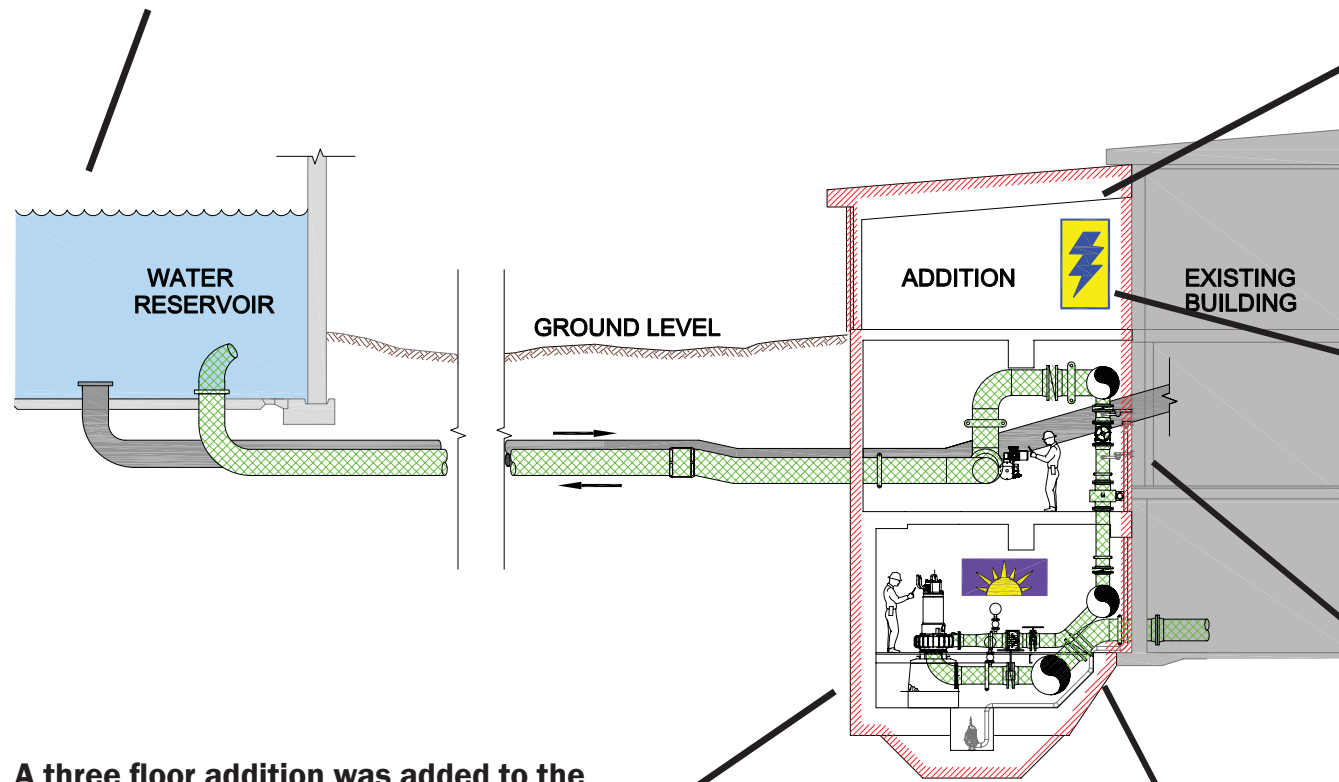


The river street reservoir is now part of the treatment process

A nozzle was installed within the tank which causes the water to rotate increasing the chlorine contact time and reducing the required chlorine dose.

The top floor of the addition now houses the new electrical control centre.

The control centre was once located below ground level which put it at risk for flooding.



This PLC (Programmable Logic Controller) was installed on the top floor as part of an updated SCADA/HMI (Supervisory Control and Data Acquisition - Human Machine Interface)

This updated system compiles data on the process and now allows for control to be done from the computer rather than doing manual adjustments

A three floor addition was added to the Water Treatment Plant



Ultraviolet (UV) Light Treatment Reactor was Installed

UV Light disinfects water without adding chemicals. Three units were installed which allows the amount of chlorine required for disinfection to be reduced.



These pipes, on the lowest level of the addition, were installed as part of the UV system requirements.

Water from the plant is pumped through these pipes to the UV treatment system.

* The upgrades to the water treatment plant were determined based on an external engineering assessment done in 2006

* Several items requiring replacement or upgrades were identified in the assessment

* The more immediate upgrades were addressed as part of phase one.

* Phase two will address many of the less immediate, but necessary improvements to the plant. Phase two is expected to be complete by June 2012



**City of
Prince Albert**

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News Release

FOR IMMEDIATE RELEASE

Friday, April 1, 2011

Phase One Upgrades Address Most Immediate Needs at Prince Albert's Water Treatment Plant

One million contingency remains for phase two

Phase one upgrades are now complete at Prince Albert's Water Treatment Plant which constitutes \$8.4 million of a two-phase, \$26.02 million upgrade currently underway at the Water Treatment Plant.

The phase one upgrade addressed the immediate needs identified by a waterworks system assessment of the plant which is now required by the Ministry of Environment. Phase two upgrades will begin this spring and will address many of the necessary, but less immediate needs of the plant.

The original budget for the project was \$24 million shared equally between the City, the Province and the Federal Government through the Building Canada Fund, but the successful application to the Federal Gas Tax Funding Program has provided the project with an additional \$2.02 million which will allow for approximately \$1 million in contingency funding.

The upgrades to the Water Treatment Plant will address many of the issues identified in the waterworks assessment. Once phase two is complete, it is expected that another assessment will be required as part of the new provincial regulations.

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Colin Innes
Director of Public Works
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Water Treatment Plant Upgrade

Friday, April 1, 2011

The original plant was built in 1956 and upgraded in 1988. The typical plant life is 25 years. This project will update the plant and bring it in line with Saskatchewan Environments Waterworks System Assessment Standards.

Phase 1 - \$8.4 million

- Three floor addition was built
- Top floor now houses new electrical control centre

- UV Light Treatment Installed
- Uses UV light to kill bacteria (e-coli, cryptosporidium and giardia)
- Reduces the amount of chlorine needed to achieve the same level of disinfection

- River Street reservoir now part of treatment process
- Tank spins, which allows for less chlorine to be used. More thorough disinfection process.

- SCADA – HMI (Human Machine Interface)
- Updated industrial Control Software
- Compiles data on the process and now also allows for control to be done from the computer. Before someone had to go and manually adjust the controls based on the data being generated.

Phase II – \$13.4 million

- Tenders were received the second week of February
- Tenders awarded in March 2011 for a total \$13.4 million.
- Project to start in early 2011 and is expected to be complete by June 2012.

Contract, Engineering and Miscellaneous Expenses - \$3.23 million

Contingency Funds - \$1 million

Prince Albert consistently produces clean, safe drinking water that meets or exceeds provincial regulatory standards and uses the North Saskatchewan River as its only raw water source.

Prince Albert Water Treatment Plant Water Capacity

Plant Capacity (Litres/day)	Typical Winter Flow (Litres/day)	Typical Summer Use (Litres/day)
45 million	16 million	25 million

40,000 residents of Prince Albert and another 1500 people and 600 farms in rural areas around the city are served by the Water Treatment Plant.

Water Treatment Plant Timeline

April 1, 2011

2002 – Saskatchewan Government enacted legislation regarding public water supplies in response to North Battleford and Walkerton pathogen outbreaks.

Ministry of Environment (Sask. Environment) assigned to regulate municipal drinking water systems and enforce applicable provincial legislation.

New water regulations require independent engineering assessment of waterworks operations at least once every five years.

2006 – City of Prince Albert received its first Waterworks System Assessment (WSA) from Associated Engineering.

Report identified detailed summary of water treatment and storage infrastructure.

Immediate risks were identified as well as a list of medium term projects and activities to be undertaken.

2007 – City initiated plans to begin upgrades which would address the most immediate needs of the Water Treatment Plant

2009 – Following the announcement of the Building Canada Fund Program, the City successfully applied for a \$24 million upgrade to the Water Treatment Plant.

The project costs are shared equally between the City, Province and Federal Government.

2009 – Phase one of Water Treatment Plant Upgrade begins and addresses the serious and immediate disinfection issues.

2011 – Phase one of the upgrades are completed.

2011 – Present

Phase two of the upgrades are tendered out with approximately \$1 million in contingency funds remaining. The upgrades are expected to begin in the Spring of 2011

The phase two elements, although necessary, were not as time sensitive as the elements of the first phase.

2012 – Phase two is expected to be complete in June of 2012. Once completed, the next Water Services Assessment is expected to be undertaken.