City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	February 20, 2020
From:	Peter Russell Director, Sustainability and District Energy	**File:**	10-6175-04-01/2020-Vol 01
Re:	**Mitchell Island Environmental Stewardship Initiatives Update**		

Staff Recommendation

1. That the Mitchell Island Stormwater Infrastructure Feasibility Study proposed within the staff report titled "Mitchell Island Environmental Stewardship Initiatives Update" dated February 20, 2020 from the Director, Sustainability and District Energy, be endorsed and a funding application to conduct a feasibility study be prepared and submitted to the Federation of Canadian Municipalities' Green Municipal Fund; and

2. That the Chief Administrative Officer and General Manager, Engineering and Public Works be authorized to enter into funding agreements with the Federation of Canadian Municipalities should the project be approved for funding, as outlined in the report titled "Mitchell Island Environmental Stewardship Initiatives Update" dated February 20, 2020, from the Director, Sustainability and District Energy and that the Consolidated 5 Year Financial Plan (2020-2024) be amended accordingly.

Peter Russell, MCIP RPP
Director, Sustainability and District Energy
(604-276-4130)

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Finance Department	☑	
Engineering	☑	
Sewerage & Drainage	☑	
Intergovernmental Relations	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**

Staff Report

Origin

Mitchell Island, located in the ecologically sensitive Fraser River Estuary is an important industrial hub, locally and regionally. The nature of the activities on the island means that spills and other discharges to the environment pose a risk to the Fraser River ecosystem.

Council endorsed the staff report titled "Mitchell Island Environmental Stewardship Initiatives", dated March 11, 2019 at the Regular Council meeting in May 2019 that included the following initiatives to improve compliance on Mitchell Island:

- Conduct more local business outreach;
- Improve multi-jurisdictional collaboration in the area; and
- Start an environmental monitoring program.

This report provides an update on these three initiatives and seeks Council's endorsement to secure funding to assess stormwater infrastructure improvement opportunities on Mitchell Island.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.4 Foster a safe, caring and resilient environment.

Analysis

The Mitchell Island Environmental Stewardship Initiative was executed by staff following Council endorsement in May 2019. The response to the program by members of the public, local businesses and senior government has been positive. The initiative included the following activities:

- **Local Business Outreach** – Staff organized an environmental stewardship information session at the Mitchell Island Pier Park in May 2019. The event included informative booths, with displays, organized by all levels of senior government. During the event, members of the public were encouraged to interact with regulators and provide general suggestions relating to environmental stewardship on Mitchell Island. City staff were on hand to discuss the City's flood management strategy, Environmentally Sensitive Areas, the Ecological Network, and our Pollution Prevention Programs (Attachment 1). A total of 90 attendees were recorded at the event and various suggestions from local workers and business owners relating to dust, litter and stormwater management were collected.

- **Improve Multi-Jurisdictional Collaboration in the Area** – Federal, provincial and municipal regulations and bylaws apply to activities on Mitchell Island. The program targeted the need to work more collaboratively with all levels of government to identify and enforce noncompliance activities such as unauthorized discharges to the Fraser River. Ten joint (federal, provincial and municipal) site inspections have been conducted since beginning the program. Results from the inspections have noted improper storage activities, unauthorized discharges and unlicensed operations. A water-side inspection of

Mitchell Island's foreshore was also completed in 2019. The Canadian Coast Guard provided transportation and BC Ministry of Environment and Climate Change Strategy, Environment and Climate Change Canada, and the City's consultant were in attendance. The purpose of the assessment was to share site information among agencies; visually assess the island's foreshore for unauthorized discharges; collect surface water samples; and to document new areas of concern.

- **Start an Environmental Monitoring Program** – Staff initiated a surface monitoring program following Council endorsement that included collecting regular surface water samples and comparing the results to applicable provincial and federal water quality standards. Results informed the joint site visits and indicated various local exceedances throughout Mitchell Island including concentrations of metals, fecal coliforms, polycyclic aromatic hydrocarbons and polychlorinated biphenyls above the applicable standards. Staff noted consistent effluent exceedance at primary outfalls on the island. Water quality at this location was attributed to specific industries in the area including various auto wrecking and salvage yards, metal recycling, and aggregate suppliers. Many businesses, once informed of their discharge quality, have responded to install pollution mitigation infrastructure (more information below).

2019 Highlights and Accomplishments

The 2019 Mitchell Island Environmental Stewardship Initiative has been effective at bridging the information gap that some business owners have between environmental regulations and site management. Businesses Owners have taken steps to improve operations onsite with stormwater containment structures, settling ponds, pH correcting technologies, impervious pavement, and wheel washes to comply with standard operating practices not present before the program. Large industries that have been operating outside of environmental regulations such as the BC Code of Practice for Concrete and Concrete Products Industry were brought into compliance, resulting in marked, measurable stormwater quality improvements.

Next Steps

Staff propose to make applications to the Federation of Canadian Municipalities' Green Municipal Fund to assist in funding a Mitchell Island Stormwater Infrastructure Feasibility Study to assess long-term stormwater infrastructure improvement opportunities for the island.

The Mitchell Island Stormwater Infrastructure Feasibility Study project will identify opportunities to improve the quality of Mitchell Island's stormwater. The project will also include education, enforcement, ongoing business involvement, operations and maintenance activities, source control, and engineered solutions. Engineered solutions will focus on green, nature-based solutions, rather than traditional treatment systems, to maximize positive environmental effects. Green infrastructure solutions improve water quality through sedimentation, filtration and chemical-biological processes, while capturing runoff and providing flood protection, improving air quality, and providing habitat. Once complete, results from Mitchell Island will be shared to increase the information available in the field of industrial area stormwater management.

The Federation of Canadian Municipalities' Green Municipal Fund sponsors initiatives that can potentially allow a community to remove 60% of total suspended solids or a significant amount of other contaminants from its stormwater runoff. This funding helps Canadian cities and communities of all sizes protect local bodies of water through stormwater treatment. The City will continue to look for partnerships to augment the City's impact on the island.

The City will continue to monitor the stormwater on Mitchell Island in 2020 and focus sampling at major stormwater discharge points such as the Mitchell Road, south outfall. Mitchell Island stormwater is not treated prior to discharge into the Fraser River, which is host to Sockeye, Pink, Chum, Chinook and Coho salmon among other aquatic species.

Financial Impact

The Federation of Canadian Municipalities' Green Municipal Fund, is a matching contribution grant, funding up to 50 percent of eligible costs. The value of the City in-kind contribution of staff salaries cannot exceed 10% of eligible costs.

It is anticipated that the feasibility study work program will take approximately 12 months to complete, and cost $150,000 (see Table 1). Staff propose applying for funding of up to $75,000, based on the amount required to complete the feasibility study and if approved by Council, that the Consolidated 5 Year Financial Plan (2020-2024) be amended accordingly.

The City will contribute matching funds from the existing 2020 Capital Budget that was approved by Council. The approved capital project has sufficient funding for the City's portion of this initiative.

Table 1. Feasibility Study Project Budget

Budget Source – City of Richmond	
Mitchell Island Stormwater Infrastructure Feasibility Study Project	$60,000
Staff Time (In-Kind Contribution)	$15,000
Total City Budget	**$75,000**
Budget Source - FCM	
FCM's Green Municipal Fund 50% Match for Project Cost	$75,000
Total FCM Budget	**$75,000**
Total Budget	**$150,000**

Conclusion

Staff will continue the Mitchell Island program that was started in 2019, along with other agencies. Staff is requesting that Council endorse a submission to the Green Municipal Fund, to obtain funding up to $75,000 for a Mitchell Island Stormwater Infrastructure Feasibility Study. This project will aim to improve the quality of stormwater that is discharged from the Mitchell Island industrial business district to the Fraser River ecosystem.

Chad Paulin M.Sc., P.Ag.
Manager Environment
(604-247-4672)

Warren Mills, B.Sc, P.Ag., EP
Environmental Coordinator
(604-247-4694)

Att. 1: Stormwater Pollution Prevention Information Guides (3)

The following best management practises can be implemented into your automotive repair and salvage business to reduce your impact on the environment and neighboring infrastructure:

- regularly scheduling the appropriate pickup and disposal of waste/garbage from onsite;
- routinely inspecting all of your drums, tanks, and containers onsite and replacing them if damage is present;Maintain a clean and orderly facility;
- maintaining a clean and orderly facility;
- implementing material handling an training protocols for operational staff; and
- maintaining an environmental management plan.

More Information

City of Richmond Environmental Sustainability Services
Tel: 604-247-4694
Email: www.richmond.ca/sustainability/environment

City of Richmond Environmental Programs
City recycling services, depot information
Tel: 604-276-4010

Environment Canada
Email: www.ec.gc.ca/pollution/

BC Ministry of Environment
Tel: 604-582-5200
Email: www2.gov.bc.ca

Metro Vancouver Environmental Regulation & Enforcement Services
Tel: 604-432-6200
Email: www.metrovancouver.org/services/Permits-regulations-enforcement

Report a Spill

When a spill occurs, or there is the risk of one occurring, it must be reported immediately by calling 1-800-663-3456. This is known as the initial report or Dangerous Goods Incident Report (DGIR).

If you are unable to identify the material in question or there is an emergency, call the Richmond Fire Department at 911.

City of Richmond
6911 No. 3 Road, Richmond, BC V6Y 2C1
www.richmond.ca
May 28, 2019

Richmond

Automobile Repair and Salvage Industry

Stormwater Pollution Prevention Information Guide

Sustainability
www.richmond.ca

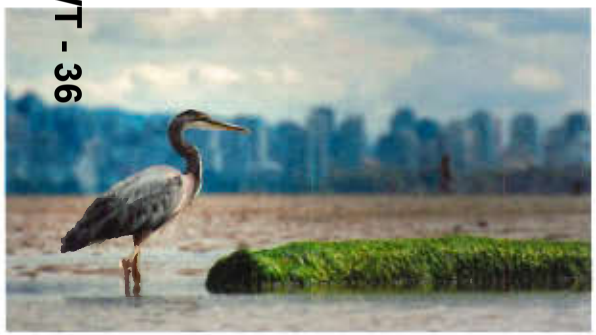
Richmond is an island city located within one of the most productive ecosystems in the world. Our community relies on a healthy and diverse landscape to maintain biological diversity and a resilient natural environment.

Richmond's Drainage Network

The City's storm drainage system is designed to catch rainwater and direct it back to the Fraser River in an efficient way to prevent local flooding.

Water entering the Fraser River is **untreated** so it is important to prevent polluted water from entering local storm drains.

The Fraser River hosts many unique wildlife and aquatic habitat, including Pacific salmon species, orcas, whales, and sea otters.



Did you know?

An individual or business may be fined up to $10,000.00 for discharging any waste water or other potentially polluting substances to the storm drainage system under the City's *Pollution Prevention and Clean-up Bylaw (#8475)*.

In addition, these discharges may also violate *Section 36(3) of the Federal Fisheries Act*, since most of the City's drainage system is connected directly to the Fraser River.

High Impact Areas

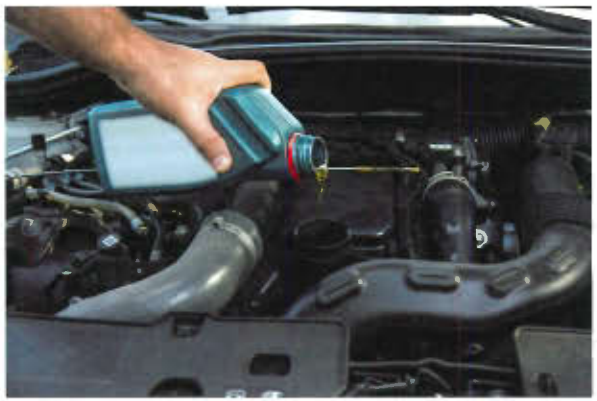
- Trash containers and adjacent areas
- Material storage areas
- Vehicle and equipment maintenance areas
- Loading docks

Activities Often Associated with Pollutants

- Vehicle dismantling
- Used parts storage
- Vehicle and equipment storage; maintenance, and washing areas
- Storage of liquids in above-ground tanks
- Connections to storm drain

Potential Sources of Pollution at Your Facility

- Oils, gasoline and diesel fuel
- Transmission, power steering, washer, and brake fluid
- Battery acid and solvents
- Heavy metals such as aluminum, cadmium, copper, iron, zinc, mercury, and lead
- Lead from batteries, wheel weights and battery cable ends



- Chlorofluorocarbons (CFCs) and other refrigerants
- Asbestos
- Tires and plastics, polychlorinated biphenyls (PCBs) from foam rubber, carpets and plastic components

Minimizing Exposure

Where feasible, minimizing exposure of potential pollutant sources to precipitation is an important control option. An example of minimizing exposure is sheltering potential pollutants from precipitation events.

Erosion, Sediment Control, and Runoff

- Site activities, topography, and ground cover, are all that will influence the need to manage erosion, sediment, and runoff on your property including:
  - covering exposed soil with sod, mulch, and native plantings;
  - regular maintenance and repair of silt fences, sediment ponds, and access areas;
  - City approved berms and drainage ditches close to the property boundaries that protect neighboring areas;
  - City approved protective berms for uncovered, outdoor storage of parts, engine blocks, and above-ground liquid storage;
  - City approved detention ponds; and
  - City approved oil/water separators and filtration devices.

Dirty Vehicle?

Head to a commercial car wash to clean your vehicle.

Commercial car washes capture all washwater and discharge it to the Metro Vancouver sanitary sewer system where it is properly treated prior to discharge to the ocean.

This is the most environmentally responsible way to clean your vehicle, with the bonus of supporting local business.

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More Information

City of Richmond Environmental Sustainability Services
Tel: 604-247-4694
Email: www.richmond.ca/sustainability/environment

Environment Canada
Email: www.ec.gc.ca/pollution/

BC Ministry of Environment
Tel: 604-582-5200
Email: www2.gov.bc.ca

Metro Vancouver Environmental Regulation & Enforcement Services
Tel: 604-432-6200
Email: www.metrovancouver.org/services/Permits-regulations-enforcement

Report a Spill

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If you are unable to identify the material in question or there is an emergency, call the Richmond Fire Department at 911.

City of Richmond
6911 No. 3 Road, Richmond, BC V6Y 2C1
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May 28, 2019

Richmond

Car Washing

Stormwater Pollution Prevention Information Guide

Sustainability
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The Fraser River hosts many unique wildlife and aquatic habitat, including Pacific salmon species, orca whales, and sea otters.

Washing your car with just water over a pervious surface like grass or gravel is the only responsible way to wash your car at home.

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Wastewater from Car Washing

We all love clean cars or vehicles, but polluted water from car washing often contains:

- sediments;
- detergents;
- greases;
- oils; and
- other pollutants.

Polluted waters that enter the City's storm drains will have direct and serious consequences to our overall ecosystems.

If rinsing off small amounts of pollen or dust, use only water and wash on top of grass or gravel.

Greater Vancouver's Water Restrictions

General Restrictions

Summer is when Greater Vancouver uses the most water, receives the least amount of rain, and has the least amount of water in storage. Metro Vancouver has amended the activation period for lawn sprinkling restrictions. Effective May 1 to October 15, lawn sprinkling is only permitted within the specific time periods.

The following restrictions apply when Stage 1, 2, 3, or 4 Restrictions are in force:

- all hoses must have an automatic shut-off device;
- water must not run off unnecessarily on impermeable surfaces such as pavement;
- artificial playing turf and outdoor tracks must not be watered except for health or safety reasons;
- hoses and taps must not run unnecessarily; and
- irrigation system must not be faulty, leaking, or misdirected.

Each Stage has its own additional restrictions, and car washing is prohibited in Stage 3 and 4 Water Restrictions.

Visit www.richmond.ca/safety/property/environment/water to learn more about Water Restrictions.

Chemicals and Cleaners

Chemicals and cleaners must be disposed of properly to avoid waterways.

Visit www.richmond.ca/services/recycling/banned to learn more about how to dispose of chemicals, cleaners, and other household items.

Saw Cutting

- Slurry and sediment from saw cutting operations should be confined to the immediate work area by using berms or diversion structures. Cover or barricade all nearby stormwater drains.
- Collect saw-cut slurry in a well contained area and allow it to dry. Dispose of dry slurry in garbage. Residue from cutting and grinding operations may also be picked up by means of a wet vac or vacuum attachment to the cutting machine.
- Residue must not be allowed to flow across the pavement, or be left on the surface of the pavement. It may be necessary to use a street sweeper or wash down the area and collect the water.
- Avoid saw cutting operation during rainfall events unless you can contain, captu re, and dispose of cuttings, sediment, and wash water.
- Consult Metro Vancouver regarding waste water treatment and discharge options to the sanitary sewer system.

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More Information

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Richmond

Concrete, Stone and Tile Industry

Stormwater Pollution Prevention Information Guide

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In addition, these discharges may also violate *Section 36(3) of the Federal Fisheries Act*, since most of the City's drainage system is connected directly to the Fraser River.

Best Management Practices

Discharge of waste water containing concrete, stone and tile fines, or chemicals used to wash or finish these materials, must be contained to prevent them from draining to streets, lanes, or other areas where it may reach the stormwater drainage system.

These wastes pose a serious risk to Richmond's aquatic environment. Concrete slurry and saw-cut fines contaminate stormdrains and suffocate sea life.

At the Construction Site

Be aware of drainage catch basin locations prior to commencing work.

- Provide catch basin covers, inlet protection, or similarly effective containment devices over all nearby catch basins.
- Use drip pans, ground cloths, heavy cardboard or plywood wherever concrete, asphalt, or asphalt emulsion chunks and drips are likely to fall unintentionally, such as beneath extraction points from mixing equipment.

- Concrete delivery and pumping vehicles must not discharge any concrete, slurry, or rinse water into street gutters, stormwater drainages, drainage ditches, or onto the paved surface of a roadway or driveway.
- Direct aggregate wash water areas on the construction site where the sediments can filter through grass or gravel.
- If wastewater cannot be directed to suitable areas on the construction site, it should be contained, collected, and disposed of in an approved matter. Absorbents may be required to contain and collect wastewater.
- During rain events, portable asphalt mixing equipment should be covered by an awning or other similar structures to avoid contact with rainfall.

Clean-Up

- Designate a washout area away from stormdrains onsite where application and mixing equipment cleaning should be conducted. This washout area can also be used to contain excess material and slurry.
- Trucks and equipment should be returned to your facility for washing in a wash bay connected to the sanitary sewer.
- Sweep the pouring area to collect loose aggregate chunks and dust. Do not hose down the area to stormwater drains.