

CITY OF MOOSE JAW

DATE: May 4, 2015

COMMUNICATION # 42

TO: City Council

FROM: Engineering Department

SUBJECT: Cast Iron Water Main Replacement – Program Charter & RFP Approval

PURPOSE:

As a result of the delay to a funding decision for the long term program it is now important that we formalize these efforts and proceed with a main replacement project for this year. Work has been underway since budget approval on the development of the long term program and a project for this year. The purpose of this report is to provide City Council with an update on progress and, through this report, approve a program charter and issuance of an RFP for a qualified engineering firm.

BACKGROUND:

The cast iron issue is well documented. The magnitude of the issue and cost have more recently been highlighted. This includes frequent breaks and escalating repair costs; over \$2 million in 2014 alone. The condition of the pipe affects fire flows and fire protection. As well, initial results indicated that there are challenges to servicing growth as a result of the condition of the cast iron. Water quality is also an issue, the pipe condition is a contributing factor to the need for additional chlorination, and this has put levels near, and at risk of exceeding safe, permitted levels for a chlorination byproduct.

As a result of this, on February 9, 2015 Council passed the following resolutions:

“THAT the 2015 Capital program for Cast Iron Watermain Replacement be established at \$5,850,000.”

“THAT a 2.25% tax increase be allocated on an ongoing basis to WW-17 Cast Iron Water Main Replacement funding.”

“THAT City Administration present funding options in a public consultation process to the residents of Moose Jaw including Local Improvement Plan (LIP), tax increase, utility increase, infrastructure levy, reduction in spending, reserve, and borrowing.”

“THAT the development of a long term policy on Cast Iron Watermain Replacement be authorized.”

The intent was that all of these resolutions be acted on and addressed to allow the program to move forward with the certainty required for an infrastructure program of this scope and importance. The first two portions are complete; the last two remain outstanding. With the delay on the long term funding options, the project for this year needs to move forward. Engineering Services notes that securing the long term funding for the program remains essential to the health, well-being and

future of the community. This report is intended to provide information that will help facilitate a council decision in this regard.

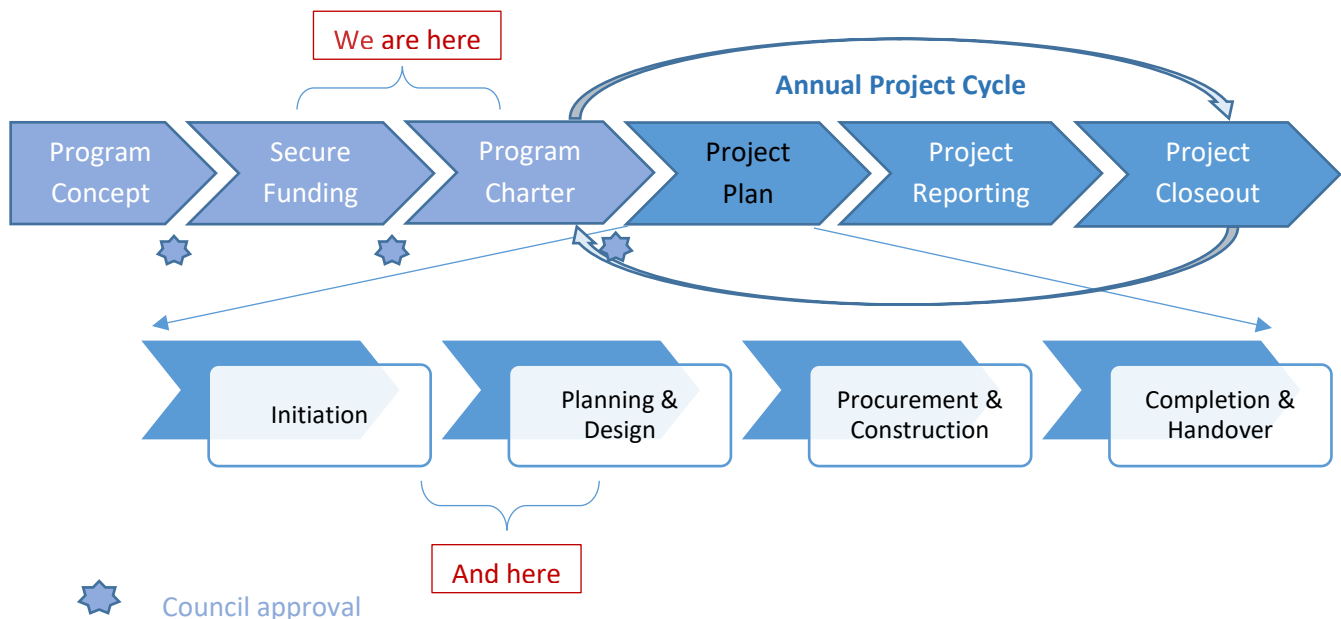
DISCUSSION:

Cast Iron Program Charter

The Cast Iron Replacement Program is a legacy program. It addresses infrastructure that was installed over decades that is rapidly failing. Replacing 80 km, or approximately one third, of the distribution network over the life of the program will have a significant impact on the infrastructure deficit. There will also be corresponding improvements to the road network and related services.

This is a multi-year program, each year will be a project with a distinct scope based on a balance of priorities, budget and complexity. Procurement will vary based on market conditions, policy and trade agreements. Further, as the program evolves there may be opportunity for different contracting and procurement options. Changes in technology over that time will also impact how the work is carried out. In the early stages of a program utilizing industry standard practices is the lowest risk to the program.

Below is a diagram that represents the stages within the Program and Project management cycle, these are the steps required to implement a project:



It is not desirable to be at two different stages in a project. That creates an added risk and can result in the outcomes or deliverables not being met.

Program Concept – involved identifying the core concepts of the program. This includes infrastructure renewal, previous annual budget reports, fire flow issues, water quality issues, reduction of service levels and increased repair cost for main breaks. In this case a portion of the funding identified is the operational savings from the decrease in water main breaks. A project should not proceed until funding has been fully identified.

Generally, Administration is the lead in this role, with Council approval as required.

Secure funding – funding has been identified for this year's project, however funding the final 30% of the ~20 year program is still in question.

Program Charter – is the W5 of the program. It is an overview of the following (this report is to serve as the program charter):

1. Vision and Objectives

Based the information provided;
the Vision is:

‘To improve the level of service the distribution system provides to the citizens of Moose Jaw.’

and the Objective is:

‘Improve our infrastructure and reduce our deficit by replacing the deficient cast iron water mains in the city.’

2. Scope

Broadly, address the approximately 80 km of cast iron mains in the distribution system.
More specifically this includes:

- Water main replacement
- Service connection replacement from main to the house water meter, where required and with consent of homeowner
- New lift (repaving) of asphalt for the entire width of road
- Repair any damage to the sidewalk and curb as a result of construction

These are the key deliverable of the project.

3. Project Stakeholders

The customers are the citizens of Moose Jaw and those supplied with water.

The Project Stakeholders are:

Citizens
Council
City Manager
Project Manager (and team)
Project Steering Committee
Contractors and Consultants
Water Billing
Engineering – Water/Wastewater, Public Works, Transit
Saskwater and Buffalo Pound

4. Key Roles and their Responsibilities

Council

- Review/Approve policies
- Review/Approval of funding
- Review/Approval of budgets
- Review Quarterly Project Reports

- Review/Approve changes to project over 10%

Typically this role and responsibility relates to the Program Concept, Securing Funding and Reporting.

City Manager – has the overall responsibility for the project, including deployment of staff and operational oversight.

Project Steering Committee (on this project – Senior Management Team)

- Review/Approve project scope
- Review/Approve detailed budgets
- Review/Approve risk management reports
- Review/Approve scope changes (with in project and under 10%)
- Produce communications plan for the project
- Review Project reports
- Provide feedback to Project Manager

This role relates to the verification and management of the program and projects under the terms of the Program Charter, and the review and management of the Project Plan. This includes verifying the project is within the parameters of the Program Charter, policies and funding as approved by council.

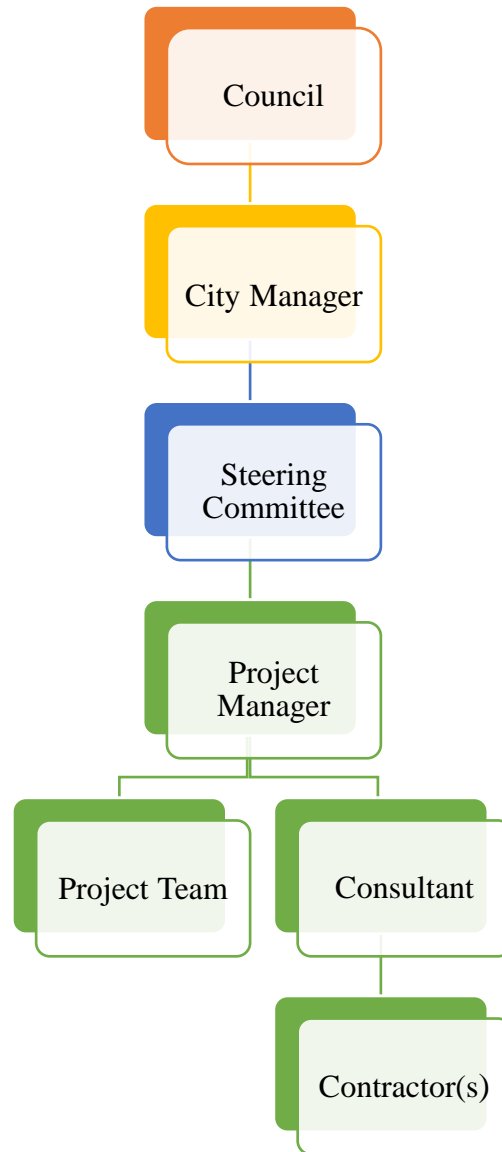
Project Manager (Chair – Project Steering Committee, Director Engineering or delegate)

- Produce/manage project scope
- Manage budget and budget allocations
- Produce/manage procurement plan
- Produce/manage risk reports
- Manage quality assurance plan
- Produce/recommend scope changes
- Manage Communications plan
- Produce reports
- Manage project team, consultants and contractors
- Manage stakeholders

This is the management of the project (and program). While reporting and ensuring compliance with the charter and policies is an important role, the main efforts of the project manager is the development and management of the Project Plan.

The relationship between Council and Administration (in this case Engineering Services) is based on professionalism and trust. There is diverse team of professionals in administration each held to their practices own ethics and conduct. As public servants we are also held to account. In dealing with Council we must *“be fearless in our advice, and, faithful in our implementation”*.

5. Organizational Structure



6. Risk Management

The Risk Registry attached for reference, is a living document that will be updated and modified for this project as well as for others.

Time - Ideally, this work would already have been tendered and awarded. However, the economy has slowed, which may help with interest. While it may still be possible to complete part of the project this season, to ensure competitive pricing, a completion date of next season will be allowed.

Project Plan – how the project will be implemented.

1. **Initiation** – how will the project be resourced and what is the scope and areas being addressed.

Generally, these are decisions about if the project will be handled with internal or external resources, who will do the design, construction management, how will it be built, what contracts and procurement will be used? How does it fit into workloads, schedules, and expertise? As well, this is the preliminary scoping and prioritization. This step is the link to asset management and delivering **the right project at the right time**.

For this project, a consultant will be engaged through a value driven process and RFP. A copy of the RFP is attached it was developed by MacPherson, Leslie and Tyerman (MLT) an industry leading legal firm. Internal staff will provide support to the consultant and act as Project Manager. From there a tender will be issued to engage a contractor.

2. **Planning and Design** – with the scope defined how will the project be carried out and, what is the end product.

This includes communications plans, traffic accommodation, budget breakdowns, material take offs, design reviews, plans to managed changes and quality, procurement plans (what is the best contract to engage a contractor) and finally drawings and specifications. The step ensure that the **right project is efficient and delivered efficiently**.

These specifics will be addressed with the engineering consultant, as these items need to be included in the contract documents for the contractor. MLT has developed a service agreement contract to meet our needs for engineering services. They will also be providing input into the development of our contract agreement for construction. A specific project update is included below the Program Charter section.

3. **Procurement and Construction** – procurement deals with how the resources needed to complete the project are purchased. This is what is referred to as the tendering process and involves advertising, plan holder's logs, requests for information, amendments, bids and bid openings and verification of bids.

In this case we need to comply with NAFTA and the New West Partnership on Internal Trade as we are above the dollar threshold.

Construction is the execution of the project. This is the management and implementation of schedules, change and quality plans. With the contractor performing the physical construction there is construction and contract management, site reviews, site designs, change orders, quantity measurement, progress payments, performance testing, material testing, and surveying. This step is **building the right project, right (correctly)**.

To ensure that we have contractors capable of executing the project the will be pre-qualified.

4. **Completion and Handover** – project close out and wrap up. This includes, substantial completions, builder lien periods, final completion, training, operational budget adjustments and warranty inspection. As well, Contractor and project evaluations are completed and lessons learned feedback into our project management structure.

Project Reporting – requirements for reporting have been outlined in the project charter section of the report. They include an overview of the budget, schedule, risk and change reporting as well as an overview of major milestones, a template for the quarterly report is attached.

Project Closeout – this includes as-built drawings, substantial and final completion, warranty, training, contractor evaluations, operational budget adjustment, post project review and program updates. It also includes a review of the charter. However, most importantly it is a feedback loop based on what worked and what didn't so the approach to program delivery can be adjusted.

2015 Project Update

The approach to the replacement and the scope of work is based on the experience of other municipalities that have addressed the issue and Moose Jaws experience in a project to redo a block of infrastructure including the water mains.

At this stage the scope of the project includes:

- Water main replacement
- Service connection replacement from main to the house water meter
- New lift (repaving) of asphalt for the entire width of road
- Repair any damage to the sidewalk and curb as a result of construction

Efforts have been underway since budget approval to move ahead with the program, project and council motions.

Public Consultation – an update and recommendation has been provided in a separate report, dated April 8, 2015 from the City Manager. This was an effort that involved all of senior management and was well received by the public with excellent engagement.

Selection Criteria – an initial draft of selection criteria to prioritize areas for replacement is complete based primarily on break frequency. A preliminary list of blocks is being compiled. The criteria and list will be shared with the successful consultant for review, input and modification based on their expertise and final construction method chosen.

Procurement - The City Solicitors Office, with support from Engineering Services has undertaken a review an evaluation of our contracting processes to address challenges previously identified in COMMUNICATION #8 and reflected in the risk registry. MLT was engaged to facilitate this process; the result is a modern RFP and consulting contract that is industry best practice. Administration previously indicated that this would be shared with Council and is attached for approval.

The proposed RFP is designed in response to a situation where the objective is to obtain professional engineering support. This support will assist the City in launching a multi-year replacement program. The firm will assist in prioritizing the replacement schedule, evaluate the most appropriate technologies and complete project design. The successful proponent will set the course for the first year of the program, with the option of extending for up to an additional two years.

Given the value of the project we must comply with the New West Partnership on Internal Trade, which includes posting the tender on Sasktenders.

As a result of this consultation and discussions with industry the procurement approach has been modified from what was initially indicated to be a modified design-build. The approach will now be a design-bid-build with the prequalification of contractors.

Collection of Background Information & Preliminary Design – information to complete design is currently being collected and organized. This includes plan and profiles, GIS information, value, hydrant, and manhole locations, master plans, applicable standards. This effort will reduce the time required by the consultant to complete design thereby expediting the project.

A preliminary schedule has been include for reference:

Release RFP	May 5, 2015
Award RFP	May 21, 2015
Design Complete	June 12, 2015
Construction Tender Award	July 9, 2015
Construction	To follow

ATTACHMENTS:

1. Cast Iron Water Main Replacement Program – Risk Registry
2. Quarterly Project Status Report
3. Request for Proposal
4. Best Value Evaluation Process
5. Master Services Agreement

RECOMMENDATION:

THAT this report from the Engineering Services Departments be approved as the Program Charter for The Cast Iron Water Main Replacement and;

THAT Council approve the RFP substantially in the form attached and;

THAT Engineering Services proceed with the 2015 Cast Iron Water Main Replacement Program.

Respectfully submitted,

Josh Mickleborough
Director of Engineering Services
JM/kl

CITY MANAGERS COMMENTS:

CITY MANAGER

MAYOR'S COMMENTS:

MAYOR