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## Soils Handling Strategy Project Results

### Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services submit a report to City Council recommending:

1. That the information regarding the results of the soils handling strategy be received; and
2. That the City of Saskatoon join the Leadership in Brownfield Renewal (LiBRe) Program established by the Federation of Canadian Municipalities

### Topic and Purpose

The purpose of this report is to provide a summary of the outcomes of the soils handling strategy developed under Capital Project No. 2052 – Contaminated Soil Handling.

### Report Highlights

1. Capital Project No. 2052 – Contaminated Soil Handling was initiated following the success of beneficially reusing clean and impacted soil within the Circle Drive South project.
2. The soils handling strategy is a corporate framework for the management of impacted and clean soil from City of Saskatoon (City) construction sites.
3. The strategy was implemented in order to prepare the corporation for changing provincial environmental regulations (Environmental Code) that came into effect June 1, 2015.
4. The outcomes of the strategy led to the creation of a set of management tools that can be used when contaminated soils are discovered.
5. To continue with the successes of the soils handling strategy, the Administration recommends joining the Leadership in Brownfield Renewal (LiBRe) Program established by the Federation of Canadian Municipalities (FCM).

### Strategic Goal

This report supports the strategic goal of Environmental Leadership, the four-year priority of diverting waste for re-use in other projects, and the ten-year strategy of addressing soil quality issues on City-owned properties.

### Background

The Capital Project No. 2052 – Contaminated Soil Handling was used to fund the development of the soils handling strategy. The capital project was established as part of the 2013 budget based on the successful soil management approach used by the Circle Drive South project in 2011 and 2012. The intent of the funding was to enable environmentally responsible and reduced-cost handling of impacted soils found on City-owned or managed brownfield sites.

### Report

#### Beneficial Re-use of Soils

The idea of viewing excess construction soils, both contaminated and clean, as a resource and not as a waste product was initially championed in the United Kingdom under the Contaminated Land: Applications in Real Environments (CLAIRE) program. Under the program, thousands of cubic metres of contaminated soil and clean fill have been beneficially reused within infrastructure projects, saving proponents millions of dollars and eliminating hundreds of tonnes of greenhouse gas emissions. In Canada, a similar approach to managing excess fill and has been implemented in Southern Ontario. High volumes of land and infrastructure development in the area led to high costs in soil disposal, and in some cases extensive unlawful dumping of fill causing environmental issues. Best management practices were developed provincially to encourage and facilitate the beneficial reuse of excess soils. An online soil service was also created to facilitate sustainable soil exchange between developers and contractors.

Beneficial soil reuse was implemented as part of the Circle Drive South project. Excess clean fill and contaminated soil from concurrent City brownfield projects (River Landing Phase II development, Saskatoon Police Headquarters, 25<sup>th</sup> Street Extension, 1810 Broadway Avenue tax arrears remediation) were safely reused and encapsulated within the new interchanges. This practice saved these City projects approximately \$2 million in disposal costs.

#### Corporate Framework

There were two stated objectives within the original capital budget report:

1. Outline the soil and water management concerns and opportunities at the Saskatoon Regional Waste Management Centre (Landfill).
  - The purpose of this objective was to develop a plan for the landfill so that contaminated soils could be beneficially reused as waste cover. This plan was to benefit City brownfield construction projects and landfill operations.
2. Screen and plan for the soil and water management at the largest three to five City construction sites.
  - The intent of this objective was to achieve the same sustainable outcomes in future City brownfield projects that were realized for those involved with the Circle Drive South project.

The implementation of the Contaminated Soil Handling capital project (described in Attachment 1) also provided the means of offering environmental advisory assistance, environmental project management assistance, education and training to civic project managers to facilitate the transfer of environmental knowledge, as well as increased environmental capacity within the corporation in preparation of regulation changes.

#### Environmental Regulation

*The Provincial Environmental Management and Protection Act* was recently updated with the proclamation of the Environmental Code regulations on June 1, 2015. The new code has put increased responsibility on municipalities to understand environmental

regulations and manage soil appropriately. The soils handling strategy was implemented in order to inform City project managers, planners, and engineers of the new environmental requirements pertaining to contaminated soils.

### Strategy Outcomes - Environmental Management Tools

Internal services and tools that have been created under the soils handling strategy project are described in Attachment 2 and include new procedures, training, mapping and information tools, and environmental advisory services.

### Benefits of the Strategy

Implementation of the soils handling strategy has improved the management of risks and costs related to compliance with environmental regulation. Since 2011, implementation of the beneficial re-use concept has saved the City an estimated \$7.3 million in tipping fees by diverting contaminated soils from disposal in a landfill to other uses.

Other direct benefits of the strategy included:

- 18,000 tonnes of impacted soil from civic projects were beneficially reused at the landfill between the years of 2011 and 2015, which equated to \$1.7 million in disposal savings.
- Over 30 civic construction projects benefitted from project advisory and environmental review.
- 170 civic staff members participated in environmental and regulatory education sessions.

As a result of the successes of the soil handling strategy, other inter-divisional environmental protection projects have been initiated. Building off the implementation of the safe work procedures and the environmental protection plan, future environmental contractor guidelines will also be developed and implemented.

### Next Steps

The presence of contaminated soil from historic land uses acts as a current impediment to growth and development inside the city. In order to achieve planned infill development and the objectives of the Growth Plan to Half a Million, there is merit to developing a Brownfield Renewal Strategy that addresses the impediments to development associated with contamination. Many cities across Canada face these same challenges and the Federation of Canadian Municipalities has created the Leadership in Brownfield Renewal (LiBRe) program as a national network of municipalities that are engaging in brownfield redevelopment strategies and incentive programs. The Administration recommends joining this network. As a member, the City of Saskatoon will have access to a professional network and knowledge resources that will further the achievements of Saskatoon's soils handling strategy, including preparing the City for success in applications to FCMs Green Municipal Funding. Membership to LiBRe is free as long as the members commit to:

- Submitting a letter confirming the City's commitment to join the program;
- Participating in online learning activities and one face-to-face workshop;

- Providing feedback to FCM on learning activities and materials; and,
- Working toward the completion of program deliverables, which includes a seven-step framework that leads to the completion and implementation of a final brownfield renewal strategy.

The LiBRe Program framework outlining expected deliverables is outlined in Attachment 3. The successes of the project advisory service and the development of the impacted sites map will play a critical role in the development of a Brownfield Renewal Strategy for Saskatoon and enable and facilitate infill development to achieve the goals of the Growth Plan to Half a Million.

### **Public and/or Stakeholder Involvement**

Several civic workgroups (shown in Attachment 1) have been consulted and engaged throughout the implementation and ongoing operation of the soil handling strategy.

### **Communication Plan**

Highlights of the soils handling strategy are provided on the City's website. Additional results achieved as an outcome of the ongoing project advisory services and management tools will be reported each year within the Environmental Protection Annual Report submitted to the Standing Policy Committee on Environment, Utilities and Corporate Services each fall.

The savings identified in this report have been included in the annual Service, Savings and Sustainability report.

### **Financial Implications**

Capital Project No. 2052 - Contaminated Soil Handling received \$250,000 in funding from the Landfill Reserve in 2013. These funds covered the costs of hiring external consulting expertise to develop a risk framework for the handling of contaminated soils and a concept for a soils facility (\$68,000), as well as to cover the costs for a Soils Engineer that developed and implemented the various management tools (\$182,000).

An external consultant was hired in order to take advantage of specialized expertise in the field of contaminated soil reuse, risk management and soil handling facility design. Due to the infrequent nature of this initial capital work, the City received a better value for the money spent as opposed to hiring a staff specialist.

### **Environmental Implications**

Implementation of the strategy to date has saved the City an estimated 1000 tonnes of greenhouse gas emissions by reducing the number of trips to licenced landfill facilities that are located outside of the city.

### **Other Considerations/Implications**

There are no policy, privacy or CPTED implications or considerations.

### Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

### Attachments

1. Summary of activities under the Contaminated Soil Handling capital project
2. Strategy Outcomes – Environmental Management Tools
3. Leadership in Brownfield Renewal (LiBRe) Program

### Report Approval

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