



Settle down.

2016 CAPITAL BUDGET BRIEFING

TO: Mayor and Council

FROM: Manager of Operations

SUBJECT: WELL #3 PUMP AND MOTOR WITH (VFD) AND BUILDING MODIFICATIONS

PROJECT DESCRIPTION:

Well #3 is one of our largest capacity Wells with some of the oldest equipment which is approximately 30+ years old. In 2014, Well #3 shaft had to be replaced due to deficiencies. Again in 2014, Well #3's motor was sent away for rewinding and bearing replacement because of the age and other mechanical issues. In 2015, we ran it through our highest demand season and this winter we had to remove the motor due to reoccurring deficiencies once again. Some corrective measures were taken with the understanding that this was not a long term solution due to the age of the equipment. We are looking to replace Well #3's pump, motor, add a VFD for energy efficiency and meet Urban Systems long term Well management plan with changing demand needs.



IMPLICATIONS OF RECOMMENDATION:

General

- Improving the mechanical reliability to efficiently meet our seasonal water demands
- Mitigate our risk of not being able to meet our water demands and fire flow
- Seasonal demand increases as of May
- For the pump and motor there is a 12 week manufacturing timeline
- Strategic Priority

Fiscally Accountable, Economic Growth, Community Livability



Organizational

- Reduce scheduled and un-scheduled maintenance costs
- Installing a VFD would eliminate the need for the high maintenance automatic control valve

Financial

- Class D estimated project costs are \$405,000 as follows
- Pump and motor \$200,000
- Electrical and controls \$50,000
- Pipe upgrades \$20,000
- Engineering, VFD and misc \$135,000
- Proposed funding sources capital reserves

Options

1. Council could choose to accept.
2. Council could choose to not accept.
3. Council could choose to defer.

Report / Document

Attached _____

Available _____

NIL _____

Strategic Priority's  Fiscally Accountable  Economic Growth  Community Engagement
 Community Livability



Settle down.

2016 CAPITAL BUDGET BRIEFING



TO: Mayor and Council
FROM: Manager of Operations
SUBJECT: 3rd STREET SEWER MAIN REPAIR

PROJECT DESCRIPTION:



IMPLICATIONS OF RECOMMENDATION:

General

- Asset Management
- This project will take planning around the sewer flow rates as it is a main sewer line and the river levels may affect the work area depending on the time of year
- This project has significant risk involved because of the location, buried depth and other buried utilities within the work zone
- Strategic Priority – Fiscally Accountable , Community Livability  

Organizational

- This project has been waiting for a response from the grant application submitted for a multi-utility project that would include 3rd street from 75th Avenue to 72nd Avenue
- The City of Grand Forks would look to put this project out to tender unless budget or extenuating circumstances brought this project in-house which would then include Public Works and Water and Sewer departments

Financial

- Class D estimates for this project are approximately \$100,000 in cost with multiple factors
- Proposed funding source for the sewer main repair would come from capital reserve funds

Options

1. Council could choose to accept.
2. Council could choose to not accept.
3. Council could choose to defer.

Report / Document

Attached _____

Available _____

NIL _____

Strategic Priority's  **Fiscally Accountable**  **Economic Growth**  **Community Engagement**
 **Community Livability**



Settle down.

2016 CAPITAL BUDGET BRIEFING

TO: Mayor and Council

FROM: Manager of Development and Engineering

SUBJECT: 5th STREET WATER MAIN REPLACEMENT

PROJECT DESCRIPTION:

During the summer of 2011, the City became aware that one of the watermains crossing the Kettle River at 5th Street had failed. Before the failure, the south side of the community was serviced by two watermains at the 5th Street location, along with a third main under the Kettle River at Riverside Drive. After the failure of the main, the City also noticed that the second watermain at the 5th Street location was also at risk, in that it was exposed and lying on the bed of the Kettle River.

Urban Systems was asked at that point to determine what impact failure of the remaining 5th Street main would have on the City's ability to deliver domestic and fire flows to those portions of the City located on the south side of the Kettle River. Urban Systems identified that should the second 5th Street main fail, the City would be unable to provide adequate service south of the Kettle River. Urban Systems was then asked to examine potential options for replacing the 5th Street water main. The result of that work, and subsequent discussions with the City of Grand Forks, identified six potential options, each with differing costs and risks. Since that time, four of the options have been eliminated as new information has surfaced.

Since 2012, the City completed non-destructive testing on the remaining in-service water main crossing the Kettle River at 5th Street. The results of that testing indicates that the pipe wall thickness has been significantly eroded by the river bed gravels and boulders. The water main is now susceptible to failure, with the risk increasing with each passing spring runoff event. The pipe wall has been reduced at some locations to below 50% of its original thickness.

THE OPTIONS

We discuss two potential options for replacing the water main below. Each option comes with its own cost and own series of risks, which we also provide.

Option #1 – Open Cut (\$350,000)



A few years ago, Terasen Gas successfully used temporary Aqua Dams to create a dry working space in the Kettle River and then installed a large gas line under the river bed by trenching across the river within the dewatered zone. A similar approach for the 5th Street water main replacement would have to be scheduled during the in stream work window, triggering the requirements for a Section 9 application to the Ministry of Forests, Lands and Natural Resources (MFLNR) and an “authorization” from the Department of Fisheries and Oceans (DFO). In addition, a required approval from Navigable Waters would trigger the Canadian Environmental Assessment Act and a full environmental assessment process. To secure all the approvals would take several months to potentially a year and the in-stream work window for the Kettle River is August 7 – September 15 of any given year. Hence, in the best case, the work could not occur prior to August 2015 or, worst case, August 2016.

Option #2 – Cross the Darrell J. Priede Bridge (\$575,000)



This option envisions connecting a proposed 300mm water main to the existing 250mm water main located on Kettle River Drive, crossing the Kettle River on the Darrell J. Priede Bridge and extending a proposed main eastward, along the south boundary of the Interfor property.

This option requires approximately 70m of insulated and armored pipe secured to the bridge, following the RInC multi-use pathway along the Kettle River from the bridge to 66th Avenue, and replacing the existing 150mm watermain along 66th Avenue, from 10th Street to Como Street. Note the photo above is a sample project only and the exterior coating on the insulated pipe can be black in color in order to mute the visual impact of the pipe.

Senior government approvals or permits would not be required from DFO, MFLNR, or Navigable Waters. Regardless, we do suggest that a Section 9 application be submitted, mostly for due diligence and courtesy purposes, for any work near the Kettle River.

Urban Systems determined that a 300mm diameter watermain would provide the same (if not better) level of fire protection to the southeast sector, as long as the new main connected to the existing 200mm diameter watermain along Como Street. In no case did modelled fire flow rates diminish as a result of the Option #2 connection versus the Option #1 approach.

A particular advantage of this option is that the City currently has a right-of-way across the Interfor property, parallel to the RInC pathway, for future installation of sanitary sewers. This option would not see delays in implementation because of right-of-way negotiations with Interfor. However, the City may want to examine the exact wording of the right-of-way agreement to confirm that a water main, as well as a sewer main, can be installed in the existing right-of-way. The City needs to be aware that installation of a utility in the right-of-way will necessitate removal of most of the existing trees northeast of the existing pathway. This may cause some consternation for users of the pathway, regardless of the fact that the right-of-way is still on Interfor property. In addition, the Migratory Birds Act and the need to remove any existing nests within the treed corridor must be addressed prior to the spring nesting period.

Lastly, the City should be aware that some portions of the newly constructed RInC pathway near the bridge abutments will be impacted by construction and the path will likely need to be closed, at least in part, until construction is completed.

IMPLICATIONS OF RECOMMENDATION:

General

- This project is in line with the Sustainable Community Plan guiding principle of ensuring a long-term sustainable foundation of municipal infrastructure that is affordable, provides service levels consistent with the community's expectations, and encourages growth and economic development.
- The City has a commitment to provide fire protection to the users on the south side of the Kettle River.
- The table below summarizes the advantages and disadvantages of each of the two options discussed in the previous section above. The table also identifies relative risk for each option and identifies the ranking of each.

	Option 1	Option 2
Cost	\$350,000	\$575,000
Advantages	<ul style="list-style-type: none"> • Least cost • Local contractors may have required expertise for all or portions of the work. 	<ul style="list-style-type: none"> • Lowest risk • Can proceed immediately once design is completed • Work could be completed prior to 2015 freshet if design authorization &/or surveys completed • Local contractors may have required expertise for all or portions of the work • RInC pathway enhancements included (i.e. bridge lighting)
Disadvantages/Risks	<ul style="list-style-type: none"> • Lengthy approvals period • No guarantee of approvals • Existing main at risk during approvals 	<ul style="list-style-type: none"> • Most costly • Would impact portions of the existing new RInC pathway • Would require tree removal on north side of RInC path • Nesting birds would need to be addressed
Relative Risk Rating	Medium to High	Low

Organizational

- There are no related capital projects.
- The Engineering Department will manage staff and consultant resources for this project effectively and efficiently. The actions identified in this briefing are beyond the work load capacity and expertise that can be pursued by our staff within the context of their current mandates. As such, a consultant will be needed to carry out this project.

Financial

- Option 1: \$350,000, Option 2: \$575,000.
- The funding for this project is expected to come from gas tax monies.

Options

1. Council could choose to accept.
2. Council could choose to not accept.
3. Council could choose to defer.

Report / Document

Attached ____

Available ____

NIL __X__



Settle down.

2016 CAPITAL BUDGET BRIEFING

TO: Mayor and Council

FROM: Manager of Development and Engineering

SUBJECT: **Development Cost Charges Bylaw Update**

PROJECT DESCRIPTION:

A key recommendation presented in our asset management plan is to investigate alternative (non-tax) revenue streams and making adjustments to our cost recovery bylaws, specifically the Development Cost Charge Bylaw (DCC). The current DCC Bylaw No. 1425 was developed in 1994 and the listed projects are no longer pertinent and does not comply with current legislation. The City had previously considered completing an update to this bylaw in 2009 but did not proceed.

The update is needed to ensure that the City of Grand Forks DCC Bylaws accurately reflect the current OCP's growth estimates, refined infrastructure plans, asset management as well as recent changes to provincial legislation on DCC's (Bill 27).

The review of the DCC bylaw needs to be based on the following significant principles set out in the DCC Best Practices Guide:

- Integration – be consistent with the community plans, land use plans, corporate financial and capital infrastructure strategies;
- Benefiters Pay – ensure those who will use and benefit from the infrastructure installation pay for such services;
- Fair & Equitable – employ mechanisms that distribute costs between existing users and new development in a fair manner, as well as distributing costs between the various land uses and different development projects;
- Accountability – ensure the review process is well understood by all stakeholders, information accessible to all and executed in a transparent manner;
- Certainty – create certainty around development charges and orderly construction of infrastructure; and
- Consultative – provide adequate opportunities for meaningful and informed public and other interested parties input.

The proposed steps for preparing the new DCC bylaw are as follows:

- Review of background information
- Undertake DDC rates survey to compare Grand Forks rates with other communities;
- Refine growth estimates for all required land uses, based on the OCP and known development proposals and incorporate into the DCC review process;
- Prepare comprehensive DCC program (all infrastructure types) along with up-to-date cost estimates;
- Review project eligibility criteria and cost allocation (benefit factors);
- Prepare brief overview considering specific issues;
- Develop a financial model for calculating DCC rates incorporating growth estimates and capital costs. The model will include equivalency factors and will allow the use of alternative municipal assist factors (percentage) for evaluation purposes;
- Prepare draft DCC background report that meets Ministry requirements;
- Develop an implementation reporting and monitoring schedule (as per new Bill-27 requirements), tracking the overall credits/rebates position – guided by the background report;
- Undertake structured consultation to form the backbone of the review process, to include city staff, developers, other stakeholders (public open house) and council;
- Draft New DCC Bylaw and Rate Schedule, circulate and obtain comments to ensure consistency with enabling legislation;
- Finalise DCC Bylaw & Background Report including preliminary financial plan for submission to Ministry;
- Give three readings to the DCC bylaw;
- Submit the bylaw and background report to the Ministry for approval; and
- Adopt the new DCC bylaw.

IMPLICATIONS OF RECOMMENDATION:

General

The Development and Engineering Department is currently seeking funding to review the DCC bylaw in response to the changing development environment of Grand Forks and compliance with new legislation. A new DCC bylaw is critical to ensure that proposed new developments are paying appropriate charges. The updated DCC will contribute to additional revenue streams and align with new development proposals, growth trends and capital projects planned for the near future. The update will ensure that the DCC bylaw, financial plan, OCP and other planning and finance documents are consistent. The update will enhance the City's cost recovery tools and provide certainty to the development community regarding future charges.

Organizational

The actions identified in this briefing are beyond the work load capacity that can be pursued by Finance or Development and Engineering Services staff within the context of their current mandates. The exact amount of staff resources will be dependent on the extent to which consultant resources are employed and the scope of work directed by Council. If additional resources are deemed necessary, such will be identified as part of the Department's budget submission.

It should be noted that the work load implications of a DCC review will extend to Development and Engineering, CAO, Public Works, and Finance.

Financial

The estimate for an update of the DCC Bylaw is \$50,000. The budget for this type of complete DCC update process in other comparable communities ranges from \$50,000 to \$100,000. Funding for this project would come from current DCC reserves.

Options

1. Council could choose to accept.
2. Council could choose to not accept.
3. Council could choose to defer.

Report / Document

Attached _____

Available _____

NIL X