

**Investing in Canada Infrastructure Program
Green Infrastructure – Environmental Quality Program
Application Form Questions**

THIS IS A SAMPLE APPLICATION ONLY

ALL APPLICANTS MUST APPLY AND SUBMIT APPLICATIONS ONLINE

Visit the ICIP – Green Infrastructure – Environmental Quality Program website for the online application portal.

Section 1: Applicant Information

Applicants will access the application through their client record in the Local Government Information System (LGIS). Please see the [Application Instructions & Tips \(PDF, 93 KB\)](#) for setting up access to LGIS if your organization does not already have this.

1. Applicant's Primary Contact Information (from the applicant organization)
 - a) Full Name
 - b) Title of Primary Contact
 - c) Phone Number
 - d) Email Address
2. Applicant's Secondary Contact Information (optional)
 - a) Full Name
 - b) Title of Primary Contact
 - c) Phone Number
 - d) Email Address

Section 2: Project Information

3. Project Title (*Provide a short, concise plain language title.*)
4. Project Category (for tracking only) (*i.e. wastewater, drinking water, etc.*)

Project Description and Rationale

5. Project Description:
 - a) Provide a general, brief description of the project.
 - b) Provide a detailed list of project works.
(For Example: build a wastewater effluent pipeline and outfall at north end of 20 Mile Bridge at Highway 10, including:
 - 10km of 800 mm diameter forcemain;

- *pumping system;*
 - *outfall structure;*
 - *and related civil, mechanical and electrical works.)*
6. Project Rationale: Provide a brief project rationale outlining why the project is needed and how the project meets an existing and or future need.
(For Example: current facility needs replacement due to age, condition, increased service demands, meeting regulatory requirements etc.)

Federal Outcomes

7. Identify which outcome the project will support:
- The project will increase the capacity to treat and/or manage wastewater
 - The project will increase the capacity to treat and/or manage stormwater
 - The project will increase access to potable water
 - The project will increase capacity to reduce and/or remediate air pollutants (through solid waste diversion)
 - The project will increase capacity to reduce and/or remediate soil pollutants

Project Location

8. Project physical address (and/or start and end points)
9. Has this project (or related components or phases) been the subject of another infrastructure grant application? (Yes/No)
- a) If Yes, provide the following:
- i. Program name
 - ii. Project title
 - iii. Status of application: successful/unsuccessful/under evaluation

Project Nature

10. Nature of the project works: Percentage of project works which is New, Rehabilitation, Expansion, Other
11. Does the project involve public facing infrastructure? (Yes/No)
- a) If Yes, Will the public facing infrastructure meet the highest published accessibility standards (defined as the requirements in the Canadian Standards Association Technical Standard Accessible Design for the Built Environment CAN/CSA B651-12)? (Yes/No)
Projects must meet or exceed the requirement of the highest published accessibility standard in a jurisdiction, in addition to applicable provincial building codes and relevant local government bylaws.
- i. If Yes, Briefly describe how the design will meet the accessibility standards
12. Will the highest published applicable energy efficiency standards in the jurisdiction be met or exceeded? (Yes/No)
Projects must meet or exceed any applicable energy efficiency standards for buildings outlined in the *Pan-Canadian Framework on Clean Growth and Climate Change*.

Section 3: Eligibility Considerations

13. Do you have a Council/Board/Band Council resolution authorizing the project to proceed and committing your share of project funding? (For local government applicants, a Council/Board resolution is required. For Indigenous applicants, a Band Council resolution is required). (Yes/No)
 - a) If Yes, Submit copy of resolution.
 - b) If No, when do you expect to submit the council/board resolution?: DD-MM-YYYY (*required within one month of application closing date*)
14. Has the project started?*(Yes/No)
**Projects that have started (construction tender awarded) are ineligible.*
15. Percentage of project design completed to date.
16. Estimated project start date
17. Estimated project completion date
18. Estimated construction start date
19. Estimated construction completion date
20. What is the population that will be directly served by this project?
21. Does the project benefit a wider geographic area? (Yes/No)
 - a) List any communities that will benefit from this project and the corresponding populations.
22. Will the project support Indigenous populations? (Yes/No)
 - a) If Yes, Please estimate the Indigenous population that the project will directly serve.
 - b) If Yes, Please estimate the Indigenous population that the project will indirectly support.
23. Will the applicant own and operate the completed project? (Yes/No)
 - a) If No, Provide additional information about the ownership of the completed project and who will be responsible for its operation and maintenance.
Applications from improvement districts or water utilities must be made by the sponsoring municipality or regional district. If the application is successful in obtaining funding, the ownership of the infrastructure and associated assets must be transferred to the sponsoring local government.
24. Is there infrastructure related to the project that is owned, managed, or maintained by others (besides the main applicant organization)? (Yes/No)
 - a) If Yes, Please describe.

For projects related to drinking water or wastewater:

- a. If the infrastructure is currently owned by an Improvement District, a society, or private person or entity, is the organization prepared to dissolve and transfer ownership of the service to a municipal or regional district applicant?*(Yes/No)
 - i. If Yes, Submit resolution to convert
**Applications from improvement districts or water utilities must be made by the sponsoring municipality or regional district. If the application is successful in obtaining funding, the ownership of the infrastructure and associated assets must be transferred to the sponsoring local government.*

Section 4: Mandatory Documents

In all cases, relevant information should be included within the completed application form itself, as this will form the basis of the assessment. Please make specific reference within the application to sections of attached documents that you wish to be included in the review. Attachments should be clearly labelled, organized, and succinct.

25. Please attach each of these mandatory documents (15 MB limits per documents):

- Project location .KML file (see directions on website)
- Detailed Cost Estimate (see template on website)
- Site Plan / Map
- Feasibility Study
- List and status of required licenses, permits and approvals. Indicate if they have been “obtained” or are “pending”. Upload a copy of those obtained.
- for all Drinking Water or Wastewater projects: Water Conservation Plan and a copy of Council/Board/Band Council endorsement for the plan

26. Please attach other supporting documents you wish to be considered (optional, see the Program Guide for guidance):

- Partnership agreement/Letter of Support/MOU between project partners if applicable
- Options Assessment
- Business Plan
- Cost Benefit Analysis or Other Study
- Design Drawings or Details
- Letters of Support

Section 5: Project Costs and Project Delivery

27. Total Gross Project Costs

28. Total Ineligible Project Costs

29. Total Eligible Project Costs [Total Project Costs less Total Ineligible Project Costs]

30. Other Confirmed Funding Sources and amounts:

Please note: Other federal and/or provincial grants may affect the total grant requested as per stacking rules. See the Program Guide for information on stacking rules.

- a) Gas Tax – Strategic Priorities Fund
- b) Gas Tax – Community Works Fund
- c) New Building Canada Fund – Small Communities Fund
- d) Clean Water and Wastewater Fund
- e) Other

31. Net Eligible Costs [Total Eligible Project Costs less Total Other Funding Sources]

32. Maximum Grant Amount (Estimated)

33. Are you requesting less than the maximum grant amount? (Yes/No)
- a) If Yes, Requested Grant Amount
34. If your detailed cost estimates do not directly correspond with these amounts, clarify the variance between the costs.

Fiscal Year Breakdown

35.

Fiscal Year	Forecasted Eligible Project Costs (April 1 to March 31)
2019 – 2020	
2020 – 2021	
2022 – 2023	
2023 – 2024	

Fiscal Year Breakdown Totals must equal Net Eligible Costs

Funding Details

36. Is this project a phase or component of a larger project? (Yes/No)
- a) If Yes, Is this phased approach reflected in the cost estimates and/or supporting documentation you have provided? *Please provide additional details on the phases, including funding for past and/or future phases and estimated timelines.*
37. Can the project as submitted be broken into separate phases?
- a) If Yes, how? Would part of this project be able to move forwards if full funding was not available? *See Program Guide section regarding funding allocations.*
38. Is there the intent to submit a request for the use of own force labour and equipment for this project? (Yes/No)
- Note: Requests for the use of own labour and equipment will be subject to both provincial and federal approval and will only be allowed in certain circumstances. Approval must be sought prior to work being carried out.*
39. At this stage, is there the intent to use sole source procurement for any aspect of the project? (Yes/No)
- a) If Yes, Identify the estimated amount of the sole source contract, who will be conducting the work, the nature of the work and explain why sole source contracting will be used. *Projects that require sole source contracts may need a Federal Treasury Board submission for project approval.*

Section 6: Project Risks

Project Financing

Applicants should have their share of the capital costs secured prior to application to the program.

40. Will the project require the borrowing of funds to pay for your organization's portion of the costs? (Yes/No)
- If No,
- a. If No, Are all the funds readily accessible from another source? (Yes/No)
- i. If Yes, Please attach evidence of secured funds.

(Example: Bank statements, staff reports or resolutions of board / council directing the use of reserve funds)

- ii. If No, What is the anticipated source of funds?

(Example: Donations, collected through specific rates or fees, development cost contributions)?

If Yes,

- b. If Yes, What proportion of your organization's share of project funding is expected to be from borrowing?
- c. If Yes, If borrowing is less than 100% of your organization's share, please specify the other source(s) and attach evidence of secured funds.
(Example: surplus, reserve funds, DCC reserve funds, etc.)
- d. If Yes, Was (is) public approval required to approve borrowing? (Yes/No)
 - i. If No, describe why approval is not required in order to borrow.
 - ii. If Yes, Please attach a scan of a signed and certified loan authorization bylaw that is at 3rd reading or adopted.
- e. If Yes, Municipalities, please attach a completed Liability Servicing Limit Certificate that includes the anticipated borrowing costs necessary to finance the project.
- f. If Yes, Non local-government applicants please attach evidence that borrowing has been secured.

(Example: line of credit letter of approval.)

- 41. Local governments, please attach evidence that the project and its cash flows have been or will be included in the 5-year financial plan bylaw.
- 42. What plans are in place and where will funds be sourced from if project costs escalate beyond budgeted contingencies (cost overruns)?

Note: ICIP does not provide additional funds to cover cost overruns. Also note stacking rules in the Program Guide.

Project Identification

- 43. How is this project a community priority?
- 44. How would this project proceed without grant funding?
- 45. Is the project included in a long term plan for the community? (Yes/No)
 - a) Identify the long term plan in which it is included and how it is identified within the plan.
- 46. What alternative options for the project were considered?
- 47. How were they compared or analyzed? Please explain how and why the chosen option was selected.
- 48. How does the selected option represent the most efficient solution to address the objectives or levels of service identified as related to the project?

(Example: Rationalize selection of the particular option, in that: services are integrated, operating and maintenance costs are minimized, the selected option has a longer lifespan minimizing replacement costs over time, coordination with other works, etc.)

Note: The provincial technical reviewer will not be re-assessing project options. The purpose of this question is to demonstrate that the scope of the project was carefully considered

Project Consultation Considerations

49. What affected or interested groups have already been consulted with regarding the project? What was the feedback from consultation?
50. What groups will be consulted with prior to the project proceeding and/or in conjunction with the project? Describe your engagement strategy for consulting with these groups regarding the project.
51. Will Indigenous groups be consulted about the project? (Yes/No/Not Yet Started)
 - a) At what stages?
52. Is any part of the project located on federal lands? (Yes/No)
53. Is the project subject to a federal environmental assessment? (Yes/No)
54. Will the project or any activities associated with the project occur in water, over water or could alter the course of a waterway? (Yes/No; if yes please provide details)

Long Term Management

55. Does your organization have experience with owning and managing similar infrastructure?
 - a) If Yes, Briefly describe infrastructure and experience.

Federal Risk Checklist

56. The following risk elements are of interest to Infrastructure Canada.

Please select all that apply. For each item selected, provide a brief description of the risk and mitigation strategies undertaken or planned.

For example: Describe risk and its probability (low/medium/high), impact, and mitigation response (Will risk be avoided, mitigated, transferred, or accepted), and following actions, and what the residual risk will be.

 - a) Project Complexity
 - i. Remote geographic location
 - ii. Unpredictable weather
 - iii. Untested or unproven technologies
 - iv. Highly technical or complex project
 - v. Interdependencies between phases
 - vi. Other (please describe)
 - vii. No risk identified
 - b) Project Readiness
 - i. Project site hasn't been finalized
 - ii. Land hasn't been acquired
 - iii. Potential issues with permits or authorizations (federal, provincial, territorial and municipal)
 - iv. Industry supply may not be able to meet demand
 - v. Funding sources are not secured for the entire project cost (excluding potential ICIP grant not being secured)
 - vi. Other (please describe)
 - vii. No risk identified

- c) Public Sensitivity
 - i. The project has received positive media attention
 - ii. The project has achieved negative media attention
 - iii. Certain stakeholders have been vocal about the project
 - iv. Other (please describe)
 - v. No risk identified

Project Risks

57. Identify broader project risks (excluding those already identified in the federal risk checklist) such as those related to project feasibility, scope, public support, social and environmental impacts, technology, and its long term management. Please list all that are known, and include your evaluation and proposed mitigation for each risk.

Example: Public opposition expected, technology becoming outdated, usage not as expected, difficulties finding appropriately trained people to manage/maintain

58. Identify project risks as related to implementation and construction. Please list all that are known, and include your evaluation and proposed mitigation for each risk.

Example: seasonal limitations to construction, potential timing risks or delays, referendum required, unconfirmed grants (other than ICIP), siting not confirmed, environmental assessment/impacts, archaeological sites, cost overruns, etc.)

Section 7: Management and Planning

Asset Management for Sustainable Service Delivery

The Asset Management BC Framework provides context and can be found on Asset Management BC's website: www.assetmanagementbc.ca. The Asset Management BC Roadmap (found in the "Resources" section of the website) provides a brief summary of the basic building blocks of asset management for sustainable service delivery.

For the infrastructure applied for in this application:

59. Describe how operation and maintenance will be managed over the lifecycle of the infrastructure which is the subject of this application, including how it will be funded.
60. Operating and maintenance costs can be reduced over the lifecycle of the infrastructure through appropriate design. How does the project design support efficiencies in operation, maintenance and related costs over the lifecycle of the infrastructure?
- Example: use of quality materials that require less maintenance, potential for remote monitoring, etc.*
61. Describe the plans in place for the renewal, replacement or rehabilitation of the infrastructure (which is the subject of this application) at the end of its life, including how the renewal will be financed / funded.
- Example: % funding through financial reserves, implementing a rate structure or user charges which include depreciation/replacement costs, etc.)*
- Note: proponents are expected to manage the completed project in a financially sustainable manner, including planning for the eventual renewal of the infrastructure without grant support.*

62. What measures will be taken to extend the life of the assets constructed by the project?

Example: preventative maintenance

63. How will human resource capacity be supported to enable proactive planning related to sustainable service delivery?

64. What effects will the proposed project have on service levels and how will these be measured?

Example: The water treatment plant upgrade will improve water quality – measured by the reduction in the number of boil water advisories, and improved levels of disinfection residuals and or by the number of residents with improved water quality and/or meet a provincial/federal standard.

For the Asset Class subject to this application:

65. Is there an asset management plan? (Yes/No) Does the asset management plan include:

- Assets owned and their condition?
- Gaps between the current and desired levels of service?
- Risks to service delivery?
- Practices, projects, and programs required to meet organizational asset management objectives, manage risks, and achieve the desired level of service in the most cost effective way?
- A short term capital works plan (1 – 3 years)?
- A long term capital works plan?
- An embedded or linked long term financial plan for greater than 5 years that supports ongoing lifecycle costs (capital, operations, and maintenance)?
- A maintenance strategy or links to a long term maintenance plan?
- A timeline for implementation, resources required, and necessary future improvements to the plan?
- A planning timeframe of 10 years or greater?

66. Are renewal dates (and/or the expected lives) of infrastructure assets revised on a frequent basis within the asset inventory/registry based on condition assessment or review of performance data? Describe processes carried out to keep information on assets current, accurate and useful.

67. Is the renewal of assets planned and prioritized to ensure that service outcomes are met, risks are managed, and costs are optimized? Explain the decision process used for creating short and long term renewal programs (or capital works plans) and identify what information is used to aid decision making for all assets within the class

Example: risk assessment framework, criticality assessment, renewal forecasts, coordination of works between multiple asset groups

Climate Change

68. How does the project design incorporate climate change considerations to adapt infrastructure to climate change occurring over its life?

Example: changing weather patterns, changing water availability, increased risk of hazard events such as wildfire and flood, etc.

69. How will the project mitigate climate change?
70. Will the project achieve a reduction in greenhouse gas emissions? (Yes/No)
- a) If Yes, Estimate how much of a reduction in greenhouse gas emissions will be achieved (in tonnes CO2 equivalent per year). [See website for methodology]
 - b) If Yes, Briefly describe how the project will reduce greenhouse gas emissions.

Outcome Specific Questions

Depending upon the federal Outcome selected in Question 7, the applicant will be asked to answer ONE of the corresponding sets of Outcome Specific Questions on the following pages.

Outcome 1: The project will increase the capacity to treat and/or manage wastewater

Outcome 2: The project will increase the capacity to treat and/or manage stormwater

Outcome 3: The project will increase access to potable water

Outcome 4: The project will increase capacity to reduce and/or remediate air pollutants (through solid waste diversion)

Outcome 5: The project will increase capacity to reduce and/or remediate soil pollutants

Outcome 1:

The project will increase the capacity to treat and/or manage wastewater

Projects eligible under the environmental quality sub-stream are public infrastructure (capital assets) owned by a Local Government or First Nation. The desired Outcome of the Wastewater (sewage) category is to increase the capacity to treat or manage wastewater (sewage). For example, the treatment level of wastewater may be increased or wastewater treatment may be made available to more people. Please keep the desired Outcome in mind when answering the questions in this section.

Program Targets & Benefits

1. Does the project affect a wastewater system and/or facility that does not currently achieve the national effluent quality standards? (Typically, such a system and/or facility is affected by a Transitional Authorization (TA) issued under the federal Wastewater Systems Effluent Regulations (WSER.)) (Yes/No)
 - If Yes,
 - a) What is the current risk level of the facility that is part of this project? (As defined by federal regulations as Low, Medium, or High risk.)
 - b) Will the project result in the wastewater system achieving compliance with federal effluent regulations? (Yes/No)
 - i. If Yes, Include details on how the project addresses compliance.
 - ii. If No, Include details on why the project does not address compliance.

Wastewater Projects must result in wastewater effluent that meets the Wastewater Systems Effluent Regulations, or provincial regulations where there is a federal equivalency agreement in place.

2. What provincial regulation(s) and/or authority regulates the wastewater system of which the project forms a part? And, how does this project affect the authorization? Please describe and include ministry responsible. (e.g. registration under provincial Municipal Wastewater Regulation, authorization under Liquid Waste Management Plan; other provincial authorization; etc.)

(Example: The Townville sewage treatment plant is currently operating under a provincial permit, issued by the Ministry of Environment, for discharge to the Rolling River. The project is an expansion of the treatment plant which will then be registered under the provincial Municipal Wastewater Regulation.)

3. How does the project meet the goal of reducing pollutants introduced to the environment and increase the capacity to treat or manage wastewater?

(Example: The project increases the level of treatment by adding a nutrient-removal process to the treatment plant to remove phosphorous before the effluent is discharged to the Rolling River. OR The project will connect 50 homes in Townsville to the sewer system. These homes currently use septic fields but the lots are too small and soils poor such that local groundwater quality is threatened.)

Managing Demand

4. Identify the demand/flow utilized for planning and design of the project and project components, including each of the following:
 - a) Design flow (e.g. L/s, M³/d, etc.) upon which the size of the infrastructure is based, including how future growth/capacity is incorporated;
 - b) How the demand/flow is measured/estimated; and,
 - c) A per-capita flow equivalent for the population of the area serviced.

(Example:

- *For design of the forcemain and pump station, an average daily flow of 200 m³/d was used with a peak factor of 2.5.*
 - *The flow is metered at key points in the system and this identifies contributions from each neighbourhood. A map showing meter locations is attached and the project is a forcemain and pump stations between locations A and B as shown.*
 - *The design flow incorporates 20% above the maximum flow measured at point A to accommodate future growth as predicted for a 50-year service life.)*
5. How are the flows in the wastewater system being influenced or managed to make the infrastructure cost effective and suitable for the full duration of its useful life?

(Example: Reduced per-capita water use will continue as it has over the last five years since the installation of residential metering with the increasing rate structure, as promoted through our Water Conservation Plan, and this reduced use will provide additional capacity for future growth. The CSO reduction plan is gradually constructing storm sewers to separate the systems, and will be completed in 2020 thereby removing rainwater from the sewer system and reducing the treatment capacity required thus delaying the need for future plant expansion.)

Environmental Benefits

6. How is the management of wastewater integrated with other services in the community (e.g. integration with services like drinking water, stormwater, solid waste, roads, etc.)?

(Example: Wastewater management is integrated with drinking water services by reusing treated effluent from the wastewater treatment plant for park irrigation to reduce the use of treated drinking water, and (b) encouraging the use of low-flow fixtures with the rebates provided to residents (initiated under the Water Conservation Plan) which reduces the amount of wastewater that needs to be managed.)

7. How is the recovery and reuse of resources (the capture and reuse of materials that would otherwise be wasted) included in the project? Include the estimated quantity recovered/reused.

(Example: The treatment plant upgrade that is the project includes recovery of struvite (nitrogen and phosphorous.) About 250 metric tons per year of struvite is being recovered and sold as fertilizer. Upstream of struvite recovery, a purple-pipe from the treatment plant to the nearby park irrigation system (which is part of the project) will convey 500 L/s of treated effluent from the wastewater treatment plant for reuse for park irrigation.)

8. Describe how the following are applied through the project:

- The reduction of natural resources, and the estimated quantity reduced.
- The use of natural assets utilized to deliver a service normally provided by built infrastructure.
- Protection, enhancement or restoration of the natural environment.

(Example: The wastewater treatment plant outfall will release treated effluent to a wetland area to enhance the natural environment and replenish groundwater before overflow returns to the Rolling River.)

Wastewater Project Indicator Table				
Include only assets that will be receiving investment.				
	Before Investment (N/A if new asset)		Anticipated After Investment	
Volume of materials diverted <i>in Litres</i>				
Capacity to dispose of materials <i>in Litres</i>				
<i>Indicate quantity or length as appropriate</i>	Quantity / Length	Physical Condition before investment	Quantity / Length	Physical Condition after investment
Treatment plants		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Lagoon systems		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Wastewater pump stations		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Wastewater lift stations		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Wastewater storage tanks		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Linear wastewater assets <i>in meters</i>		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know

Outcome 2: The project will increase the capacity to treat and/or manage stormwater

Projects eligible under the environmental quality sub-stream are public infrastructure (capital assets) owned by a First Nation or Local Government. The desired Outcome of the Stormwater (drainage) category is to increase the capacity to treat or manage stormwater (drainage). For example, the treatment level of stormwater may be increased to remove sediments and/or specific toxins, stormwater management may be improved to reduce peak flows or overflows, or infrastructure work may protect natural storm runoff (drainage) from contamination. Please keep the desired Outcome in mind when answering the questions in this section.

Program Targets & Benefits

1. What regulation(s) or authority governs the stormwater system of which the project forms a part and how does the project affect this governance? Include any local regulations or bylaws.

(Example: The Townville Liquid Waste Management Plan was updated in 2015 to include storm water management with the specific activity of separating all storm water from combined sewers by 2030. This project is a phase of that separation and will construct a new storm sewer along Main Street where there is an existing combined sewer.)

2. How does the project meet the goal of reducing pollutants introduced to the environment and increase the capacity to treat or manage stormwater?

(Example: The project reduces contaminants introduced to the environment by reducing the frequency of raw-sewage spills to the Townville Nature Preserve. In past years, heavy rainstorms have caused the combined sewer-system to overflow into the nature preserve and by separating the sewers overflow events will be reduced. As well, the new storm sewer will have capacity to manage more stormwater runoff than the existing combined sewer system.)

Managing Demand/Capacity

3. Identify the estimated flow, or the amount of runoff, utilized for planning and design of the project and project components, including each of the following:

- a) How the demand/flow upon which the size of the infrastructure is based is measured/estimated to meet current conditions; and,
- b) How future growth/capacity is incorporated.

(Example: The amount of runoff was estimated using flow meters during heavy rainfall events (1/100 year event took place during monitoring) and a hydrologic model applied to the catchment area for the storm sewer. A map showing the catchment area and project location is attached. Future growth to 2040 was included by mapping the area of development based on zoning maps and future building scenarios developed by the planning department and identified in the Townsville OCP.

The hydrologic model was modified to account for the predicted impervious building areas and for increased intensity of storms based on climate change predictions. Based on this modelling, the required pipe size was increased from 600 mm to 900 mm diameter.)

4. How will the flows in the stormwater system be influenced or managed to make the infrastructure cost effective and suitable for the full duration of its useful life?

(Example: Future development areas will be required to install raingardens and natural low areas to capture and treat first-flush runoff and to delay peak flows in the storm sewer system. This management will delay a need to increase pipe capacity and so will extend the life of storm sewers. As well, the development costs of the raingardens will be borne by the new areas rather than the town to offset operating and maintenance costs of the existing system.)

Environmental Benefits

5. How is the management of stormwater integrated with other services in the community or region (e.g. integration with services like drinking water, wastewater, solid waste, roads, etc.)?

(Example: Stormwater management is linked with the drinking water service as the constructed bioswales will encourage stormwater to be absorbed into the soil in an area where groundwater is being depleted, rather than having it be carried downstream. The groundwater is being utilized for community drinking water, and encouraging recharge of the aquifer will help ensure that there is enough water available to the community in future years.)

6. Describe how the following are applied through the project:

- The reduction of the use of natural resources, and the estimated quantity reduced.
- The use of natural assets to deliver a service normally provided by built infrastructure.
- Protection, enhancement or restoration of the natural environment.
- Recovery and reuse of resources.

(Example: 1) The use of water is reduced because the local Valleyview golf course uses rainwater ponds for irrigation and for groundwater recharge reducing the amount of treated drinking water that would otherwise be used for irrigation. Approximately 2000m³ of treated water used per day will be offset by the reuse.

2) A sediment pond will be constructed to capture runoff contaminants before storm water is released to the Rolling River through an outfall near Green Street. The removal of sediments removes toxins and heavy metals from stormwater to protect river water quality. The sediment pond protects the Rolling River from contaminants such as copper and zinc. Currently, high levels of copper and zinc [identify quantity] have been measured in Rolling River, and it is anticipated that the project will reduce these by 90%. In the future, sediments captured will be removed and the metals recovered for sale and reuse.)

Stormwater Project Indicator Table

Stormwater Project Indicator Table				
Include only assets that will be receiving investment.				
	Before Investment		Anticipated After Investment	
Volume of materials diverted <i>in Litres</i>				
Capacity to dispose of materials <i>in Litres</i>				
<i>Indicate quantity or length as appropriate</i>	Quantity / Length	Physical Condition before investment	Quantity / Length	Physical Condition after investment
Drainage pump stations		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Management facilities: ponds and water wetlands		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Management facilities: all other permitted end-of-pipe facilities		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Linear stormwater features <i>in meters</i>		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know

SAMPLE

Outcome 3: The project will increase access to potable water

Projects eligible under the environmental quality sub-stream are public infrastructure (capital assets) owned by a Local Government or First Nation. The desired Outcome of the Drinking Water category is to increase access to potable water. For example, the level of treatment may be improved to resolve drinking water quality issues or potable water may be made available to more people. Projects must support a system that will meet or exceed provincial water quality requirements, either with the project resulting in meeting requirements or the drinking water quality already meeting the standards. Please keep the desired Outcome in mind when answering the questions in this section.

Program Targets & Benefits

1. Will the project meet or exceed the requirements of the Drinking Water Protection Act, Drinking Water Protection Regulation, Provincial Water Treatment Objectives, and the terms and conditions set out in the Operating Permit for the drinking water system? (Yes/No)

a) (If Yes) Describe how it will meet or exceed the requirements.

If No – Drinking water quality following completion of a drinking water Project must meet or exceed provincial standards.

2. What regulation(s) or authority regulates or oversees the drinking water system of which the project forms a part? And, how does this project comply with the standards or requirements of that authority? Please describe the legal instruments that are used including the name of the regulator (e.g. Ministry of Health, Drinking Water Protection Act, and Drinking Water Protection Regulation; Ministry of Environment and Climate Change Strategy – Water Sustainability Act and Groundwater Protection Regulation; Regional Health Authority – Operating Permit, etc.).

(Example #1: The Operating Permit for our waterworks specifies that by March 21, 2020, “the Water System Owner shall provide two treatment processes acceptable to the Health Authority, achieve a 4-log removal/inactivation of viruses, a 3-log removal/inactivation of Giardia cysts and Cryptosporidium oocysts, and produce treated water with less than 1 NTU turbidity”. This project will install the necessary treatment equipment to comply with the requirements of our permit.

Example #2: The Operating Permit for the drinking water system specifies that the purveyor shall:

- *“Provide continuous monitoring of the water disinfection process;*
- *Provide a well protection plan for each well source; and*
- *Provide long term plans for treatment, source and distribution system improvements”*

This project will install continuous monitoring equipment which will bring us into compliance with the permit requirement.)

3. Has the community which the project will serve experienced a long-term drinking water advisory lasting more than 12 months? (Yes/No)

a) (If Yes) Will the project result in improvements that will result in the advisory being lifted?

b) (If Yes to 3) Briefly explain the nature of the long-term drinking water advisory and how the project will resolve the issues which resulted in the advisory.

(Example: The community has been experiencing a long term boil water advisory due to elevated levels of organics in surface water source. The new treatment facility will remove

organics through x process OR developing a new groundwater source with lower organics will ensure better source water quality, requiring less treatment and resulting in the removal of the long term boil water advisory.

- c) (If No) Explain the nature, dates and duration of any drinking water advisories that have recently affected the community and how the project will resolve the issues which resulted in the advisory.
4. How does the project meet the goal of increased access to potable water? Include quantities such as the number of people or the volume of water.

(Example: The project will address a long term boil water advisory by providing source protection and drinking water treatment improvements [specify] giving the 530 households and 40 businesses in the water service area a more reliable water supply without the need to boil water to ensure its safety.)

Managing Demand

5. Identify the demand/flow utilized for planning and design of the project and project components, including each of the following:

- a) Design flow and/or current water demand (e.g. L/s or m³/d, annual demand, average daily demand, maximum daily demand, peak hour demand, etc.)
- b) A per-capita water demand for the population of the area serviced
- c) How the demand/flow is measured/estimated for design of project components
- d) Forecasted future demand or flows, and how growth/capacity is incorporated
- e) How the size of the infrastructure has been determined based on demand or flow information.

Examples: Average daily demand is 2,799 m³ or 2,799,810 L, and current residential per capita consumption is 594 L per day as compared to the provincial average of 353 L per day, and maximum daily demand is [value].

Average annual per capita water demand at existing residences and maximum daily demand is used to determine expected use in the new area being serviced, as property sizes and uses are similar. Water demand is measured at existing residences using household water meters, and system flows are monitored at key points in the system using bulk meters. A map showing the service area and project location is attached.

The community's future growth projections have been used to identify future demand. For design of the new water treatment facility, capacity was originally going to be based on demand 5% higher than the current demand to account for growth within the 50-year design life of the new assets. However, with integration of water conservation initiatives, design capacity was reduced to the current capacity, and future growth will be offset by per capita reductions in water use.

6. How will the future water demand/flow be managed or influenced to make the infrastructure cost effective and suitable for the full duration of its useful life? How does this project support these demand management initiatives?
- (Example: Water conservation initiatives including implementing an increasing rate structure based on use will continue to be implemented, as promoted by our Water Conservation Plan. The project*

upgrades the water treatment facility at today's peak daily demand and will rely on demand management initiatives to reduce peak demand and provide the extra capacity for community growth until about the year 2065, thereby delaying the need for facility expansion.)

Environmental Benefits

7. How is the management of drinking water integrated with other services in the community or region (e.g. integration with services like wastewater, stormwater, solid waste, roads, etc.)?

Example: The drinking water service is integrated with wastewater management as treated effluent from the wastewater treatment plant is disinfected and used for park irrigation to reduce the use of treated drinking water.

8. How is the drinking water supply (source) being protected and managed to ensure clean water is available for the future of the community?

Examples: Regional climate change models predict lower water levels in Upper Townsville Lake which provides the community water supply. In 2016, the lake intake was lowered by 3 m based on the climate prediction that the lake level may drop one meter over the next 100 years. The local government incorporates water quality protection into their management operations, based on requirements set out in a watershed plan.

Drinking water source protection will be carried out alongside the project by replanting a sloped area in the water catchment which had previously been deforested for agricultural use, helping to protect source water quality and reducing the need for additional water treatment.

9. Describe how the following are applied through the project:

- Reduced use of natural resources, and the estimated quantity reduced
- Resource recovery and energy generation
- Protection, enhancement or restoration of the natural environment
- The use of natural assets utilized to deliver a service normally provided by built infrastructure

(Examples:

(a) Under the Water Conservation Plan, an increasing rate structure and a rebate program for low flow fixtures have been introduced to reduce the per-capita use of drinking water. Over the next ten years, per-capita demand is expected to decline by 10% (on average a saving of about 40 L/d/person in the town population of about 2000).

(b) The project includes in-line turbines that will be installed in the water pipeline. The hydropower generation is expected to provide about 800 mWh/yr for use in the water treatment plant.

Drinking Water Project Indicator Table

Include only assets that will be receiving investment.				
	Before Investment		Anticipated After Investment	
<i>Indicate quantity or length as appropriate</i>	Quantity / Length	Physical Condition before investment	Quantity / Length	Physical Condition after investment
Water treatment facilities		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Reservoir		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Pump stations		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Local water pipes <i>in meters</i>		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Transmission pipes <i>in meters</i>		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know

SAMPLE

Outcome 4: The project will increase capacity to reduce and/or remediate air pollutants (through solid waste diversion)

Projects eligible under the Environmental Quality sub-stream must be public infrastructure (capital assets) owned by a First Nation or Local Government. The desired outcome of the Solid Waste Diversion category is to divert materials from entering landfills in order to reduce air pollution and to create increased capacity to process the diverted materials within the solid waste stream.

Program Targets & Benefits

1. Does the project reduce the amount of solid waste entering a landfill / increase the amount of waste diverted from disposal? Examples include: recycling, composting or anaerobic digestion infrastructure. (Yes /No)
 - a) (If Yes) What is the estimated amount of waste that will be diverted annually? Calculation will use the Generally Accepted Principles for Calculating Municipal Solid Waste Systems Flow and should be calculated in wet tonnes. *
 - b) What is the diverted amount in Kg/capita/year? **
 - c) Describe the service area that was used to estimate the waste diversion amount.

Example: The entire residential population of the Regional District will be able to utilize the new composting facility, so the population of the Regional District was used in the kg/capita/year calculation.

(If No) Solid waste diversion projects that do not result in a measurable increase in material diverted from disposal are ineligible.

**The total amount of material accepted at the landfill per year is calculated from tipping measurements.*

***An average per-capita amount is calculated by dividing the total amount diverted by the number of residents in the service area.*

Solid Waste Diversion Indicators Table

Include only assets receiving investment. Use the Generally Accepted Principles for Calculating Municipal Solid Waste System flow.

	Before Investment	Anticipated After Investment
Volume of materials diverted <i>in Tonnes</i>	Number Box	Number Box
Capacity to dispose of materials <i>in Tonnes</i>	Number Box	Number Box

2. Solid waste infrastructure is regulated under the Environmental Management Act. Describe how the project relates to and aligns with a Solid Waste Management Plan and waste diversion targets. Describe any local regulations and bylaws which will apply to or affect the project.

(Example: The project will directly contribute towards the waste diversion targets set out in the regional district's Solid Waste Management Plan as reviewed by the Ministry of Environment, by diverting approximately 200 tonnes of organic food waste from the landfill each year. A bylaw will be put in place to require residents to separate food waste from the regular waste stream.

3. How does the project reduce air emissions from being introduced to the environment? Include the targeted pollutants/chemicals and estimated reductions, as well as describing methods used to reduce the amount or the effects of pollutants.

Example: The project will reduce 10 tonnes (CO₂e) of greenhouse gases annually, including methane and carbon dioxide that would otherwise be introduced into the atmosphere.

Managing Demand

4. What will be the effect of the project on landfill lifespan within the service area?

Example: The expected closure date of the regional landfill was 2035, but with this diversion infrastructure, the lifespan of the landfill will be extended to 2050.

5. Does the community have a zero-waste initiative, and how does the project apply or support zero waste?

Environmental Benefits

6. How is the management of solid waste integrated with other services in the community? How will the project integrate with the other services?

(Example: The diverted organics will be mixed with biosolids from wastewater treatment, integrating solid waste and wastewater management.)

7. If your organization also operates a landfill, how is leachate recovered and treated at the landfill and how is it disposed of or discharged to the environment? Describe the collection and treatment systems and identify the final location for disposal or natural receiving environment for discharge.

(Example: Leachate is collected and piped to the treatment plant where an RBC biological pre-treatment process is used to reduce BOD and TSS. From there, the leachate effluent is piped to the Townsville wastewater treatment plant which ultimately discharges final effluent to the Rolling River.

8. Describe how the following are applied through the project:

- The recovery and reuse of resources (the capture and reuse of materials that would otherwise be wasted)
- The reduction of natural resources, and the estimated quantity reduced.
- The use of natural assets utilized to deliver a service normally provided by built infrastructure.
- Protection, enhancement or restoration of the natural environment.

(Example: The in-vessel composting solution [specify] and bioreactor utilized at the new diversion facility will generate heat and power. The heat and power generated will be utilized within the facility to offset energy requirements.)

Outcome 5: The project will increase capacity to reduce and/or remediate soil pollutants

Projects eligible under the Environmental Quality sub-stream must support public infrastructure (capital assets for public use/and or benefit) owned by a First Nation or Local Government. The desired outcome of the Remediation category is to reduce soil and air pollution and to increase capacity to reduce or remediate soil and/or air pollutants through brownfield remediation. Note that the purchase of land is not an eligible cost under the program.

Program Targets & Benefits

1. Does the project reduce or remediate soil pollutants (including restoration of brownfield sites)? (Yes/No)
 - a) (If Yes) Has a Phase II Environmental Site Assessment (ESA) found that this site was contaminated?
(If No) Projects that answer No to the above are ineligible.
 - b) (If Yes to 1) Will the site be ready for intended use at project conclusion?
2. What is the intended use of the site at project conclusion (eligible Projects will support public infrastructure, defined as tangible capital assets primarily for public use and/or benefit)?
3. What is the size of the land parcel that will be remediated in the project?
4. Provide the geographic footprint of the lands which will be remediated (provide by GPS file, .kml format, according to instructions).
5. Does the project include naturally occurring assets or the use of engineered natural assets?
 - a) (If Yes) Federal indicators table will be displayed for entering info on assets (see end)
6. What regulation(s) or authority govern or manage the project and how does the project affect this governance? Include any local regulations or bylaws.
7. How does the project meet the goal to increase the capacity to reduce pollutants introduced to the environment or remediate soil pollutants? Include relevant details such as how much (many) toxins or toxicity (quantity) the project will reduce, and how the reduction is accomplished.

Managing Demand

8. How has the intended use of the site driven the design of the project / level of remediation required?
9. Does the remediation of the site selected for the project eliminate or reduce the need to develop natural areas (i.e. development of greenfield sites)? Explain how.

Environmental Benefits

10. What issues and levels of contamination were identified through the environmental site assessment and how have each been addressed in the project?
11. Describe how the following apply to, or have been applied through, the project:
 - Protection, enhancement or restoration of the natural environment
 - The use of natural assets utilized to deliver a service normally provided by built infrastructure

- Recovery and reuse of resources
- Reduction of natural resources, and the estimated quantity reduced

12. What long term initiatives, policies, actions have been put in place to prevent land that is currently free from contamination from becoming contaminated?

Indicators Table				
Include only assets receiving investment.				
	Before Investment		Anticipated After Investment	
Type of assets receiving investment, if applicable <i>indicate quantity for all that apply</i>	Quantity / Length	Physical Condition before investment	Quantity / Length	Physical Condition after investment
<u>Naturally occurring asset</u> <i>indicate overall physical condition</i>	N/A	Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know	N/A	Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Aquifer		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Wetland		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Forest		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Shoreline Vegetation		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Other (describe)		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
<u>Engineered Use of Natural Resources</u> <i>indicate overall physical condition</i>	N/A	Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know	N/A	Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Green Roofs		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Bioswales/Rain Gardens		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know
Other (describe)		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know		Select one: Very Poor, Poor, Fair, Good, Very Good, Do not Know