

***Canada-British Columbia
BUILDING CANADA FUND
- Communities Component***

**Category Specific Supplement:
DRINKING WATER**

March 2009



Canada

Foreword

This Drinking Water Supplement provides an overview of the Canada – British Columbia Building Canada Fund – Communities Component (BCF-CC) and the information necessary to satisfy the requirements needed to apply for drinking water infrastructure projects. For each project category a category specific supplement guide has been created.

This **Drinking Water Supplement** is to be used in combination with **the Provincial Program Guide. These two (2) guides contain the critical information required to successfully complete and submit an application under the Canada - British Columbia Building Canada Fund – Communities Component. Further, the Drinking Water Supplement and the Provincial Program Guide contain significant references to the following documents:**

1. BCF On-Line Program Guide – Communities Component
2. BCF-CC Program Agreement

These guides and additional program information can be found at:

www.bcbuildingcanadafundcommunities.ca

When you are ready to submit your application, you will submit it electronically using the online application in the Shared Information Management System for Infrastructure (SIMSI), which can be found at:

<https://bcfcc-fccvc.infrastructure.gc.ca/>

To be assigned a username and password to access the SIMSI on-line application system, please forward a request to Infra@gov.bc.ca.

For more information on the BCF-CC program contact:

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1 Introduction

This Drinking Water Supplement is for applicants who are applying for drinking water projects under the Canada – British Columbia Building Canada Fund – Communities Component (BCF-CC), and is to be used in combination with the Provincial Program Guide. This supplement provides detailed information which is not contained in the BCF On-Line Program Guide – Communities Component or the Provincial Program Guide, and contains category specific information that **must be reviewed prior to submitting a Shared Information Management System for Infrastructure (SIMSI) on-line application on-line application**. It has been created to ensure that applicants understand and meet the requirements needed to complete an application for a **drinking water** project. These guides are found at:

www.bcbuildingcanadafundcommunities.ca

This Drinking Water Guide contains a **Drinking Water Form** (see Appendix 1) that **must be completed** and uploaded on the Document Upload page of the **SIMSI on-line application**. The questions in Appendix 1 and additional required documents identified in this Guide will provide Provincial program staff with the information needed to evaluate applications under the BCF-CC. For more information about SIMSI see BCF On-Line Program Guide-Communities Component.

A checklist has been provided in Appendix 2 to further ensure you have satisfied all requirements.

IMPORTANT NOTE: The information provided in this guide and the required information/documentation provided by the applicant is utilized for project evaluation and will ultimately identify projects to be considered for funding approval. It is highly recommended to carefully read the guides and complete the application in Appendix 1.

2 Objectives, Subcategories, and Project Outcomes

Objectives:

To construct or materially rehabilitate public infrastructure that contributes to one of the following objectives:

- Improved safety, management, reliability and efficiency of Canada’s drinking water treatment and distribution systems;
- Increase the number of households with access to safe drinking water that meets or exceeds to Guidelines for Canadian Drinking Water Quality;
- Improved protection and/or management of drinking water sources; and
- Improved conservation of water.

Subcategories:

- Drinking water treatment infrastructure
- Drinking water distribution systems (may include metering as part of a larger project).

Project Outcomes:

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Increased number of households provided with access to safe drinking water;
- Improved quality of drinking water;
- Increased number of households equipped with residential metering;
- Decreased daily per capita water use;
- Increased service reliability of water treatment and distribution facilities;
- Increased efficiency in the treatment plant operations and/or distribution system, as demonstrated by a reduction in water leakage or loss, use of treatment chemicals, energy use and/or number of boil water advisories.

Mandatory Requirements:

- Where the project involves the new construction of or material rehabilitation of a drinking water treatment plant, the drinking water quality following completion of the project must meet or exceed provincial standards.
- For non-commercial ventures, the proponent must indicate whether full cost pricing supported by universal metering for water is in place, and if not, how cost recovery will be pursued and how capital and operating and maintenance shortfalls will be address.
- A multi-barrier approach to safe drinking water including, where possible, source water protection.

3 Drinking Water Mandatory Criteria and Supporting Documents

In addition to the common mandatory criteria for all categories (see BCF On-Line Program Guide – Communities Component), this section discusses category specific mandatory criteria for drinking water projects. It is integral that you demonstrate that you have met this criteria either within the application or with supporting documentation. All mandatory and supporting documents must be uploaded to the on-line SIMSI application Document Upload page.

The following list identifies mandatory and supporting documents for drinking water projects. These items are further discussed below.

- **All drinking water infrastructure applications must include:**
 - An Engineering Feasibility Study of Options (see Section 3.1)
 - A Business Case (see Section 3.2)
 - A Water Conservation Plan/Strategy (see Section 3.3)
 - A completed Drinking Water Supplement Form (see Section 3.4 and Appendix 1)
- **For projects where the federal contribution is over \$10 million**, the applicant must have an Integrated Watershed Management Plan in place, or commit to implementing one within two years of project approval (see Section 3.5).

- **For projects over \$15 million**, applicants must complete a Value Engineering analysis (see Section 3.6).
- **For Water Distribution Extensions**, applicants must provide documentation detailing the nature and extent of individual failures (see Section 3.7).

3.1 Engineering Feasibility Study of Options

All water infrastructure projects must be supported by an up-to-date comprehensive engineering feasibility study. Applicants are asked to conduct engineering feasibility studies to ensure that they have considered the options and chosen the best engineering and management solution for the particular issue.

An engineering feasibility study should identify the rationale for the proposed solution and should address capital and life cycle expenditures, annual operating costs, emerging technologies, demand management solutions (water conservation versus expansion), environmental considerations and societal impacts. A feasibility study should also include drawings or maps showing locations of the project and sufficient details to fully describe the project.

3.2 Business Case

Sections of the SIMSI on-line application require submission of financial information for the proposed project. Each section will be completed to meet requirements of the application. It is important to note that the Project Benefits section in the on-line SIMSI application requires that the applicant upload a “Cost Benefit Analysis or other study” on the Document Upload Page. This documentation will further support the business case.

A business case supports the application, and allows for elaboration on elements which may not be captured in SIMSI. In addition to the business case elements outlined on the BCF On-Line Program Guide, an effective business plan should include:

- A capital cost estimate for the infrastructure that includes an amount for contingency costs;
- A five year budget summary indicating the sources of financing for the construction, operation and replacement of the infrastructure. The sources should include, as applicable, grants, property taxes, fees, debt, Integrated Resource Management (IRM)* strategies and other sources. The financing should be matched by expenditures for the construction and subsequent operation and maintenance of the infrastructure as well as a contribution to a reserve fund for the replacement of the infrastructure;
- A description of how the rate structure for water consumption will encourage conservation of the resource, reduce operating costs, and defer the need to expand infrastructure;
- Where the potential for revenue from IRM exists, a brief description of the proposed strategy;

- A discussion of the method by which the infrastructure will be amortized to meet the new requirements for financial reporting under Generally Accepted Accounting Principles for the public sector;
- An indication that information in the five year budget provided is or will be incorporated into the financial plan required under s.165 of the *Community Charter* or s.815 of the *Local Government Act*;
- Grant per capita: the total Federal/Provincial request divided by the number of individuals served by the infrastructure; and
- **For Regional Districts**, the number, type and assessed value of properties served by the infrastructure and a description of the area that will be served by the infrastructure and how the costs of the service will be allocated among participants in the service.

*Integrated Resource Management (IRM) – is a management approach that utilizes solid and liquid waste to create energy, reduce greenhouse gas emissions, conserve and re-use water, and recover nutrients.

IMPORTANT NOTES:

- **If this information is contained within the Engineering Feasibility Study of Options (Section 3.1) the Proponent is not required to submit a business case with their application for funding.**
- There will be a **financial analysis of each application**, which will contain a review of the periodic financial information submitted to the Ministry of Community Development (the Ministry). This required financial reporting is available on Ministry files, and thus does not need to be submitted with an application. However; the applicant should recognize that the ranking of applications may reflect the extent to which applicants have met financial criteria such as:
 - Did the applicant meet the deadlines for legislated financial reporting, including the financial plan, audited financial statements, Local Government Data Entry (LGDE) forms and Statement of Financial Information (SOFI)?
 - For municipalities, did the financial plan submitted to the Ministry meet the 2008 transitional requirements for amended s.165 of the Community Charter found in Financial Circulars 08:10 (Financial Plan: New Revenue Policy Disclosure Requirements) and 08:15 (Guide to the Amortization of Tangible Capital Assets)?
 - Measures of financial stability and sustainability which include property tax and development costs charge structures.

3.3 Water Conservation Plan/Strategy

For all water infrastructure projects applicants must submit an up-to-date water conservation plan or framework summarizing the community's demand management/water conservation strategies. Water conservation is a management strategy that can delay the need to expand infrastructure, reduce drinking and wastewater treatment costs, reduce energy requirements and sustain water sources in

a changing climate. A water conservation plan identifies the community's management strategies to support the sizing of proposed infrastructure works; as well it indicates that infrastructure investments and resources are being managed sustainably.

Community water conservation planning further supports actions in the Province's Living Water Smart Plan (www.livingwatersmart.ca), such as:

- Fifty percent of new municipal water needs will be acquired through conservation by 2020.

An effective water conservation plan includes:

- Identify current water consumption (e.g. 600 L/capita/day);
- Set a water reduction target (e.g. 350 L/capita/day by xxxx year);
- Outline the communities current and planned water conservation actions/measures (e.g. universal metering, inclined block water rates, conservation plumbing fixtures, leakage reduction, rebate programs, education programs, xeriscaping, etc.);
- Identify current and planned mitigation and adaptation strategies to address climate change (e.g. installing water meters to secure water supply, lowering demand to reduce pumping requirements);
- Detail how strategies/initiatives will be implemented (e.g. schedule, funding, responsibility etc.); and
- Link the plan to other regulatory mechanisms, policies and plans (e.g. water master plan, wastewater management strategy, etc.).

Project applications will be evaluated based on how well they address and apply demand management/water conservation strategies.

3.4 Drinking Water Supplement Questions

The following section describes the additional questions to the on-line SIMSI application and information needed to complete the **Drinking Water Supplement Form** located in Appendix 1 – a fillable form is found on the BCF-CC website: www.bcbuildingcanadafundcommunities.ca. The Drinking Water Supplement Form **must be submitted** by uploading it to the on-line SIMSI application. **It is integral that these questions are answered, as they will be used to support the ranking of your project against others.**

A1. Does this project application include proposed works that were the basis, or a component of a previously approved or unapproved provincial or federal capital or planning grant program? Yes/No. If yes, indicate the program name, project number and the amount of funding requested and/or received.

If applicable, identify all approved or unapproved contributions, program name, project number, and the amount of funding requested and/or received. This information will further assist in the review of this project.

A2. Is this project going to exceed the Model National Energy Code for Buildings or achieve a recognized environmental standard (e.g. LEED® - Leadership in Energy and Environmental Design; ISO 14001 Environmental Management System; etc.)? Yes/No. Explain:

All new buildings or materially rehabilitated buildings (including water and wastewater treatment plants) should exceed the energy efficiency requirements of the Model National Energy Code for Buildings or, (preferably) obtain a LEED certification. This is supported by strategies outlined in the BC Energy Plan (www.energyplan.gov.bc.ca) and BC's Climate Action Plan (www.livesmartbc.ca/plan/index.html). Provide appropriate documentation to demonstrate that the project will achieve a recognized standard upon completion.

A3. Will the project be constructed on lands within the Agricultural Land Reserve? Yes/No. Explain:

The Agricultural Land Reserve (ALR) is a Provincial land use zone regulated through the Agricultural Land Commission that protects scarce soil resources and provides a location to sustain agriculture. As the ALR is a matter of significant provincial interest, all ministries work to support the integrity of the ALR and maintain and enhance its ongoing suitability for farming.

For projects involving land within the ALR, describe the infrastructure components that will be constructed in this area. In addition, a letter of support/endorsement from the Agricultural Land Commission must be attached to the application to support this project.

A4. Major risks related to extreme natural events and/or climate change with a potential impact on the project during construction and once complete, must be considered and, where applicable, a mitigation plan developed. Identify these risks and explain how the project considers these risks, and identify the measures being implemented to manage these risks.

Climate change refers to any long-term significant change in the “average weather” in a given region. Climate change can include changes in average climate, climate variability, the frequency and/or severity of extreme weather events and climate-related emergencies (e.g. flood, drought, storm surge).

These climatic changes in turn affect bio-physical systems; they may, for example, drive changes in hydrology (e.g. reduced or early melting of snowpack, intense storm events that increase turbidity levels), sea level and ecosystem health. An initial assessment can indicate the potential for climate change or related impacts to affect infrastructure over its lifetime.

Infrastructure is a long-term commitment; therefore it is important that applicants consider major risks related to extreme natural events and/or climate change when planning for infrastructure. An initial assessment can indicate the potential for climate change or related impacts to affect infrastructure over its lifetime. Identify the risks associated with your project and explain how these risks are being managed.

A5. Describe how greenhouse gas (GHG) emission impacts (through the construction and operation of the proposed infrastructure project) have been considered, and where possible, reduced? Please include an outline, in detail the methodology used to determine GHG emission reduction estimates (include all calculations and assumptions).

The Province is committed to firm greenhouse gas (GHG) reduction targets and enshrined these in law through the Greenhouse Gas Reduction Targets Act. The Provincial government is encouraging local governments to become carbon neutral in their operations by 2012 through signing and implementing the *Climate Action Charter* (www.cserv.gov.bc.ca/ministry/whatsnew/climate_action_charter.htm).

Not all infrastructure projects will lead to net greenhouse gas reductions. For example, the construction of new infrastructure will often lead to a net increase in GHG emissions. However, where these projects take steps to reduce greenhouse gases, it is still possible to report emissions reductions relative to a ‘business-as-usual’ future. For example, a new building will lead to an increase in overall energy and greenhouse gas emissions even if it is highly energy efficient. However, a highly energy efficient building will reduce emissions in comparison to a business-as-usual building.

In addition, water infrastructure projects can incorporate renewable energy opportunities as part of the project, thus decreasing their use of non-renewable energy. This in turn reduces greenhouse gases. Examples include the

generation of hydro-electricity on water mains, solar heat and electricity infrastructure on the roof of the treatment facility, etc. Also see the Integrated Resource Management Study for further approaches: www.cserv.gov.bc.ca/ministry/whatsnew/irm.htm

Please outline, in detail, the methodology used to determine GHG emissions (including all calculations and assumptions). For further information on calculating greenhouse gases, please view the Greenhouse Gas Assessment Guide (www.cserv.gov.bc.ca/lgd/environment/energy_efficiency.htm).

A6. What is the current status of the community's local and regional planning? Explain how this project supports the environmental, social and economic goals and objectives of community and regional plans (e.g., official community plan (OCP), regional growth strategy (RGS))?

Describe when the community's OCP and, if applicable, the region's RGS and municipal RCS, were last updated and explain the specific goals, objectives, strategies and/or policies that the project application contributes towards. Explain the connection at both a strategic and practical level.

B1. Does the local government have a water master plan? Yes/No. If yes, identify and explain how this project fits into the plan. If no, explain how the local government plans and manages its water infrastructure.

A water master plan provides a broad assessment of future water source, treatment, and distribution requirements and sets out the strategies needed to sustain these infrastructure needs. Indicate and explain how this project is identified in or related to the community water master plan (where applicable attach and identify related pages from the plan).

B2. Does the local government have a watershed management plan? Yes/No. If yes, identify and explain how this project fits into the plan. If no, explain how water management is considered in a watershed context.

Integrated watershed management is a strategy for protecting both aquatic ecosystems and drinking water sources. Watershed-based source protection represents the first layer in a "multi-barrier" approach to providing safe drinking water. A watershed management plan aims to balance human activities with the protection of natural resources by considering the environment, the social context, and the economy in the decision-making process. Utilizing a watershed approach, indicates that local government's planning for infrastructure investments must consider all impacts and issues influencing the entire watershed, rather than consider only those within its own boundaries. Indicate and explain how this project is identified in, or related to, the community's watershed management plan. Please refer to specific sections of the plan and use page numbers where possible.

B3. Outline how this project fits into the local government's water conservation/demand management plan/strategy.

Water conservation planning and demand management practices ensure a more efficient use of community water resources, a key objective of BC's Living Water Smart plan. By reducing water demand, water conservation reduces drinking water and wastewater system operations and maintenance costs; may enable water purveyors to defer large scale capital infrastructure projects such as reservoir expansions; and further secures water supplies in a changing climate. Describe how this project will help the community meet the water reduction targets and/or strategies outlined in the water conservation/demand management plan. Please link to the community's water conservation plan as appropriate (identify page numbers).

B4. Demonstrate how integrated water management approaches have been utilized in the development of this project and/or the management of the water system.

It is important that all projects reflect an integrated approach to water management, which means taking a holistic, ecological view of natural resources, the environment, and human interactions (accounting for ecological, societal, and economic aspects). It recognizes that human activities take place within ecosystems (not outside of them) and that maintenance and viability of the ecosystem is necessary for economic and social sustainability. This may include: directional drilling to avoid ecological impact, reduce traffic disruptions and to reduce costs; energy production (micro-hydro on gravitational water mains) to decrease the need to purchase energy, to reducing greenhouse gases and to help finance other upgrades to the water system; water re-use to further secure source and to reduce the sizing of infrastructure, etc. Please outline the integrated water management strategies that have been utilized in the development of this project.

B5. Is there a targeted reduction for community water use? Yes/No. Explain:

Effective water conservation plans should state their water use reduction goals in specific terms. Reasonable measurable goals are useful for evaluating conservation achievements over time. As conservation goals are accomplished, new goals should be identified. Many water systems identify a water use reduction goal as a percentage of current water usage (e.g. 30% by xxxx year) or by setting a water reduction target (e.g. 350 L/capita/day by xxxx year). Provide the targeted water use reduction for your community and link to conservation strategies where applicable. If there is different reduction targets for different sectors (residential, industrial, commercial, and institutional) provide the targeted water use reductions for each sector.

B6. What are the estimated water use reductions for the last five years that have resulted from local government initiatives?

Water conservation practices aim to reduce water waste by using a host of polices, technologies and programs to encourage more efficient water use. Effective water conservation strategies result in communities using less water to provide the same services and benefits. Provide estimated water use reductions for the last five years that have resulted from community initiatives, linking to specific conservation strategies where applicable. Measurements should be provided in cubic meters.

B7. If applicable, describe the local government's water metering program (i.e. universal metering program, commercial metering, etc.) and include details of the water rate structure.

Project proponents are encouraged to have a water management strategy that demonstrates long-term sustainability and appropriate metering and volumetric pricing. Measuring water use provides essential information to effectively manage water supplies. Water pricing structures should reflect the true cost of water, thereby discouraging over-consumption and water waste. Becoming water efficient is a key objective of BC's Living Water Smart plan (www.livingwatersmart.ca). Water use information and full cost pricing help all sectors to become more efficient water users. Identify existing and/or planned metering programs and include details of the existing or planned rate structures (e.g. flat, inclined, etc.).

B8. Identify water conservation/demand management bylaws. Please submit copies of all relevant bylaws.

Local governments may reduce the inefficient use of water by using a host of regulatory tools, such as water conservation/demand management bylaws, to encourage more efficient water use. Examples of water conservation bylaws include outdoor water use restrictions (e.g. lawn and garden, washing, swimming pools) and requirements for new construction (e.g. requiring the necessary fittings to facilitate addition of meters in future, low-flow toilet fixtures, etc.).

B9. Has the local Health Authority been notified and/or involved in the planning and development of the proposed project? Yes/No. Explain:

It is important to demonstrate that an appropriate level of communication between the water purveyor (the local government) and the local Health Authority has been established to ensure that the proposed project will meet *Drinking Water Protection Act* requirements. If this application is for the construction of works to improve drinking water quality, the local Health Authority must support the proposed treatment technology. Communication with the local Health Authority should be ongoing, and is very important at the planning stage. To demonstrate an appropriate level of communication, any correspondence with

the local Health Authority, which indicates its involvement in the planning and development of the project, must be uploaded to the SIMSI on-line application.

C1. Data Requirements for Drinking Water Projects

This section requires the Applicant to complete the data table provided in Appendix 1. This data will be used to create a profile of the applicant's current drinking water system. It is important to ensure the data entered is as accurate as possible.

Measuring water use provides essential information to effectively manage water supplies. As identified in BC's Living Water Smart plan, it is estimated that in almost every sector of the economy cost-effective water use reductions of 20 to 50 percent, or more, are available from efficiency measures. The benefits are even greater when energy savings, reduced infrastructure needs, and reduced impacts on water are taken into account. Water use information helps us all become more efficient water users.

Measuring community water use supports the Province's Living Water Smart plan action:

- By 2012, government will require all large water users to measure and report their water use.

3.5 Integrated Watershed Management Plan

Where **the federal contribution is \$10,000,000 or more**

- The applicant must have an integrated watershed management plan in place, or commit to implementing within two years of the project approval.
- Full life cycle cost accounting with respect to its water infrastructure assets; and
- An integrated watershed management plan that includes, at minimum, the following components:
 - A multi-barrier approach to safe drinking water including, where possible, source water protection;
 - A demand management plan (including education, pricing and, as appropriate, metering);
 - Process optimization strategies, and energy management; and
 - Operator training/certification requirements that meet or exceed provincial standards.

3.6 Value Engineering

Where **the project is over \$15 million (or less at the discretion of the Ministry of Community Development)**, the applicant must conduct a value engineering analysis, or similar analysis that satisfies the intent of the value engineering analysis and is approved, in advance, by the Infrastructure Branch, Ministry of Community Development, prior to approval of a grant. The Infrastructure Branch reserves the right to send a representative to participate in the process. To be eligible, the applicant must

demonstrate how they will satisfy this requirement; the value engineering analysis must be received by the Infrastructure Branch for review before funding approval.

Phased components of projects are cumulatively likely to trigger the Value Engineering requirement (e.g. total cost of all phases is over \$15 million), and thus must still be included in a Value Engineering analysis. It is important, and most beneficial, to commence the value engineering process early in the project planning stage. For guidance and assistance, please refer to the Ministry's publication *Value Engineering for Municipal Projects (March 1995)* available at:

www.cserv.gov.bc.ca/lgd/infra/library/value_engineering_for_municipal_projects.pdf.

Further Value Engineering resources include:

- The Canadian Society of Value Analysis (www.scav-csva.org)
- SAVE International (www.value-eng.org).

3.7 Water Distribution Extensions

All applications for waterlines to replace failing private water supplies must provide documentation detailing the nature and extent of individual failures in a survey and provide water, soil and groundwater sampling and analysis where applicable, with results prepared by a certified laboratory. **Normally only private water supply systems serving at least 25 lots, where there is a minimum 25 percent failure rate, will be considered for funding.**

BCF-CC contributions will normally be awarded for projects to replace failing private water supply systems with community water systems in urbanizing areas of incorporated municipalities. Projects will be considered within the context of growth strategy goals.

To be considered eligible, applications must demonstrate that there is an adequate planning process in place with applicable bylaw(s) that promote future development in a sustainable fashion.

4 Technical Conditions

The following section has been provided for information purposes only. It outlines technical conditions that will be used to develop the contribution agreements for recipients who obtain an approval under the Building Canada Fund – Communities Component. These technical conditions must be met prior to receiving payments of claims. The contribution agreement payment conditions are a valuable resource to ensure that infrastructure investments meet the desired goals and objectives of the BCF-CC, as well as work to support provincial plans and strategies. These technical conditions further support the Infrastructure Branch's mandate: to promote, encourage and support the development of sustainable infrastructure.

The following sections have been organized to identify the various technical conditions for each project type throughout the claim process.

4.1 Conditions Prior to First Payment/Start of Construction

Projects where MCD determines that the design must be reviewed prior to the start of construction

Prior to the start of construction, the Recipient must submit a pre-design report to the Infrastructure Branch, Ministry of Community Development. *The Ministry will provide the Recipient with confirmation once this condition is deemed to have been satisfactorily met. Only once the condition has been met will the applicant be able to proceed with construction.*

The pre-design report, being a statement of project concept and desired performance, shall include details such as treatment process flow-line diagrams, location map, detailed cost estimates (an itemized description, cost per unit of measure, number of units, as well as engineering and contingency costs) and an anticipated construction schedule.

Projects with installed equipment

Prior to the start of construction, the Recipient must provide documentation to the Infrastructure Branch, Ministry of Community Development, confirming that, where applicable, equipment/devices contain energy efficiency features and design (e.g. pumps, lighting, controls, HVAC, etc.).

All new buildings constructed as a ‘stand alone project’ or to support other infrastructure (e.g. water and wastewater facilities)

Prior to the start of construction, the Recipient must submit documentation to the Infrastructure Branch (IB), Ministry of Community Development, confirming that for all new buildings exceed the energy efficiency requirements of the Model National Energy Code for Buildings (Code), or obtain LEED (Leadership in Energy and Environmental Design) certification.

Drinking Water System Projects (including groundwater)

Prior to the start of construction, the Recipient must provide written confirmation to the Infrastructure Branch, Ministry of Community Development, that the project design and proposed construction will meet the statutory requirements under the British Columbia *Drinking Water Protection Act* and *the Water Act*. This includes:

- Where the proposed construction involves a drinking water system, the Recipient must submit a copy of the *Permit to Construct*, issued under the British Columbia *Drinking Water Protection Act*. Where a *Permit to Construct* is not required, the Recipient must confirm that the Regional Public Health Engineer has been notified of the proposed project; and/or;

- Where the project involves the development and/or construction of a groundwater source, the well(s) must be designed, constructed, and tested in accordance with the British Columbia Ground Water Protection Regulation.

Projects which involve the development of a new groundwater source

Prior to the start of construction of a new ground water source, the Recipient must submit documentation to the Infrastructure Branch, Ministry of Community Development indicating how the groundwater will be managed sustainably. This must include reference to:

- Well location – utilizing best practices detailed in the Ministry of Environment’s *Well Head Protection Toolkit*; and,
- Long-term capacity - utilizing Ministry of Environment’s guide for *Evaluating Long-term Well Capacity for a Certificate of Public Convenience and Necessity*; and water conservation best practices.

The Ministry will provide the Recipient with confirmation once this condition is deemed to have been satisfactorily met. Only once the condition has been met will the applicant be able to proceed.

Drinking Water Treatment Plant Projects, a pilot testing program may be included at the discretion of the Infrastructure Branch

Prior to the start of construction, the Recipient must submit pilot testing results to the Infrastructure Branch, Ministry of Community Development for review. Water treatment pilot testing is necessary to confirm the suitability of the proposed treatment technology. *The Ministry will provide the Recipient with confirmation once this condition is deemed to have been satisfactorily met. Only once the condition has been met will the applicant be able to proceed.*

For projects that are over \$15 million (or less at the discretion of the Infrastructure Branch, Ministry of Community Development)

Prior to completion of pre-design and/or construction, the Recipient must conduct a value engineering analysis by a Certified Value Specialist (CVS); or similar analysis that satisfies the intent of the value engineering analysis and is approved in advance by the Infrastructure Branch, Ministry of Community Development. It is advised that the value engineering analysis be completed as early as possible.

The Infrastructure Branch reserves the right to send a representative to observe and/or participate in the process. The value engineering analysis must be received by the Branch for review before construction commences or before completion of the pre-design (depending on current stage of project). *The Ministry will provide the Recipient with confirmation once this condition is deemed to have been satisfactorily met. Only once the condition has been met will the applicant be able to proceed.*

4.2 Conditions Prior to 25% of Eligible Costs

Asset Management

The Province reserves the right to withhold payments on claims in excess of \$xxx (i.e. 25% x 2/3rds of eligible costs) until the Recipient has completed and submitted an Asset Management electronic reporting form to the Infrastructure Branch (IB), Ministry of Community Development.

This Asset Management reporting form will be provided by IB and will be the first of two electronic submissions required under this contribution agreement. This first submission establishes a benchmark/baseline and is the first step towards performance measurement. The second submission, required prior to the final claim, enables a comparative performance assessment.

Water Conservation Plan

The Province reserves the right to withhold payments on claims in excess of \$xxx (i.e. 25% x 2/3rds of eligible costs) until the Recipient has provided an up-to-date, succinct, effective, council or board endorsed water conservation plan covering the entire water system to the Infrastructure Branch, Ministry of Community Development. Water conservation must be a part of the project planning and implementation. Effective water conservation plans must:

- Identify current water consumption (e.g. 600 L/capita/day);
- Set a water reduction target (e.g. 350 L/capita/day by xxxx year);
- Outline the communities current and planned water conservation actions/measures (e.g. universal metering, inclined block water rates, conservation plumbing fixtures, leakage reduction, rebate programs, education programs, xeriscaping, etc.);
- Identify current and planned mitigation and adaptation strategies to address climate change (e.g. installing water meters to secure water supply, lowering demand to reduce pumping requirements);
- Detail how strategies/initiatives will be implemented (e.g. schedule, funding, responsibility etc.); and
- Link the plan to other regulatory mechanisms, policies and plans (e.g. water master plan, wastewater management strategy, etc.).

Ground Water Projects - Where the project involves the development of a new groundwater source

The Province reserves the right to withhold payments on claims in excess of \$xxx (i.e. 25% x 2/3rds of eligible costs) until the Recipient has submitted to the Infrastructure Branch, Ministry of Community Development:

Documentation indicating that a Wellhead Protection Plan is under way. This must include:

- Public consultation and education;
- Defining the well protection area; and

- Identifying potential contaminants;
- Groundwater site assessment and test well(s) drilling results;
- Documentation that the proposed groundwater source and the proposed production well site(s) will provide water of adequate quality and quantity, while giving consideration to the potential long-term climate change impacts;
- Confirmation that the well(s) will be constructed in accordance with the British Columbia Ground Water Protection Regulation; and
- Confirmation that pumping tests have been carried out in accordance with the Ministry of Environment's guide for *Evaluating Long-term Well Capacity for a Certificate of Public Convenience and Necessity*.

The Ministry will provide the Recipient with confirmation once this condition is deemed to have been satisfactorily met. Only once the condition has been met will the applicant be able to proceed.

4.3 Conditions Prior to 85% Eligible Costs

Water Quality Objectives, Requirements and the British Columbia Environmental Operations Certificate Program

The Province reserves the right to withhold payments on claims in excess of \$xxx (i.e. 85% x 2/3rds of eligible costs) until the Recipient has provided the following to the Infrastructure Branch (IB), Ministry of Community Development:

Demonstration that the project will meet the requirements and drinking water quality objectives set within the following:

- Guidelines for Canadian Drinking Water Quality
- *British Columbia Drinking Water Protection Act* and Regulations
- *British Columbia Water Act* and Ground Water Protection Regulation (where applicable)

For filtration or equivalent treatment facilities:

- US Environmental Protection Agency (USEPA) Surface Water Treatment Rule, in accordance with USEPA Guidance Manual, to achieve a minimum 3 log reduction of *Giardia* and a 4 log reduction of viruses; or
- British Columbia Regional Health Authority Water Treatment Policy(s) (where applicable); and
- Design must be in accordance with the *Recommended Standards for Water Works or Sewage Works* (Ten States Standards) or an equivalent accepted by IB.

And confirmation that the:

- Domestic water system has been classified by the British Columbia Environmental Operations Certification Program (BCEOCP); and

- Operator(s) of the domestic water system are either a) certified to the level required by the waterworks system classification under the BCEOCP; or b) a plan is in place and is submitted to IB to ensure operators will receive their required training (includes both education and experience) to enable BCEOCP certification.

And, If source is groundwater, a completed Well Head Protection Plan.

Installed equipment, energy systems, buildings (All buildings constructed as 'stand alone' or to support other infrastructure, including building retrofits)

The Province reserves the right to withhold payments on claims in excess of \$xxx (i.e. 85% x 2/3rds of eligible costs) until the Recipient has submitted documentation to the Infrastructure Branch, Ministry of Community Development, demonstrating:

- The degree to which the building and/or equipment met the expected energy efficiency performance (including the amount of energy saved and the amount of renewable energy produced);
- The amount of greenhouse gases that are reduced/emitted as a result of this project; and
- Where applicable, certification achieved.

4.4 Conditions Prior to Final Payment

Projects that involves well construction, and/or well decommissioning or extension of water to areas with failing private wells

Before payment of the final claim, the Recipient must provide confirmation to the Infrastructure Branch, Ministry of Community Development:

- That there is a bylaw in place requiring disconnection and closure of existing wells on properties that have/will be connected to the municipal domestic water system. It is recommended that the bylaw be modeled after the Well Closure Model Bylaw developed by the Ministry of Community Development and the Ministry of Environment;
- The bylaw will ensure that any property connecting to the municipal domestic water system must disconnect or close their well as detailed in applicable standards and guidelines by either;
- Requiring owners of closed wells to provide proof of closure (a completed well closure report as required in the British Columbia Ground Water Protection Regulation) within one year of connection to the municipal water system; or
- Confirming that the well(s) will continue to be used, but that the well(s) is not connected to the municipal domestic water system and that the well(s) is:
 - Securely capped;
 - Protected at the wellhead; and
 - Identified by attaching and maintaining a well identification plate on the well in accordance with the minimum standards in the Ground Water Protection Regulation. Schedule 2 of the Ground Water Protection Regulation must be

completed by the well owner and submitted to the local Ministry of Environment, Water Stewardship Division office.

- That any wells (e.g. test wells, abandoned wells, etc.) which will no longer be used will be closed in accordance with the minimum standards in the British Columbia Ground Water Protection Regulation.

Final Asset Management Report – Final Form

The Province reserves the right to withhold payments on the final claim until the Recipient has completed and submitted the second electronic Asset Management reporting form to the Infrastructure Branch (IB), Ministry of Community Development.

This second Asset Management reporting form requirement builds on the first submission, enabling a comparative performance assessment of, but not limited to, the infrastructure constructed through this funding program.

This second submission is to be completed and submitted electronically on the same form as the original submission.

If the Recipient is not able to complete this condition (e.g. the project has not been completed prior to submission of the last claim and/or insufficient time – one (1) year – has not passed since completion) then the Recipient must submit a letter of commitment that the data will be submitted once the project is complete and an appropriate amount of time has passed.

5 Contact Information

Ministry of Community Development

PO Box 9838 Stn Prov Govt
4th Floor 800 Johnson Street
Victoria, BC V8W 9T1
Phone:(250) 387-4060
Fax : (250) 356-1873
Email: infra@gov.bc.ca

Additional resources can be found on the Building Canada Fund – Communities Component website: www.bcbuildingcanadafundcommunities.ca

The Shared Information Management System for Infrastructure (SIMSI) on-line application, can be found at: <https://bcfcc-fccvc.infrastructure.gc.ca/>

To be assigned a username and password to access the SIMSI on-line application system, please forward a request to Infra@gov.bc.ca.

Appendix 1: Drinking Water Supplement Form

Please read the related category supplement guide before completing this form. This document is meant to be completed electronically, and submitted with the SIMSI on-line application. A word version of this form is found on the BCF-CC website under the Program Guide tab: www.bcbuildingcanadafundcommunities.ca. The form fields will expand as you write and each question must be completed using 200 words or less. These questions form a component of the review and ranking of your project. If you have questions, please contact the Ministry of Community Development by telephone: 250-387-4060 or email: infra@gov.bc.ca.

Name of Project		
Legal Name of Applicant		
Contact Name		
Telephone		
Email		
A1.	Does this project application include proposed works that were the basis, or a component of a previously approved or unapproved provincial or federal capital or planning grant program?	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	If yes, indicate the program name, project number and the amount of funding requested and/or received.	
A2.	Is this project going to exceed the Model National Energy Code for Buildings or achieve a recognized environmental standard (e.g. LEED® - Leadership in Energy and Environmental Design; ISO 14001 Environmental Management System; etc.)?	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Explain:	
A3.	Will the project be constructed on lands within the Agricultural Land Reserve?	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Explain:	
A4.	Major risks related to extreme natural events and/or climate change with a potential impact on the project during construction and once complete, must be considered, and where applicable, a mitigation plan developed. Identify these risks and explain how the project considers these risks, and identify the measures being implemented to manage these risks.	
A5.	Describe how greenhouse gas (GHG) emission impacts (through the <u>construction</u> and <u>operation</u> of the proposed infrastructure project) have been considered, and where possible, reduced? Please include an outline that details the methodology used to determine GHG emission reduction estimates (include all calculations and assumptions).	
A6.	What is the current status of the community's local and regional planning? Explain how this project supports the environmental, social and economic goals and objectives of community and regional plans (e.g., official community plan (OCP), regional growth strategy (RGS))?	
B1.	a. Does the local government have a water master plan?	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	b. If yes, identify and explain how this project fits into the plan.	
	c. If no, explain how the local government plans and manages its water infrastructure.	
B2.	a. Does the local government have a watershed management plan?	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	b. If yes, identify and explain how this project fits into the plan.	

	c. If no, explain how water management is considered in a watershed context.
B3.	Outline how this project fits into the local government's water conservation/demand management plan/strategy.
B4.	Demonstrate how integrated water management approaches have been utilized in the development of this project and/or the management of the water system.
B5.	Is there a targeted reduction for community water use? <input type="checkbox"/> Yes <input type="checkbox"/> No Explain:
B6.	What are the estimated water use reductions for the last five years that have resulted from local government initiatives?
B7.	If applicable, describe the local government's water metering program (i.e. universal metering program, commercial metering, etc.) and include details of the water rate structure.
B8.	Identify water conservation/demand management bylaws. Please submit copies of all relevant bylaws.
B9.	Has the local Health Authority been notified and/or involved in the planning and development of the proposed project? <input type="checkbox"/> Yes <input type="checkbox"/> No Explain:

C1. Data Requirements for Drinking Water Projects		
Total population served by the drinking water system (not limited to the population served by this project) ¹		
Projected annual population growth rate (%) ²		
Number of connections ³	Residential	
	Institutional	
	Commercial	
	Industrial	
	TOTAL	
Total annual water supply capacity ⁴		
Maximum daily supply capacity ⁵		
Maximum day demand ⁶		
Total annual demand (volume of water used by each sector – include units) ⁷	Residential	
	Institutional	
	Commercial	
	Industrial	
	Agricultural	
TOTAL		
Total system energy use (kwh/year)		

¹Enter the total population served by the entire drinking water system, not just the population served/benefiting from this proposed project (e.g. the proposed project may benefit only 150 people, however the entire system may serve 1670 people, enter 1670).

²Projected Annual Population Growth may be determined from one or more of the following options:

- Existing population growth predictions currently used by your local government;

- Estimate an expected population growth percentage. Consider the following when deriving this number:
 - Recent and/or future boundary extensions (i.e. these may create a false positive growth rate);
 - Historical growth fluctuations keeping in mind reasons for any exceptional fluctuations;
 - Future developments and influences of the community and economy.

- Use historical growth data from BC Stats (or your own data) to determine a graphical trend to extrapolate a percentage growth rate;

³Enter the number of connections broken down by sector. If a sectoral breakdown is unavailable only provide the total number of connections.

⁴Total annual water supply capacity is the amount of water that is available to the system annually and may be limited by reservoir capacity, licence capacity, safe well yield, treatment facility capacity, etc.

⁵The system's maximum daily supply capacity is the maximum amount of water that the system can distribute in a given day - represented as a daily consumption (e.g. 3,500 cubic meters/day). It may be limited by reservoir capacity, licence capacity, safe well yield, treatment facility capacity, etc.

⁶The maximum day demand is the system's highest daily consumption recorded over the last calendar year – e.g. 3,500 cubic meters/day.

⁷Enter the total annual demand for each sector. If a sectoral breakdown is unavailable only provide the total annual demand for the entire system.

Appendix 2: Application Checklist

Projects that are approved under this program must demonstrate how they support the program purpose and objectives set out in the Program Agreement and supporting documents. If the application form has not provided the opportunity to reflect this, please upload additional supporting information to SIMSI.

To ensure that your project application is reviewed effectively, fully complete the SIMSI on-line application, and upload the supplementary questions and all applicable supporting documents listed in the application checklist shown below. If there is no supporting documentation to be attached, or the question is not applicable to your project, provide a brief explanation. If there is insufficient information, it will delay the review of your application and may render it ineligible.

In addition to a completed on-line SIMSI application, the following supporting documents are also required for **all drinking water projects**:

- Documentation, which verifies that your share of the project's funding, is in place (see the Provincial Program Guide, Section 6.1).
- Resolution from your board or council, authorizing the project to proceed (see the Provincial Program Guide, Section 3.1).
- Detailed cost estimates with dimensions, lengths, diameters, unit costs, etc. State the date and basis of cost estimates (see the Provincial Program Guide, Section 6.3).
- List of all required federal and/or provincial licenses, permits and approvals as well as status of each (see Provincial Program Guide, Section 6.6).
- Documentation detailing the issues addressed by the project (e.g. boil water advisory/order) (see the Provincial Program Guide, Section 6.4).
- Engineering feasibility study of options/reports (see the Drinking Water Supplement, Section 3.1).
- A Business Case (see the Drinking Water Supplement, Section 3.2).
- A plan or report summarizing the community's demand side management or water conservation strategies (see the Drinking Water Supplement, Section 3.3).
- A Drinking Water Supplement Form (see the Drinking Water Supplement, Section 3.4 and Appendix 1– a fillable form is found on the BCF-CC website: www.bcbuildingcanadafundcommunities.ca).

Where applicable, the following supporting documents are required:

- Copies of correspondence with all relevant agencies (e.g. local Health Authority) (see the Drinking Water Supplement, Question B9 in Section 3.4).
- For water distribution extension projects, documentation detailing the nature and extent of individual failures (see the Drinking Water Supplement, Section 3.7).
- For projects where the federal contribution is over \$10 million, an Integrated Watershed Management Plan (see the Drinking Water Supplement, Section 3.5).
- Where the project cost is over \$15 million, a value engineering analysis (see the Drinking Water Supplement, Section 3.6).
- For projects involving land within the Agricultural Land Reserve, attach a letter of support/endorsement from the Agricultural Land Commission (see the Drinking Water Supplement, Question A3 in Section 3.4).