



City of Richmond

Report to Committee

To: Parks, Recreation and Cultural Services
Committee

Date: October 27, 2023

From: Todd Gross
Director, Parks Services

File: 06-2345-20-GCIT1/Vol
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Re: Garden City Lands Soil Management Practices and Project Update

Staff Recommendation

That the staff report titled “Garden City Lands Soil Management Practices and Project Update”, dated October 27, 2023, from the Director, Park Services be received for information.

Todd Gross
Director, Parks Services
(604-247-4942)

Att. 2

REPORT CONCURRENCE		
ROUTED TO: Sustainability & District Energy	CONCURRENCE <input checked="" type="checkbox"/>	CONCURRENCE OF GENERAL MANAGER
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

At the November 26, 2019, Parks, Recreation and Cultural Services Committee meeting staff received the following referral:

That Parks staff consider composting and soil remediation for the Garden City Lands at the Garden City Lands, and no compost from other facilities unless guaranteed of organic quality and free of contaminants.

The purpose of this report is to respond to this referral and provide project updates on activities on the Garden City Lands (the Lands) further to the staff report titled “Garden City Lands Project Update”, dated September 23, 2022, where staff committed to providing regular project updates to Council.

This report supports Council’s Strategic Plan 2022-2026 Focus Area #2 Strategic and Sustainable Community Growth:

Strategic and sustainable growth that supports long-term community needs and a well-planned and prosperous city.

This report supports Council’s Strategic Plan 2022-2026 Focus Area #5 A Leader in Environmental Sustainability:

Leadership in environmental sustainability through innovative, sustainable and proactive solutions that mitigate climate change and other environmental impacts.

5.2 Support the preservation and enhancement of Richmond’s natural environment.

5.4 Support agriculture and local food systems to enhance food security.

This report supports Council’s Strategic Plan 2022-2026 Focus Area #6 A Vibrant, Resilient and Active Community:

Vibrant, resilient and active communities supported by a wide variety of opportunities to get involved, build relationships and access resources.

6.1 Advance a variety of program, services, and community amenities to support diverse needs and interests and activate the community.

6.2 Enhance the City’s network of parks, trails and open spaces.

Analysis

Composting and Soil Amendments

At the November 26, 2019, Parks, Recreation and Cultural Services Committee meeting, where staff received the referral regarding composting and soil remediation practices on the Lands, it was discussed that staff consider options to implement large scale composting activities. The

origin of the referral was followed up with discussion by the Committee regarding the need to use more compost and organic amendments, free of inorganic debris often found in commercially sourced products.

In March 2023, the City received approval from the Agricultural Land Commission (ALC) to implement the Park Development Plan and vision for the Lands. While the overall, site-wide Park Development Plan for the Lands is comprehensive in scope, large scale composting was not included in the ALC's decision, as it was not part of the application approved by Council. Large-scale composting is inconsistent with the proposed park land use and would negatively impact park infrastructure and local air quality through malodourous fumes. However, successful small-scale composting approaches are currently being practiced at the Lands, as outlined below:

- Staff and Kwantlen Polytechnic University (KPU) have implemented a number of composting and soil practices to improve the soil's physical characteristics and nutrient content. These practices are consistent with the regenerative farming practices KPU conducts as part of their Sustainable Agriculture Farm Program curriculum.
- Every year, fall leaf collection occurs throughout the City's park system and the leaves are composted at various City facilities, such as the Gilbert Nursery and the Public Works Yard. This broad composting process is operated at various City facilities that have the appropriate area, equipment and infrastructure to support this activity. These leaves are turned into a beneficial soil amendment that is subsequently redistributed back into the park system as a soil amender and mulch. This benefits the soil by suppressing weed growth and preserving soil moisture. Throughout this process, the material is screened to remove plastics and other inorganic waste.
- The City has a contract with a commercial waste management company (GFL) to compost household green waste. GFL's compost amender product has been utilized on the Lands in several locations including along the perimeter path. Staff work with the provider to ensure minimizing the inclusion of inorganic debris, such as residential plastics. This product has not been used on KPU's farm, as it does not meet the standards consistent with the farm's certified organic status. KPU and staff have utilized other organic products including manures, peat-based farm soils and cover crops.

Applied on an annual basis, all of these products and sustainable agricultural practices have effectively improved the Lands soils' physical and chemical properties. This demonstrates that the soil quality of imported soils can be remediated with the application of compost and other organic soil amendments at the current scale and extent of these activities. Staff will continue to work with KPU to implement research-based innovations and techniques on soils imported onto the Lands.

Soil Placement and Remediation Practices

Staff continue to source appropriate soil from donor sites in Richmond, Delta and Surrey. Per Council's direction, staff import soils of suitable quality for the purposes of supporting farm activities and agricultural production on the Lands.

The City has ALC's approval to place soil in the area that the City has leased to KPU for its Teaching and Research Farm and the area west of the dike and south of the KPU Farm proposed for agricultural production (Attachment 1). All donor sites are extensively tested and approved by the City's Qualified Environmental Professional (QEP) prior to importation. Imported soils are identified based on their physical composition and chemical properties, to ensure the best quality soils are received by the Lands, to support planned agricultural activities. Whenever possible, staff source farm soil for importation to the Lands. This soil placement process results in revenue for the City as per the Garden City Lands Soil Fee Bylaw.

As imported soils contain various unwanted materials due to their original site use, staff have implemented processes to separate the soil from these unwanted materials. Imported soils are screened (on an as-needed basis) for both organic (e.g., tree branches and roots) and inorganic debris (e.g., stone, concrete, plastics and garbage) and staff have increased oversight during excavation at the source site. The resulting remediated soils are then graded level and KPU begins managing the soils.

Project Activities

The following is a summary of current activities related to this project since fall, 2022.

Planting

Following up on the work completed in 2022, the second phase of the perimeter path-planting project (along Westminster Highway and Garden City Road) proceeded in the first half of 2023. In keeping with the future agriculturally focused activities planned for the western half of the site, non-native, fruit-bearing trees were planted along the Garden City Road frontage as a demonstration for residents of flowering and fruit-bearing trees which support beneficial insects, pollinators, and birds in the home landscape. With the completion of this phase of planting, no additional large-scale planting projects remain.

Sphagnum Moss Relocation and Bog Management

The transplanting and propagation of Sphagnum moss, led by KPU staff who provide technical and mechanical support, continues. The Sphagnum moss propagation program KPU has initiated is an example of the mutually beneficial relationship between the City and KPU in the management of the Lands.

These efforts support City staff's site-wide monitoring of water levels (to maintain existing moisture levels in peat soils), invasive species management and enhancing native biodiversity on the Lands.

In fall of 2023, KPU staff identified a rare flowering plant called the Vancouver Island Beggarticks (*Bidens amplissima*) (Attachment 2) at several locations throughout the site, including a large area in the bog, as well as in areas currently cultivated, as part of the KPU Teaching and Research Farm. Following KPU's recommendations, the City has implemented management practices to minimize adverse impacts to this plant. Recommendations have been incorporated into the City's on-site annual mowing program and further measures will be considered as the development of the Lands proceeds over the coming years.

Soil Remediation Study

The ongoing Soil Remediation Study saw a number of steps taken this year to bring this phase of the project closer to completion. Stantec completed extensive testing and based on the results, existing soil that was deemed contaminated, per BC CSR standards, was removed to a licenced facility. Once removed from the site, additional testing of the excavated areas was completed to ensure all contaminated soil was removed. New material, meeting Agricultural Land soil standards, was imported to backfill the excavated areas.

There are areas on the Lands which contain contaminated soils, but are also where future park-related plans indicate little or no disturbance. For example, this includes the bog on the eastern half of the Lands. Following established industry practices and applying the BC CSR standards, the QEP has determined these soils to be adequately managed due to the limited potential for human contact and/or concentrations do not meet the threshold for additional investigation.

The current work plan does not foresee additional soil removal and disposal to an off-site soil disposal facility. Stantec is finalizing the data requirement tasks related to preparing a submission to the Province for a Certificate of Compliance for the Lands. If approved without any conditions or monitoring requirements, the soil remediation study will be complete.

Kwantlen Polytechnic University Farm Area

KPU continues to actively farm the portion of the site originally established in 2017, and work on the planning and design of the proposed barn structure, which is expected to be installed by spring 2024. KPU has received grant funding for their community outreach and educational activities, including summer programming for youth.

Staff are continuing efforts to source soil for the remaining part of the KPU farm area still requiring additional fill before food production proceeds. To date, KPU has seeded cover crops to minimize weed growth, provided habitat for beneficial insects and enhanced soil conditions.

Financial Impact

None.

Conclusion

As the City continues to develop the Garden City Lands under the recently approved ALC process, staff will collaborate with KPU on several aspects of the site's development, including sustainable soil management of imported soils through composting, incorporating soil amendments and planting cover crops. Staff will also work with KPU and community stakeholders on bog preservation efforts and identifying new opportunities to preserve and cultivate rare native plants.

The Soil Remediation Study is expected to be completed in 2024, with staff continuing to identify appropriate soils for the development of the future fields, as well as composting

October 27, 2023

- 6 -

opportunities consistent with the intended use of the site. As work proceeds, staff will continue to provide periodic updates to Council.

A handwritten signature in black ink, appearing to read 'Alex Kurnicki', with a horizontal line underneath.

Alex Kurnicki
Manager, Parks Programs
(604-276-4099)

- Att. 1: Garden City Lands Site Plan (Fall 2023)
- Att. 2: Vancouver Island Beggarticks (*Bidens amplissima*) Information Sheet

Garden City Lands Site Plan (Fall 2023)



Not to Scale



Vancouver Island Beggarticks (*Bidens amplissima*)
Information Sheet

