

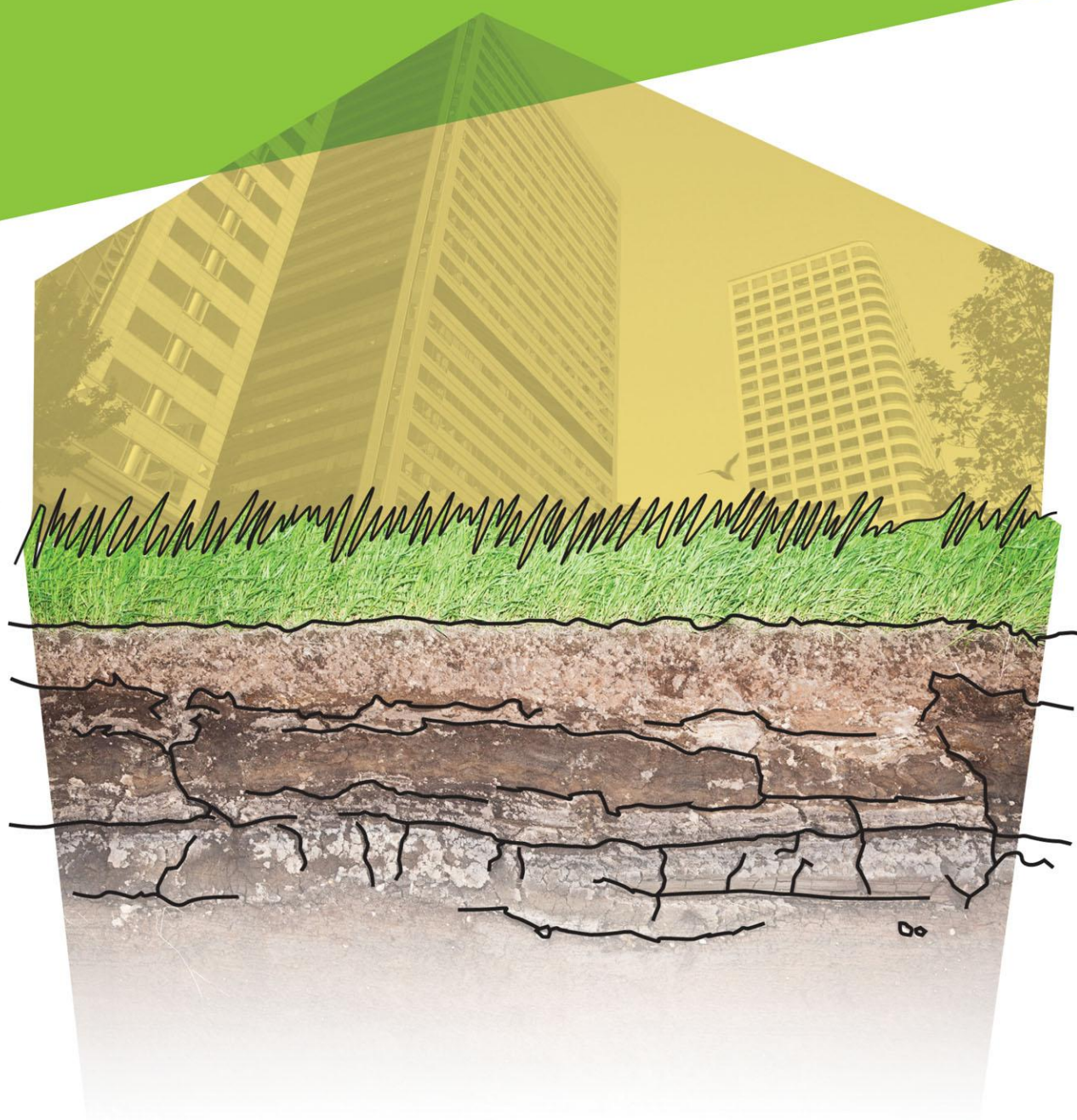


FEDERATION
OF CANADIAN
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FÉDÉRATION
CANADIENNE DES
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GREEN MUNICIPAL FUND

British Columbia Brownfield Roadmap 2014



INTRODUCTION

The Federation of Canadian Municipalities' (FCM) Green Municipal Fund™ (GMF) has produced this series of Brownfield Roadmaps to help municipalities and their private-sector partners better understand how to redevelop brownfields in their communities. The roadmaps provide a high-level overview of the brownfield redevelopment process in each province and territory, and link each process step to relevant legislative requirements and potential sources of funding.

Developed in close consultation with provincial and territorial governments, each roadmap features an easy-to-follow path through:

- The generic brownfield redevelopment process — a description of the steps that are typically followed when redeveloping a brownfield site in Canada
- Provincial requirements — an overview of provincial legislation and policy requirements associated with each step in the process
- Funding and incentive programs — a list of relevant resources, such as GMF, that are available to support municipalities and their partners as they undertake brownfield redevelopment

The roadmaps feature a flowchart that summarizes the main activities and milestones, illustrates where the steps are connected, and links to further details in the document.

Visit [Revitalize Your Brownfields](#) for additional tools, guidance and resources related to brownfield redevelopment.

The information presented is current to the publication date and may not capture all relevant programs. Please contact the responsible organizations to verify up-to-date information.

NOTE: This document summarizes current provincial legislation and must not be regarded as a formal legal interpretation. Please refer to the identified legislation for complete details on legislative requirements, and seek legal advice if necessary.

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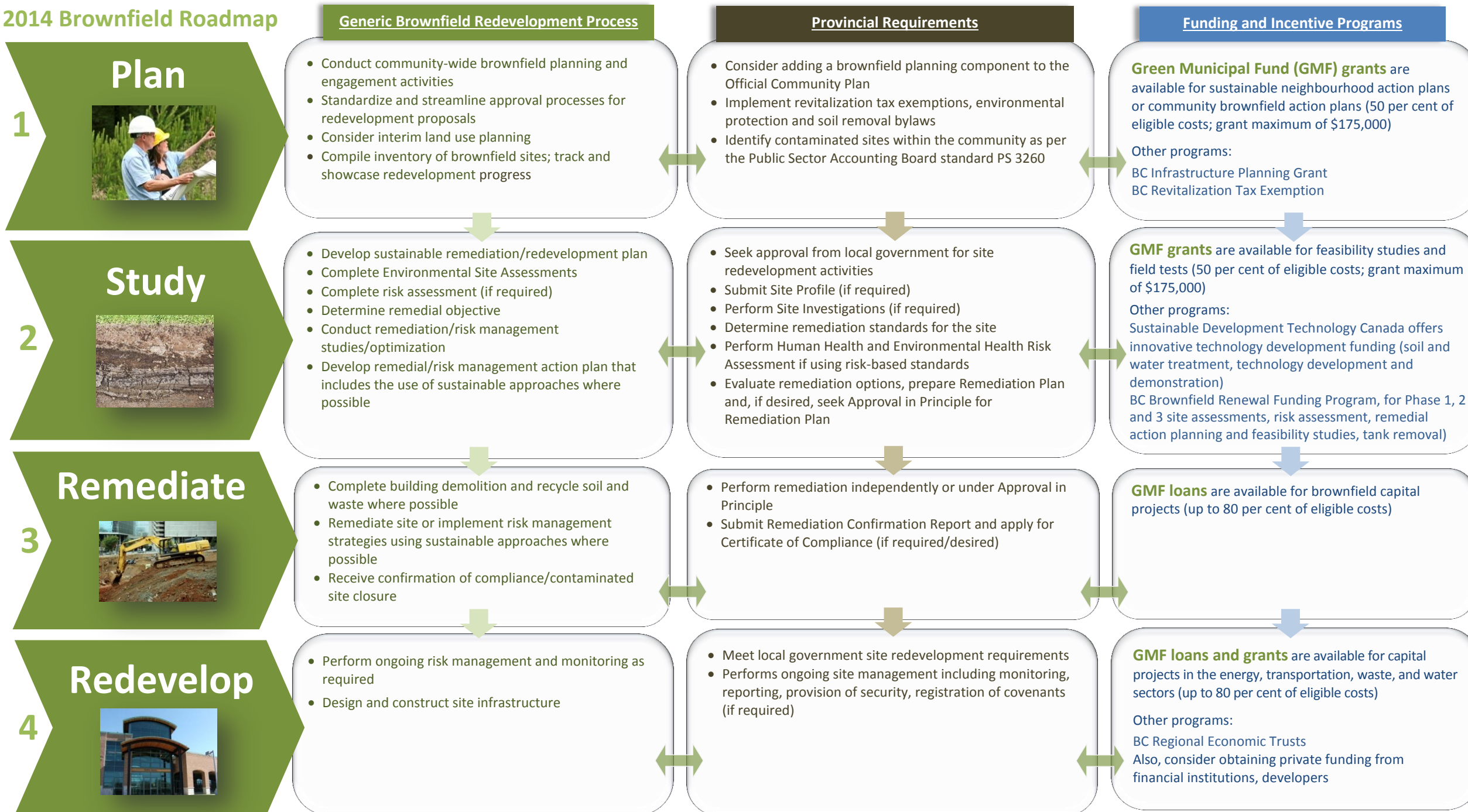
This publication is available on the FCM Green Municipal Fund website at www.fcm.ca/gmf under “Resources.”

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BRITISH COLUMBIA 2014 Brownfield Roadmap



Generic Brownfield Redevelopment Process

This section outlines the steps that are typically undertaken in planning, assessing, remediating and redeveloping brownfield sites. Not all of the steps may be required for every project. Some steps are suggested best practices and some steps can be performed concurrently. The process is described using universal site remediation terminology.



Plan

Community-wide brownfield planning activities

This step includes planning activities associated with brownfield redevelopment, such as sustainable community plans, community improvement plans (CIPs), neighbourhood plans, brownfield redevelopment strategies, and stakeholder and community engagement. **Parties typically involved:** municipal planning department, planning consultants.

Standardize and streamline approval processes for brownfield redevelopment proposals

Municipalities should standardize and streamline approval processes to ensure that brownfield redevelopment proposals are treated in an efficient, consistent and timely manner. Long approval processes can have a significant impact on a project's bottom line and jeopardize its financial viability. The streamlining process should include consultations with stakeholders, such as the public and developers. **Parties typically involved:** municipal planning department, consultants.

Interim land use planning

Municipalities may consider undertaking interim land uses for sites that cannot be redeveloped immediately — for financial or other reasons. In this case, rather than leaving sites vacant, temporary or interim uses (such as parking lots, community gardens, or temporary commercial/industrial uses) could be more economically and socially beneficial to the community. However, the interim land use should not increase risks to human health and the environment, nor should it impede future redevelopment to a desirable end use. **Parties typically involved:** municipal planning department, planning consultants.

Identification and inventories of brownfield sites

In some provinces and territories, information related to brownfields or contaminated sites is compiled into databases or site registries. These inventories may be made available to the public. Municipalities can reference this information to identify contaminated sites and create a municipal brownfield inventory. Municipalities can also use this information to showcase progress on brownfield redevelopment in their community.

Municipalities should also note that the standard on [Liability for Contaminated Sites, Section PS 3260](#), contained in the [Public Sector Accounting Handbook](#) of Chartered Professional Accountants Canada, comes into effect for fiscal periods commencing on or after April 1, 2014. Section PS 3260 contains standards for municipalities on how to account for and report a liability associated with the remediation of contaminated sites for which they are responsible. Specifically, it establishes when to recognize and how to measure a liability for remediation. To properly estimate and track the associated liabilities, municipalities may need to develop an inventory of contaminated or potentially contaminated sites. Careful consideration should be given to the scope of Section PS 3260. A liability generally results from contamination at sites that are no longer in productive use or contamination arising from an unexpected event, such as a natural disaster. The standard does not apply to liabilities associated with retiring long-lived tangible capital assets in productive use (e.g. operation of a solid waste landfill site). For more information, contact [CPA Canada](#). **Parties typically involved:** municipal treasury, property, planning, and engineering and works departments, auditors and provincial officials.



Study

Sustainable remediation and redevelopment

Sustainable remediation considers the full picture when making decisions about brownfield remediation and redevelopment projects. It ensures that all aspects of the project — from assessment to redevelopment — are managed in a way that optimizes and balances environmental, social and economic benefits. A range of remediation and risk management techniques may be considered, such as administrative controls (e.g. zoning and land use restrictions); physical barriers or ground covers (e.g. asphalt); in-situ techniques, which are applied in the ground or in water; and ex-situ techniques, which involve excavating contaminated soil or pumping out groundwater.

Environmental site assessments

Known or suspected contaminated sites must be assessed to determine the type, concentration, location and extent of contamination. This information is gathered by using specific contaminated site assessment approaches, usually performed in phases and with more detailed information collected in each phase. The phases are typically defined as follows:

- **Phase I Environmental Site Assessment:** a preliminary assessment to characterize a site by evaluating current and historical land uses or activities, potential areas of contamination, and surrounding land uses or activities.
- **Phase II Environmental Site Assessment:** a preliminary assessment during which field samples are analyzed to determine contaminant types and concentrations.
- **Detailed or Delineation Environmental Site Assessment:** in some cases, a more detailed assessment is performed to confirm contaminant types and concentrations, and to delineate contaminated areas.

Following the site assessment, the generic provincial remedial objectives (i.e. the concentrations of contaminants allowed in the soil or groundwater based on the specific land use) should be reviewed to determine the feasibility of meeting these

objectives. In some provinces, remedial objectives are called remedial or remediation standards or criteria. **Parties typically involved:** municipal engineers and planners, environmental consultants.

Risk assessment

If, based on the site assessment results, it is not feasible to meet the generic provincial remedial objectives, there is an option in most provinces to perform a detailed risk assessment to develop site-specific or risk-based remediation objectives. The risk assessment must demonstrate that the site-specific objectives will protect both the environment and human health to the same extent as the generic objectives, if those objectives could have been met. **Parties typically involved:** municipal engineers and planners, environmental consultants, risk assessors.

Remedial objective determination

The final remedial objectives for the site are determined in this step. These could be either generic remedial objectives set by the province or territory, or the equally protective site-specific or risk-based remedial objectives. **Parties typically involved:** municipal engineers and planners, environmental consultants.

Remediation/risk management feasibility studies/optimization

In this step, remediation or risk management options for the site are evaluated. This could entail a study evaluating the feasibility of various options, based on available literature or based on past experience. It could also include an in-depth bench- or field-scale analysis to support the selection of a specific technology or method, or to optimize the operating parameters for a specific technology or method. **Parties typically involved:** municipal engineers and planners, environmental consultants, remediation contractors.

Remedial/risk management action planning

Based on the review of the remediation and risk management options applicable to and viable for the site, the final options are selected and a remedial action plan is developed to outline how these options will be implemented. Where possible, this plan should include the use of [sustainable approaches](#). **Parties typically involved:** municipal engineers and planners, environmental consultants, remediation contractors.



Remediate

Building demolition and soil and waste recycling

This step involves building and infrastructure demolition and soil and waste removal (e.g., utilities, roads, above-ground or underground storage tanks). Where possible soil and waste should be recycled on-site or reused for other purposes. **Parties typically involved:** municipal engineers and planners, environmental consultants, remediation contractors, waste management contractors.

Remediation/risk management implementation

In this step, the site remediation, risk management actions, or both, are carried out as described in the remedial action plan. Where [possible sustainable remediation or risk management approaches](#) should be used. These activities are performed until the contamination is removed, altered, contained or destroyed to meet the provincial remedial objectives or the site-specific, risk-based objectives. **Parties typically involved:** municipal engineers and planners, environmental consultants, remediation contractors.

community. **Parties typically involved:** municipal engineers and planners, environmental consultants, provincial officials.

Ongoing risk management and monitoring

Once remediation is complete or risk management activities have been implemented, long-term monitoring or risk management may be required, depending on the restrictions placed on the site. This could involve periodic sampling of soil or groundwater, or other restrictions placed on the site (e.g., limitations on excavation or on land use, or access controls). **Parties typically involved:** municipal engineers and planners, environmental and planning consultants, developers, construction contractors.

Design and construction of infrastructure

This step involves redevelopment activities, including the design and construction of infrastructure on the site. **Parties typically involved:** municipal engineers and planners, environmental and planning consultants, developers, construction contractors.



Redevelop

Confirmation of compliance/contaminated site closure

This step results in official verification that the site has met the established remediation or risk management objectives. The regulatory documentation required at this stage typically states:

- whether the site meets the regulatory requirements
- whether ongoing monitoring is required
- whether continued risk management is required

At this stage, typically, the results of the remediation or risk management actions and the next steps for redevelopment are communicated to stakeholders and the

Provincial Requirements

This section outlines the key pieces of British Columbia’s brownfields legislation and policy positions related to each generic step.

Key legislation and sources of information¹

- B.C. Ministry of Environment
 - [Land Remediation](#)
 - [Land Remediation Fact Sheets](#)
 - [The B.C. Environmental Management Act \(EMA\)](#)
 - [The B.C. Contaminated Sites Regulation \(CSR\)](#)For more information:
[B.C. Ministry of Environment, Land Remediation](#)
250-387-4441
site@gov.bc.ca
- B.C. Brownfield Renewal
 - [B.C. Brownfield Renewal](#)For more information:
B.C. Brownfield Renewal
877-787-9730
brownfieldrenewal@gov.bc.ca
- Local Government Division, Ministry of Community, Sport and Cultural Development
 - [Local Government Department](#)

¹ NOTE: This document summarizes current provincial legislation and must not be regarded as a formal legal interpretation. Please refer to the identified legislation for complete details on legislative requirements, and seek legal advice if necessary.



Plan

Consider adding a brownfield planning component to the Official Community Plan

Part 26 of the [Local Government Act](#) authorizes the development of [Official Community Plans](#) (OCPs) in B.C. An OCP is a local government bylaw that provides objectives and policies to guide decisions on planning and land use management within the area covered by the plan. OCPs are significant because, once adopted, all bylaws and works undertaken by a municipal council or board must be consistent with the plan. Other sections of the Local Government Act provide further direction and guidance for the content to be included in OCPs.

Implement revitalization tax exemptions, environmental protection and soil removal bylaws

The [B.C. Community Charter](#) gives municipal councils powers (through bylaws, regulations, prohibitions, etc.) to establish licencing, permitting and approval requirements related to protecting the natural environment, buildings and other structures, soil removal, the deposit of soil or other materials, and developing [Revitalization Tax Exemptions](#).

Identify contaminated sites within the community

As a result of the [Standard on Liability for Contaminated Sites, Section PS 3260](#), municipalities may need to develop an inventory of contaminated or potentially contaminated sites in order to estimate and track the liabilities associated with them. In developing the inventory, careful consideration should be given to the scope of the Section PS 3260. Guidance and additional information on the

application of PS 3260 in British Columbia can be found on the [Government Financial Officers Association of B.C. website](#).

Having an understanding of contaminated, or potentially contaminated, land within their community will also help communities to plan for brownfield redevelopment. The provincial [Site Registry](#), created as per the [Environmental Management Act](#) s. 43, may have information on sites to assist with preparing a municipal brownfield inventory.



Seek local government approval for site redevelopment activities

The first step in redeveloping a site typically involves submitting an application for approval to the local government. The types of applications and approvals reviewed by local governments or approving officers include:

- Official Community Plan and zoning bylaw amendment applications
- development or development variance permits
- soil removal permits
- structure demolition permits
- subdivision applications
- [B.C.'s Toolkit for Former Service Stations Process Guide](#) provides an outline of the roles and responsibilities of each of the parties involved in the decommissioning and redevelopment of a site.

Submit Site Profile (if required)

Section 40 of the [Environmental Management Act](#) and Part 2 of the [Contaminated Sites Regulation](#) outline the specific situations where a [Site Profile](#) is required. For example, a Site Profile may be required if one of the application types listed above has been submitted, and if a prescribed commercial or industrial activity with the potential to cause contamination has occurred on the site.

Following receipt of a Site Profile, a ministry director may impose a site investigation requirement; temporarily restricting (or freezing) the local government or official from approving the land use related application. If such a

requirement is imposed, the restriction on land use approvals will continue until the site is determined to be free of contamination; the site receives Approval in Principle for a Remediation Plan; the site receives a Certificate of Compliance confirming site remediation; or a ministry director otherwise releases the freeze.

Perform site investigations (if required)

To determine the presence and extent of contamination, the following site investigation steps may be required:

- Preliminary Site Investigation – First Stage ([Contaminated Sites Regulation](#), s.58(1)(a)). Generally equivalent to the generic step *Phase I Site Assessment*. Details on how to find current or historical information on a site and its surrounding area can be found in [B.C.'s Toolkit for Former Service Stations, Site Information Resources](#).
- Preliminary Site Investigation – Second Stage ([Contaminated Sites Regulation](#), s.58(1)(b)). Generally equivalent to the generic step *Phase II Site Assessment*.
 - If the site is not contaminated, the owner can apply for a Determination, which removes the freeze on land use approvals and permits. For more information see the [Site Profile Freeze and Release Provisions Fact Sheet](#).
 - If the site is contaminated, the owner must perform a Detailed Site Investigation, which is generally equivalent to the *Detailed or Delineation Environmental Site Assessment* generic step.

Determine remediation standards for the site

The [Contaminated Sites Regulation](#) numerical standards or risk-based standards may be used in relation to contaminated site remediation in B.C. For more information, see the [Environmental Quality Standards Fact Sheet](#).

Perform human health and environmental health risk assessment (if desired)

If the site owner has decided to use risk-based standards, a human health and environmental health risk assessment is undertaken as per the [Contaminated Sites Regulation](#), s.18 and the [Supplemental Guidance for Risk Assessment](#).

Evaluate remediation options, prepare Remediation Plan, and seek Approval in Principle (if desired)

Remedial options are considered and selected in keeping with the [Environmental Management Act](#) s.56 and the site owner may apply for Approval in Principle of the plan, if desired. An Approval in Principle will allow local governments to release any freeze on land use approvals or permits for contaminated sites. For more information, see the [Site Profile Freeze and Release Provisions Fact Sheet](#).



Remediate

Perform remediation independently or under Approval in Principle

Remediation work is carried out as per the Remediation Plan and, if applicable, the Approval in Principle as per the [Environmental Management Act](#) s.54 and s.53 and the [Contaminated Sites Regulation](#) Parts 9 and 13.

Submit Remediation Confirmation Report and apply for Certificate of Compliance

Once the remediation and any risk management steps are completed, the site owner may submit a Remediation Confirmation Report indicating that the site was remediated as per the Remediation Plan. The site owner may also apply at this time for a Certificate of Compliance as per the [Environmental Management Act](#) s.53(3) and the [Contaminated Sites Regulation](#) s.49. A Certificate of Compliance will allow local governments to release any freeze on land use approvals or permits for contaminated sites, or may allow issuance of an occupancy permit. For more information, see the [Site Profile Freeze and Release Provisions Fact Sheet](#).



Redevelop

Meet local government building permitting requirements

Refer to the local government for building and other permitting requirements.

Perform ongoing site management, monitoring, reporting, security, or registration of covenants (if required)

If a risk assessment was performed and risk management activities were undertaken, any or all of these activities may be required, as per the [Environmental Management Act](#) s.53 and the [Contaminated Sites Regulation](#) s.48.

Funding and Incentive Programs

This section details funding and incentive programs shown in the flowchart on page 1:

- FCM's Green Municipal Fund™ (GMF) brownfield funding opportunities
- Federal programs that fund some aspect of brownfield redevelopment
- Provincial programs that fund some aspect of brownfield redevelopment



Plan

GMF grants for plans

Through GMF, FCM provides grants for plans, including community brownfield action plans (e.g. community brownfield strategies, community improvement plans or revitalization plans). FCM will provide up to 50 per cent of eligible project costs to a maximum of \$175,000. In most cases, GMF funding can be combined with federal and provincial funding.

Status: Currently accepting applications.

Contact:

Federation of Canadian Municipalities

Green Municipal Fund

1-877-997-9926 • gmf@fcm.ca

For more information: [FCM's Green Municipal Fund](#)

B.C. Infrastructure Planning Grants

This program offers grants to support local governments for projects related to sustainable community infrastructure planning. Grants of up to \$10,000 are available to help improve or develop long-term comprehensive plans that include brownfield redevelopment. Grants can be used for a range of activities related to assessing the technical, environmental and economic feasibility of municipal infrastructure projects.

Status: Currently accepting applications.

Contact:

Infrastructure and Finance Division

Ministry of Community, Sport and Cultural Development

250-387-4060

For more information: [Infrastructure Planning Grants](#)

B.C. Revitalization Tax Exemption

Section 226 of the [B.C. Community Charter](#) provides the authority to exempt property from municipal property value taxes. To use this authority, a council must:

- establish a revitalization program with defined reasons and objectives
- enter into agreements with property owners
- exempt the property from taxation once all program and agreement conditions have been met

Exemptions may apply to the value of land or improvements, or both. Councils are free to specify the amount and extent of tax exemptions available.

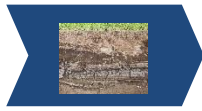
Status: Ongoing.

Contact:

[Local Government Department](#), Ministry of Community, Sport and Cultural Development

For more information:

- [Revitalization Tax Exemptions - A Primer on the Provisions in the Community Charter](#)
- [Information on the Community Charter Act](#)
- [Community Charter](#)



Study

GMF grants for feasibility studies and field tests

Through GMF, FCM provides grants for feasibility studies (including Phase II environmental site assessments and remedial action planning) and field tests for remediation techniques. FCM will provide up to 50 per cent of eligible project costs to a maximum of \$175,000. In most cases, GMF funding can be combined with federal and provincial funding.

Status: Currently accepting applications.

Contact:

Federation of Canadian Municipalities

Green Municipal Fund

1-877-997-9926 • gmf@fcm.ca

For more information: [FCM's Green Municipal Fund](#)

SDTC Innovative Technology Development Funding

Sustainable Development Technology Canada (SDTC) is a federally funded, not-for-profit foundation. SDTC finances and supports the development and demonstration of clean technologies that provide solutions to issues of climate change, clean air, water quality and soil, and deliver economic, environmental and health benefits to Canadians. On average, SDTC funds 33–50 per cent of eligible project costs.

Status: Currently accepting applications.

Contact:

Sustainable Development Technology Canada

Screening and Evaluations Manager

613-234-6313

For more information: [Sustainable Development Technology Canada](#)

B.C. Brownfield Renewal Funding Program

The B.C. Brownfield Renewal Funding Program is designed to help revitalize inactive or unused lands across the province by reducing the risk and uncertainty often associated with these sites. The program contributes funding to land owners or developers for environmental investigations and related activities on brownfield sites where market forces have not achieved redevelopment, and where it is possible to achieve triple-bottom-line benefits.

Eligible activities and costs include:

- Preliminary Site Investigations (Stage 1 and 2)
- Detailed Site Investigations analysis and interpretation and human and ecological risk assessment
- Evaluation of alternative remediation methods
- Preparation of a Remediation Plan
- Investigation and classification of on-site wastes
- Removal of above-ground and underground petroleum or chemical storage tanks
- Quality assurance activities such as verification sampling, analysis and monitoring

Status: Periodic intakes. Check website for current cycle.

Contact:

B.C. Brownfield Renewal Program

877-787-9730

brownfieldrenewal@gov.bc.ca

For more information: [B.C. Brownfield Renewal Program](#)



Remediate

GMF loans for brownfield capital projects

Through GMF, FCM provides loans for remediation and risk management activities at a brownfield site. Up to 80 per cent of eligible project costs are covered. In most cases, GMF funding can be combined with federal and provincial funding.

Status: Currently accepting applications.

Contact:

Federation of Canadian Municipalities

Green Municipal Fund

1-877-997-9926 • gmf@fcm.ca

For more information: [FCM's Green Municipal Fund — brownfields capital projects](#)



Redevelop

GMF loans and grants for redevelopment capital projects

Through GMF, FCM provides loans and grants for redevelopment activities related to energy, water, waste and transportation. Funding is provided for up to 80 per cent of eligible project costs. The loan maximum is \$10 million, and the grant amount is set at up to 20 per cent of the loan to a maximum of \$1 million. In most cases, GMF funding can be combined with federal and provincial funding.

Status: Currently accepting applications.

Contact:

Federation of Canadian Municipalities

Green Municipal Fund

1-877-997-9926 • gmf@fcm.ca

For more information: [FCM's Green Municipal Fund](#)

B.C. Regional Economic Trusts

There are five regional economic trusts in British Columbia:

- Northern Development Initiative Trust
- Island Coastal Economic Development Trust
- Southern Interior Development Initiative Trust
- Nechako-Kitimaat Development Fund Society
- Columbia Basin Trust

Each Trust is independently managed and focuses on different areas. Brownfield redevelopment can form a part of the economic development programs funded. The Island Coastal Economic Trust, for example, will fund brownfield redevelopment projects if there is an economic development benefit. The Ministry of Jobs, Tourism and Skills Training is responsible for corporate relationships with the Trusts.

Status: Still accepting applications.

Contact:

Economic Development Division

Tel: 250-952-7466

For more information: [RuralBC Secretariat](#)

Private funding from financial institutions, developers

Municipalities should also seek information on private funding sources to assist with brownfield redevelopment activities.