Great Falls Water

&

Sewer Utility Public Forum

Rural Municipality of Alexander

Water Treatment Plant Project

The information in this section is taken from numerous reports made to Council from April 2019 to December 2019.

Costs: Report received from MWSB contract administrator shows total project costs paid to October 31, 2019 at $5,135,724. Expected final cost for the project is now **$5,225,000**. The budget for the project is $5,000,000. This includes a $200,000 contingency.

The final cost for this project will be approximately $225,000 over budget (4.5%).

The increases can be broken out as follows:

Additional engineering and construction costs to move building from original design location - $306,000

Add flush outs to town distribution system (not in original design/budget) - $53,000

Miscellaneous additional project change orders including add heat trace to intake lines and redesign/relocate CSTE panel - $66,000.

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Progress: The plant came online on June 21, 2019. Substantial completion certificate issued July 8, 2019. Boil water advisory lifted for the community September 23. Many challenges through August to October in addressing a multitude of deficiencies notably:

Variable drive intake pump not functioning as intended, SCADA analysis software not configured to operate correctly to enable efficient operations, valve failure on cross feed between reservoir chambers and malfunctioning chlorine analyzer. All of these items have been corrected except the alarms for intake pumps are not yet set properly because they had to be rewired to operate on a direct drive system rather than the original variable start plan.

Most other deficiencies have been corrected. Final completion certificate issued February 3, 2020. Warranty period has begun – several items on warranty correction list at this time (none critical). Except for some landscaping work to be completed in spring, we expect the project will be completely wrapped up by **May 15, 2020**.

The bulk fill station at the plant will require additional funding to complete. The station has been completed to design specs however it needs electronic metering equipment to become operational. Additionally, the gravel pad at this station will not be sufficient to handle large volumes of water spilled at the site which requires a concrete or asphalt pad and properly designed drainage before the fill station can be operated. Expect this to cost between $20,000 and $50,000. Since the old standpipe fill station is operating just fine it has been decided to leave it as is.

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Operations: The plant is operating effectively by the RM's full time utility operator with assistance from the Lead Hand and a local contract operator as weekend/holiday relief. The plant license requires operator attendance 7 days a week 365 days per year by a certified level 2 water treatment operator. One additional PW staff is currently enrolled in training program for certification.

The water quality is excellent – testing is performed every two weeks at various sites in town per operating license requirements. The plant is making very high quality, safe and clean water as expected.

The plant is currently operating at approximately 8% of capacity which is nice in terms of chemical and UF membrane usage however the plant components are not designed to run at essentially idle and this could cause issues in the long run. Additionally, the low water consumption creates challenges with maintaining stable water chemistry in the reservoir, especially in regards to PH levels which tends to throw off the chlorine readings resulting in additional work to manually confirm readings.

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Project Funding: Local Improvement Bylaw 02-16 provides the legislative authority to complete this project. It was passed by Council on January 10, 2017 and approved by Provincial Municipal Board Order E-16-177.

The original project budget approved under this authority was $3,500,000 to be funded as follows:

Original Funding Approved by Bylaw 02-16 - 2016

Funder	Amount	Percentage
MWSB (province)	$1,750,000	50.00%
Manitoba Hydro	$750,000	21.43%
RM of Alexander	$500,000	14.28%
Community Residents	$500,000	14.28%
Total	$3,500,000	100.00%

The residential contribution was estimated at a lump sum prepayment of $6,025 per customer or a financing option of $580 per year for 15 years. The RMA contribution was to be made through a one-time transfer from municipal gas tax reserve, however an option is available to finance up to $1M through borrowing.

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At some point following the approval of this Bylaw the project scope increased significantly to $5,000,000 however no amendment to the bylaw was proposed or passed. It is assumed that the rational was that none was needed since the contribution required from the community was to remain the very close to same and in fact the percentage of the total cost would fall to 10% from 14.28% due to a proportional increase in funding from MWSB and a greater than proportional increase in funding from Manitoba Hydro from $750,000 to $1,500,000:

Revised Funding with Increased Project Budget and Increased MB Hydro Grant 2018

Funder	Amount	Percentage
MWSB (province)	$2,500,000	50.00%
Manitoba Hydro	$1,500,000	30.00%
RM of Alexander	$500,000	10.00%
Community Residents	$500,000	10.00%
Total	$5,000,000	100.00%

A request was made to Manitoba Hydro by the RM in April 2019 to increase the amount of the grant for the project by $50,000 to $1,550,000. No official response has been provided however multiple follow up emails, letters and phone calls suggest that there will be no additional grant funding from Hydro for the project.

Council for the Rural Municipality of Alexander agreed in December to increase the funding contribution to from **$500,000 to $587,500**.

Prepayments of $$6,325.30 were made by 18 residents – the remainder have agreed to finance their contribution over 15 years at a cost of $542.19 per year.

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Final Project Funding – January 2020

Funder	Amount	Percentage
MWSB (province)	$2,612,500	50.00%
Manitoba Hydro	$1,500,000	28.71%
RM of Alexander	$587,500	11.24%
Community Residents	$525,000	10.05%
Total	$5,225,000	100%

In this case the additional $225,000 was funded by additional contribution of $87,500 from other RM residents and an additional contribution from benefitting ratepayers of $25,000. The total percentage of project funding from the residents of Great Falls rose from 10.00% to 10.05%, however the actual percentage in relation to the approved borrowing bylaw schedule fell from 14.28% to 10.05%.

The impact to property owners was to **increase** the cost for a lump sum prepayment **from $6,025 to $6,325** (5%) however the annual cost for the customer choose to finance over 15 years **decreased from $580 to $542** (-6.6%) per year based on current actual borrowing rates of 3.45% rather than the 5% estimated in bylaw 02-16.

The municipality has given first reading to amending bylaw 01-20 and forwarded it to the provincial Municipal Board for review.

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Possible Expansion of Water Distribution System

The RM of Alexander continues to push for an expansion of the water distribution system supplied by the Great Falls Treatment Plant.

Over the years the RM has made many efforts to enlist the support of residents on water co-ops in the area including Leisure Falls, Ash & Elm St, Poplar Ave, Maple Creek, Whitemud Falls, St. Georges and even potentially Powerview-Pine Falls. In 2015 these communities within the RM of Alexander were surveyed and approximately 81% of the residents rejected the idea.

The plant certainly has excess capacity and additional users would definitely help lower the distribution of operating costs for those currently connected to the system.

So the RM continues to explore the possibility of expansion. Ultimately the decision will be made by those who would potentially be asked to pay for it. If the communities between Great Falls and Pine Falls (perhaps including Pine Falls) got behind the idea it would certainly help move the concept forward.

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Not surprisingly, the single greatest concern from those potential new customers is how much it might cost them.

To that end the RM has committed to contribute another $25,000 in 2020 to pay for one half of the cost of an updated engineering assessment from the Province for an expanded water distribution system ‘pre-design’ study. An agreement for this engineering study has been signed. This will provide enough information to establish the current expected costs.

Since ‘ballpark’ estimates based on previous engineering conceptual reports suggests that costs might be in the $4 to $5 million range it is safe to say that the project will not proceed without a big commitment of funding from provincial/federal governments. The RM plans to take the engineering pre-design information and apply for funding under the ‘Investing in Canada Infrastructure Program’ which could potentially contribute up to 67% of the funding. If we assume a $5M price tag this of course means that the community (us) would have to find a way to come up with as much as $1.6M.

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Status of PUB Utility Interim Water Rates

The RM contracted an expert consultant to conduct a water & sewer rate study in the fall of 2019. Based on the expected increase in costs to operate the water plant the RM requested an increase in rates for water only of 58%.

Public utilities are required to operate on a self-sustaining basis. Those customers on the system must pay for the costs of operating the system. In our case, the system costs were paid for many many years by Manitoba Hydro who operated a water plant from the dam.

The PUB issued Order No. 175/19 in November of 2019 confirming the information supplied by the RM and ordering an increase in water rates as of January 1, 2020. The full order and analysis can be found here:

http://www.pubmanitoba.ca/v1/proceedings-decisions/orders/pubs/2019-orders/175-19.pdf

The order requires the RM to re-examine things once some actual operating cost experience is available.

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Some concerns were expressed by the community with regards to the bulk water rates. The increase from $13.75 to $31.40 for 500 gallons or less seems to be somewhat of a concern. It may be possible to ask for several different tiers of pricing when a revised rate application is made but for the time being the minimum charge for bulk water will be $31.40 for any quantity from 1 to 500 gallons.

Staff are investigating whether the coin op mechanism at the bulk fill can accommodate different levels of pricing.

Thanks to Stu Jansson and Jim McNeill who have spent many hours working with RM staff to clarify concerns and act as an information point during the treatment plant construction and the water rate study process.

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Great Falls Utility – Backup Power

The RM is investigating the possibility of adding backup power since late summer 2019. At least three power failures on the 3-phase power line in town are the cause of these interruptions. Information below is taken from several reports made to Council during that time.

- Power failure at approximately midnight on Oct 11 resulted in water plant shutdown and loss of pressure in the system – province has placed a boil water order on the distribution system. Expect this to be in place approximately one week.
- Water was out approximately 24 hours
- **Backup (emergency) power was NOT scoped as part of the construction of the new treatment plant** - it was never included in any of the planning for the plant. Administration became aware of this in late June as the project was entering into the final stages of construction. MWSB was contacted and agreed to consider adding it to the project however funding was not guaranteed
- As previously reported, a quote for backup power from WSP is $153,000 - council and administration felt that this was expensive and that the Great Falls customers might object to this additional cost burden

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- RM asked for feasibility study to examine whether portable generator at the office can be converted for use
  - WSP reports that extensive modifications are required
  - Long Beach Electrical has confirmed that CSA and other approvals for a permanent back up generator conversion would be needed and concludes, “I think the cost associated with performing the required modifications and recertification’s maybe high”
  - RM asked MWSB for permission to engage alternate engineer
- Will await further information but at this point it looks like the cost of adding backup power will likely be $150,000 for a new unit and up to about $100,000 to convert existing unit – keep in mind we will have to replace the unit at the office to enable EOC operations; cost unknown
- Finally, it should be noted clearly that adding backup power to the treatment plant WILL DEFINITELY necessitate adding backup power to the sewage lift station – running the water plant during a power outage without running the lift station will absolutely lead to problems with sewer back up into homes – estimate cost to address lift station backup power at $100,000
- Council passed resolution 2019 480 on October 22, 2019 authorizing further engineering assessment with respect to the conversion and upgrade of existing municipal generator for use at Great Falls Treatment Plant. As this report indicates, in addition to backup power for the treatment plant a solution to the backup power for the sewage lift station must be found.

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- The engineering report from KGS Group was received in December 2019
- The report examines the cost of upgrading and utilizing existing generator equipment as well as new equipment for both water plant and sewage lift station (these are class D estimates and include all taxes and 29% cost escalation and unknowns contingencies)

Treatment Plant Option A – upgrade equipment	Treatment Plant Option B – new equipment	Sewage Lift Station Option A – upgrade equipment	Sewage Lift Station Option B – new equipment
$86,300	$211,400	$72,600	$99,600

- Keep in mind that utilizing existing equipment would likely require purchase of additional equipment - The portable gen set at the RM office is designated for use by the municipal emergency operations center. Cost to replace approximately $90,000. The smaller backup gen set at BRFD is not currently assigned to any municipal use
- The Manitoba Water Services Board has committed to contribute up to one half of the cost of a generator for the treatment plant and these funds are locked into their budget – but ONLY if new equipment is used
- MWSB has also indicated that they MAY cover half of the cost of a generator for the lift station but only if the RM does not proceed with the new sewage lagoon on Highway 313. In other words, if the RM utilizes funding from MWSB for the sewage lagoon there will be no funding available for a lift station generator.

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Conclusion – at a minimum it will cost between $240,000 and $310,000 to address the backup power issue and provide the necessary power for emergency operations center. MWSB is willing to fund up to one half of this cost

Is there interest in the community to explore a local improvement plan that could result in a requirement for an additional $1,000 to $1,400 per residence in order to supply back up power for the sewer and water utility?

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