

City of Saskatoon Corridor Growth Brownfield Renewal – Field Investigations

Green Municipal Fund No.:15677 – Feasibility Study

Study Background

The City of Saskatoon (City) completed a series of Environmental Site Assessments (ESAs) along two proposed Bus Rapid Transit (BRT) routes as part of the scope of work to develop a *Brownfield Renewal Strategy* (BRS) targeted at revitalizing the City's major corridors for transit-oriented development. The ESAs were conducted to evaluate potential environmental concerns at future redevelopment and transit station/village sites. The sites targeted are located along the Red & Blue Line BRT routes and were chosen due to the high potential of redevelopment of brownfield sites along the BRT lines. The Green line BRT route was not evaluated as part of this work.



Figure 1 – Red, Blue, and Green Line BRT Routes

The City contracted Dillon Consulting Ltd. (Dillon) to conduct the ESAs at the targeted locations along the BRT lines.

Following the completion of the ESAs, a Site Management Plan (SMP) was created to address environmental impacts found at specific sites during the ESA. The SMP included the development of a generic Corrective Action Plan (CAP) for the management of identified environmental impacts. The City utilized its Risk Management Plan (RMP) as part of the SMP to handle employee health and safety during work near environmental impacted areas.

Summary of ESAs

Eight sites were targeted along the Red & Blue BRT lines for ESA work due to their high potential for brownfield redevelopment. ESAs were completed by Dillon at six sites along the Red Line and two sites along the Blue line. The ESA work was completed by Dillon during the months of January-February and November 2018.

Dillon utilized a direct push drill rig for the ESA work and managed site and traffic safety during the completion of field activities. Dillon completed a total of 23 boreholes at the sites at depths ranging from 6.0 to 7.5 metres below ground surface. Soil samples were collected at 0.75 metre intervals or where impacts were observed. A total of 9 groundwater monitoring wells were installed as part of the work. Collected samples were logged and field screened for potential submission for laboratory analysis. Soil and groundwater samples were submitted for laboratory evaluation of petroleum hydrocarbons (PHCs). Each borehole and monitoring well location was GPS surveyed to aid in the creation of site drawings and for geographic record.

The completed ESAs found that the sites evaluated along the Blue Line were found to have no environmental concerns. PHC impacts were found in soil located in the City's ROW at four of the six sites investigated along the Red Line. Groundwater sampled at one of the six sites along the Red Line was found to exceed applicable guidelines for benzene.

A Site Management Plan (SMP) was developed in response to the discovery of contaminated soil and/or groundwater while conducting the ESAs. The SMP applies to contaminants identified at select proposed BRT corridors and transit stations/villages as part of the *City's Corridor Growth: Brownfield Renewal Strategy*. The City's Risk Management Plan (RMP) is used to provide awareness of potential contamination and information regarding management of contaminated material. It is provided, with the SMP, to help all personnel involved in ground disturbance activities understand the potential hazards of exposure to contaminated soil and/or groundwater. The implementation of the SMP will assist in mitigating environmental and human health risks that arise from the hazards originating from exposure to the contaminated materials. The SMP provides:

- A description of the potential areas of concern;
- Environmental risks and hazards;
- Mitigation strategies to reduce risk to workers, the public, and environmental receptors; and
- An overview of how to address impacts, including high level costing

As part of the SMP, a generic Corrective Action Plan (CAP) was provided by the consultant to address the sites where contaminants were identified. The CAP identifies the contaminants of concern that are likely to be encountered during ground disturbance in the targeted areas. It also provides remedial options available to the City for

management of the contaminants of concern including source removal via excavation and long-term management. High level cost estimates are provided, for reference, for both remediation techniques.

Lessons Learned

The completion of the ESAs have confirmed soil and groundwater conditions at multiple high potential redevelopment sites along the Red and Blue BRT lines. Along the Blue Line, results indicate an absence of environmental concern at the locations investigated. Two sites along the Red Line will require further environmental work prior to redevelopment. The City will facilitate site renewal through remediation, incentive programs, and guidance materials aimed at property owners to help them address potential contamination found on their property.

Total Financial Assistance Received for the Project(s)

This report was prepared as part of the Bus Rapid Transit Indicative Design and Detailed Functional Plan / BRT Station and Facility Design Requirements projects for the City of Saskatoon. These projects were made possible through a \$3,825,000 contribution from the Government of Canada Public Transit Infrastructure Fund program.



The preparation of this feasibility study was carried out with assistance from the Green Municipal Fund, a Fund financed by the Government of Canada and administered by the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian

Municipalities and the Government of Canada accept no responsibility for them.

©2020, **City of Saskatoon**. All Rights Reserved.

Contact info: (306) 975-2645

brownfields@saskatoon.ca

saskatoon.ca/growth/brownfields