



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
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Drinking Water State Revolving Fund

2020 Project Construction Evaluation Form

Instructions and Guidance

File: dwpef 2019-09-09

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.
TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

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INTRODUCTION

The Massachusetts Department of Environmental Protection (MassDEP) seeks to assist eligible public water systems to finance the cost of the infrastructure needed to achieve or maintain compliance with the Safe Drinking Water Act (SDWA) requirements and protect public health. MassDEP encourages proponents to complete comprehensive planning and alternatives analysis for potential construction projects. Details supplied through the Project Evaluation Form (PEF) will help MassDEP to determine the extent to which the proposed project meets the goals of the State Revolving Fund (SRF) program, and therefore, any PEF submitted for an eligible planning project will automatically qualify for financing on the Intended Use Plan (IUP).

Proponents seeking SRF financing for planning drinking water projects must complete the online PEF to be submitted no later than 12:00 noon on August 23, 2019.

Please use the following link to access the online PEF:

<https://www.mass.gov/lists/state-revolving-fund-applications-forms>

If you need assistance in filling out the online PEF, please contact our SRF Data Support Team at srfmadep@mass.gov

The Project schedule for any proposal must meet the following deadlines:

| | |
|-------------------------------------|--|
| Local Appropriation of Project Cost | June 28, 2020 |
| Scope of Services or Plan of Study | October 16, 2020 |
| Loan Assistance Application | October 16, 2020 |
| Planning NTP or Start of Study | Six months from the issuance of the Project Approval Certificate (PAC) and no later than June 30, 2021 |

If the project schedule cannot meet these deadlines and has no reasonable justification for an extension of a deadline, it will not be eligible to receive SRF funding from the 2020 IUP.

Please be aware of the following high priorities for the 2020 Drinking Water SRF IUP.

- Water main rehabilitation projects which include full lead (older brass and galvanized) service connection removals (to the users' meter) are eligible for [enhanced subsidy under the Drinking Water SRF](#)
- Projects that reduce Per- and polyfluoroalkyl substances (PFAS) in drinking water, below levels of concern. [MassDEP Fact Sheet - PFAS](#)
- Asset Management Planning- The Massachusetts Clean Water Trust will make available up to \$2M to subsidize the cost for systems to plan and implement Asset Management Planning (AMP) programs. Subsidy will be in the form of a grant (SRF loan forgiveness) of not more than \$150,000 or 60% of the cost to develop the plan. AMP grants can be applied for by filling out and submitting a PEF under the Drinking Water Asset Management Planning PEF DWSRF at:

<https://www.mass.gov/service-details/asset-management-planning-grant-program>

Since the AMP PEF's for grants are evaluated and rated, the possibility exists that only a limited number of grants will be awarded on the 2020 IUP. Applicants should also consider simultaneously submitting a PEF for a Drinking Water Planning PEF since DWSRF will automatically qualify for a 2% loan.

- Housing Choice communities will receive a discount on their SRF interest rate, not less than 1.5%: <https://www.mass.gov/info-details/2018-housing-choice-communities#list-of->

DEFINITIONS AND INSTRUCTIONS FOR PARTS I, II, III AND IV

Part I - Applicant and Project Identification and Certification

Provide the following applicant information:

- Name of the **Local Governmental Unit (LGU)** including name; mailing address; telephone number; Federal Employer Identification Number (This number is used by MassDEP in its SRF project tracking database), and the Public Water Supplier (PWS) identification number.
- **Authorized Representative** information including name, mailing and email address and telephone number
- Project LGU Primary Contact information (if different from above)
- Engineering/Consultant Firm information including name; mailing address; telephone number; and Federal Employer Identification Number.
- Engineer or Engineering Consultant Contact information including name, mailing and email address and telephone number.
- Project Identification which provides how the name of the project will appear on the IUP (limited to 50 characters); whether it's a previously submitted project before the current IUP year; and a brief description of the planning project (limited to 750 characters) which adequately describes the project and its benefits. Identification of the project area using a site plan and or locus map should be attached to the submission (Examples of project descriptions follow the definitions below).

Definitions

Local Government Unit or Local Governmental Unit - Any town, city, district, commission, agency, authority, board or other instrumentality of the commonwealth or of any of its political subdivisions, including any regional local governmental unit defined in M.G.L. c. 29C, which is responsible for the ownership or operation of a water pollution abatement project and is authorized by a bond act to finance all or any part of the cost thereof through the issue of bonds.

Authorized Representative - List the name, title, complete address, e-mail address, and telephone and fax numbers of the authorized representative. The application must contain a resolution or authorization designating by title the official (Mayor, City or Town Manager, Chairman of the Board of Sewer Commissioners, Chairman of the Board of Selectmen, etc.) to act as the representative of the applicant to sign for, accept, and take whatever action is necessary relative to the project. In the city form of government, the City Council will generally name the authorized representative. If the community is governed by Town Meeting, then the Town Meeting action will name the appropriate group, such as the Board of Selectmen or Board of Public Works. The appropriate governing body will then name the authorized representative. If the authority to file statement names an office, then a certified statement is required specifically identifying the individual currently holding that office. For wastewater districts, provide the requisite authorization of the governing board.

The following are examples of Construction Project descriptions:

- The project includes the construction of a new water treatment facility and water mains in accordance with the forthcoming Administrative Consent Order (ACO). The new water treatment facility will include membrane filtration system, aeration tower, an additional building, new emergency back-up power, and replacement of existing well pumps. The completed project will improve drinking water quality by reducing high manganese and iron concentrations and eliminate microbiological contaminations.
- This project involves the construction of a pump station and chemical feed systems. The project not only serves as the backup for the system but will assist in reducing the vulnerability of the water supply, since this system relies on a single well and uses a neighboring town as a backup.
- The proposed project involves the complete replacement (about 5 miles) of the transmission main. The existing transmission main is unreliable (installed in 1938), undersized, and follows a mostly cross-country route that greatly limits accessibility. Due to the increased carrying capacity of the proposed transmission main, the project will include new well screens, installation of VFDs, and the installation of two additional carbon adsorbers at the treatment facility.
- The project includes the replacement of up to approximately 19,000 linear feet of cast iron water mains and 19 lead services. The project also includes installation of a new sanitary grinder pump station for discharge of domestic sewage from the City's Water Treatment Plant (WTP), and the replacement of the residuals pump station and associated electrical and control systems.
- The project involves the construction of a 1.25 million gallon elevated water storage tank. The new water tank is necessary to provide adequate storage and maintain proper pressure within the distribution system.
- This project involves replacing approximately 10,700 existing meters in residential, commercial and municipal structures and implementing a meter reading system. The project will enable the City to recover costs of under-registering meters and reduce the amount of unaccounted for water.

Part II – Project Schedule and Cost

Provide the following applicant information:

- Project scheduling information to include when the scope of services or plan of study will be submitted to MassDEP (Boston and Regional Office) associated with the project for review; when the LGU's consultant estimates beginning and ending the planning project after review; and when the loan or financial assistance application will be submitted to MassDEP.
- The total project cost should reflect the costs associated with completing all eligible items.
- Local Funding Authorization which asks if the funding has been voted and approved by the LGU and, if not, when is it estimated to be voted on (no later than 6/30/2020).
- Other Assistance which asks if the LGU is seeking additional funding sources or not; and if so, provides who the LGU is seeking the funding from, under what title does the funding come under, the amount requested and how much will actually be provided.

Part III: Project Evaluation

Project Narrative

The purpose of the project narrative is to allow applicants to concisely describe the nature and extent of the problem and how the proposed project will address the issue. The narrative helps the reviewer by providing a sense of what the proposal will address and provides the key areas on which the reviewer should focus.

For 2020, MassDEP will continue to evaluate proposals using the Tier Scoring System. This requires MassDEP to assign project proposals into one of five Tier categories. In choosing the appropriate Tier category, MassDEP will rely heavily on the project narrative and supporting documentation provided in this section. Assigning your proposed project to the appropriate Tier requires that you provide both a comprehensive narrative discussion and proper documentation to support claims made in the narrative.

MassDEP anticipates the narrative (without attachments) to be about 5 pages in length, but not more than 10 pages. The narrative must include a discussion of each of the following topics in the order presented below.

The narrative must be supported with documentation that verifies all claims associated with the problem being addressed. Any local, state, or federal enforcement actions that were taken to address the problem should be included with the documentation. Any engineering or planning report related to the problem being addressed should be submitted as an attachment.

- A detailed discussion of the problem to be solved by the project.
- Identification of the project area using a site plan and/or locus map.
- A detailed discussion of the severity of the existing public health issues due to the problem.
- The total system population and the population affected by the project. Discuss how the affected population is calculated.
- A description of the relative importance of the component(s) involved.
- A discussion of all interactions with regulatory bodies pertaining to the problem, including the need to comply with existing enforcement orders or sanitary survey requirements.
- A discussion of options considered, such as but not limited to interconnections, blending to improve water quality, re-routing water mains, treatment, new source(s), including the no action option
- A description of the backup systems currently in place to replace the component(s) on a temporary or permanent basis
- A description of all planning efforts performed to arrive at the recommended plan
- A detailed discussion of the work to be completed
- A description of the energy efficiency measures to be implemented and anticipated energy savings
- A description of any renewable energy components and an estimate of energy generation
- A description of any “new technologies” being used and approved by MassDEP.
- A discussion of the status of the project as it currently exists.

Part IV: Project Ranking

The SRF program periodically reviews the rating criteria used to ensure that the most important PEF proposals in terms of public health receive priority for funding assistance.

A. Tier Classification

Under the Tier Classification System, incoming PEF proposals are ranked into one of five Tiers; each having a set point value.

Secondary factors such as affordability, population, energy savings, sustainable development, and watershed management enhancement are also given importance under the review system. The Tier System is designed such that even if a project qualifies for the maximum amount of secondary factor points, the project cannot be elevated to a higher Tier. The scoring system also links SRF funding with other Drinking Water Program compliance and enforcement components such as Sanitary Surveys, Monitoring Reports, and Enforcement actions.

Although proposed **Planning Projects** will not be tier classified, the project description for such proposals should be comprehensive and accurately describe the purpose and coverage area. As an example, the information may include proposed planning projects consisting of field inspections and materials evaluations for communities that do not possess documented water system lateral materials records.

1) **Project TIER**

TIER V PROJECTS: 500 Points

Description:

Drinking Water projects proposed to protect public health by addressing compliance with a Federal or State drinking water standard or correcting a water contamination issue. These proposals would include projects designed to address or correct an exceedance of a Final USEPA or MassDEP Maximum Contaminant Level (MCL), Treatment Techniques (TT), Maximum Residual Disinfectant Level (MRDL), Action Level, and/or MassDEP Office of Research and Standards (ORS) Guideline Level (ORSG).

The following are SRF high priority projects:

- Planned lead and older brass service line replacement projects supported by materials evaluation reports and water main replacement projects that include lead and older brass service line replacements supported with lateral material records. Water main rehabilitation projects which include *full* lead service connection removals (main to water meter) are eligible for enhanced subsidy under the Drinking Water SRF <https://www.mass.gov/service-details/incentivized-lead-service-line-replacement-program>
- Projects that reduce Per- and polyfluoroalkyl substances (**PFAS**) in drinking water, below levels of concern. [MassDEP Fact Sheet - PFAS](#)

Examples:

- A public water supply system that cannot be used (or will likely not be able to be used) due to exceedances of bacteria, or other contaminant regulated under Federal or State drinking water regulations. This is a water quality issue that, if left unaddressed, poses a serious threat to a water

system's capacity and ability to provide a safe supply of water in the foreseeable future.

- Projects designed to address or correct existing water contamination levels that during the past 18 months were generally greater than 80% of a MassDEP MCL, MRDL, Action Level, or ORSG in over half (50%) of the samples taken and trend analysis indicates that the level will most likely exceed the Federal or State standard. Projects that will correct these exceedances include the following: replacing an outdated water treatment facility, installing/upgrading new treatment equipment, addressing persistent bacteria violations by cleaning and lining for bacteria biofilm removal. Projects proposed to meet present (or future) State or Federal drinking water standards would include proposals to add a second form of disinfectant at unfiltered systems by required deadlines(s) or to take corrective actions in response to, or to prevent a treatment technique violation, such as inadequate contact time, inadequate disinfection or unacceptable levels of turbidity.

Documentation Required:

Drinking Water Monitoring Reports, Enforcement action and Orders, materials evaluation reports or records, and/or other data/reports verifying contaminant levels were greater than 80% of Federal or State drinking water standards for at least half (50%) of the samples taken during the past 18 months. Documentation also should include what and when temporary measures, were enacted to insure delivery of potable water to the public during the past 18 months. Also, what back-up measures have been enacted to ensure the current delivery of potable water to the public. If the public water supply system is currently not in service, water quality data from the 18 months period prior to shutting down the system should be included.

TIER IV PROJECTS: 400 Points

Description:

Drinking Water projects proposed to protect public health by addressing imminent threats to the reliable delivery of drinking water to a population, including threats caused by expected climate change impacts (sea level rise, increase coastal storm surge, and increased riverine flooding). The following summarizes the information for Tier IV:

- Projects proposed to address/correct a significant public health threat that would result from a sole or major system component exceeding its planned useful life cycle with documented signs of failing or deficiencies that indicate component failure. If the threat remains unaddressed many customers may be subjected to unsafe, unfit, or no water. A sole component would include an aging treatment plant having significant deficiencies that would impact 100% of the water system. Other sole components would include a water supply system's single transmission main, single storage tank, or threats to a Zone I or Zone A sole source (or a primary source without sufficient back-up) due to a compliance issue or an approaching contaminant plume.
- Projects proposed to address a major system component failure. Although not the sole component of a water supply system, loss of this particular transmission main, tank, source, or treatment plant would affect 50% or more of the customers being served by a small water supply system (i.e. a water supply system serving fewer than 10,000 persons), or affecting at least 5000 consumers served by a large water supply system (i.e. a system serving 10,000 or more persons).

Examples:

- Projects would include replacement of a sole or major transmission line that is in danger of becoming unusable due to expected climate change impacts, tuberculation
- Relining or replacement of a water main showing numerous leaks or breaks over the past 18 months

- Replacing a storage tank that has become structurally compromised due to documented deficiencies and is in danger of failing
- Replacement or upgrade of a water treatment facility that is approaching or exceeding its planned useful life and has required numerous deficiencies and repairs over the past 18 months
- Installation of tank mixing systems or pump stations/water rerouting to address water aging issues that are documented by nitrification, bacterial control quality and/or other issues.

Documentation Required:

For projects being proposed to address significant threats to public health, documentation is needed to show components of the drinking water treatment or distribution system are in danger of failing or likely vulnerable to climate change impacts. Such documentation may include an engineering report addressing the problem, hydraulic analyses, inspection reports, data/logs verifying emergency repairs to the system, water quality monitoring reports showing exceedances of Federal or State Drinking Water Standards, and documentation showing damage from previous storm surges, riverine flooding, sea level rise, or other impacts associated with climate change.

TIER III PROJECTS: 300 Points

Description:

Projects proposed to address water quality conditions as a result of Secondary Maximum Contaminant Level (SMCL) exceedances that make the water currently provided to customers aesthetically unfit to drink and results in consumers using or seeking an alternative water supply.

This tier includes the removal of asbestos cement pipe - care must be taken to protect workers and the public during this work; for guidance refer to:

<https://www.mass.gov/files/documents/2016/08/wc/acpguid.pdf>

Examples:

- For projects being proposed to address SMCL's exceedances, an example would be projects proposed to address elevated odor, excessive iron, manganese and color levels that make the water objectionable to drink.
- Removal of asbestos cement pipe.

Documentation Required:

For projects being proposed to address Secondary Maximum Contaminant Level exceedances that result in consumers seeking alternative drinking water sources, documentation would include water quality monitoring reports showing SMCL levels over the past 18 months, information suggesting consumers are seeking alternative sources of water via registered complaints; water consumption trend data and an updated consumer survey of potable water use, bottled water and other alternatives usage.

TIER II PROJECTS: 200 Points

Description:

- Drinking water projects proposed to upgrade/rehab/replace water supply infrastructure components that are approaching or have passed their planned useful life cycle. Although the infrastructure components may be currently operating with only minor problems, rehab or replacement is proposed to address the issue before there are serious problems.
- Projects that are proposed to address future drinking water regulations and/or standards.
- Projects also include the replacement of water meters that have had a significant number of

broken or malfunctioning meters resulting in high unaccounted for water that could negatively affect the system's finances.

- Water main replacement projects that discuss replacement of lead goosenecks and service lines in general terms without records of lateral materials.

Examples:

- Replacing a facility's pumps that have approached or passed their 10 year life expectancy before there is a problem
- Repairing/replacing aged water lines that have experienced occasional breaks over the past few years
- Replacing/repairing a storage tank showing signs of deterioration but not structurally compromised
- Adding a storage tank or installing a pump station
- Looping water mains to address pressure deficiencies and water quality issues of dead end water mains
- Upgrading treatment plants that are treating for secondary contaminants (that are within ORSGL)
- Installing treatment plant/equipment to treat for future standards
- Replacing water meters that have resulted in significantly high unaccounted for water
- Water main and lead goose neck/lateral replacement.

Documentation Required:

An inventory of facility components showing the age and condition of the components; records, documents or an engineering report showing the planned useful life cycle of equipment currently in use; hydraulic analyses; records showing the age and date of installation of a transmission water line, water quality monitoring reports and identification of the project(s) on a capital improvement, asset management, or other planning document. For meter replacement projects, the applicant should provide documentation that describes the current condition of the water meters. This could include such documents as the age of the meters, annual water audit data showing that the meters are inaccurate or likely becoming inaccurate, calibration test results of the meters, a cost benefit analysis showing that the project will result in substantial savings, the percentage of unaccounted for water (considered high if it is more than 10% for high and medium stress basins or more than 15% for low stress and unassessed basins), documentation showing the water system is having difficulty in meeting the Water Management Act permitted withdrawal limits due to faulty meters; documentation showing that due to faulty meters, the water system needs to purchase water from other systems even if water conservation measures were to be implemented.

TIER I PROJECTS: 100 Points

Description:

Drinking water projects that are proposed to install, replace, or upgrade water system components that have an indirect connection to providing safe drinking water. Although such appurtenances may be important (or even critical) to a water system, these components are not directly involved in the delivery of potable water to the public.

Examples:

Replacing a facility's security fence, installing cameras, constructing a wind turbine or solar array on property where the water treatment facility is located.

Documentation Required:

- An inventory of facility components showing the age and condition of the components; records, documents or an engineering report describing the condition of the appurtenance components and identification of the project(s) on a capital improvement, asset management, or other whole system planning document.
- For stand- alone renewable energy projects, a plan, study or other document showing the feasibility of the renewable energy source on the project site.

B. Supplemental Adjustment Rating Criteria

MassDEP is required by the State Revolving Fund Regulations at 310 CMR 45.06 to consider certain secondary factors in determining a project's placement on final project priority list. The project applicant should address secondary factors in the Project Narrative. To accomplish this, MassDEP will Tier classify each submitted PEF and then assign additional points, if appropriate, based on the following secondary factors:

1. Population size:

Projects can receive supplemental points for modifications or expansion of water treatment facilities and/or new water main installations based upon the population served by those projects. Water treatment facilities points will be provided based on the design flow capacity of the facility in relationship to total average daily flow, and water mains by the population served by that particular length of the water main being replaced or clean and lined. For water storage tanks, points may be provided if the new tank meets or exceeds recommended distribution system volumes from standards provided by AWWA, 10 State Standards and the Insurance Services Organization.

2. Energy Efficiency and Renewable Energy:

Additional points will be awarded for projects that include energy efficiency measures and/or renewable energy components. For projects proposing energy efficiency measures, the applicant should state whether the measures are being proposed to address recommendation (s) of an energy audit. A copy of the appropriate section of the energy audit, including the date the audit was completed and the author of the audit, should be provided. If the project includes a renewable energy resource component such as wind power, solar (either photovoltaic or solar thermal), hydropower, biogas generation, or combined heat and power (CHP) power, the applicant should state whether a feasibility study has been completed. If so, the applicant should provide the name of the author of the study and the date the feasibility study was completed.

3. Affordability:

Systems with service area that has a median household income (MHI) income of \$59,109 or less (That is, 80% of the 2013-2017 State Median Household Income of \$73,887) will be awarded additional points. If the service area includes more than one such designated MHI area, a weighted overall average based on population served in each of the covered MHI areas times the MHI for that area plus the same for any other such area, and divided by the total number served, shall be used to calculate the combined MHI. Alternatively, applicants may provide a service-area specific MHI from an independent income survey covering the service area, provided that said independent survey is no more than eleven years old at the time of application. Water supply systems that have user rates (factoring in proposed project) in excess of 1% of the median household income relative to median household income also will be awarded additional points.

4. Consolidation/Restructuring of a Public Water System:

The reason for the proposed consolidation must be included. Points may be given if the purpose of the project is to eliminate a public health problem or a technical, financial or managerial capacity problem. Points also may be awarded for consolidating a public water system designed to replace a contaminated source instead of treating contamination in the water supply system currently in use.

5. Compliance with Enforcement Order:

If the project is being proposed to comply with a state and/or federal enforcement action, both parties must sign an Administrative Consent Order (ACO) or MassDEP or EPA must issue a Unilateral Administrative Order (UAO). The project must be cited in the Enforcement Order, be approved by MassDEP, and state that it will address an underlying issue.

If the Order is not signed at the time the PEF is submitted, it must be signed prior to the publication of the Draft IUP to receive the additional points.

6. MassDEP approved surface water or wellhead protection plan:

Applicants should state in the narrative whether the municipality in which the project is proposed has a MassDEP approved surface water or wellhead protection plan on file. No further specific documentation is required. MassDEP will confirm internally with staff from the Drinking Water Program for each community that claims to have an approved plan. Consultants may send an email to Program.Director-DWP@mass.gov to verify that the municipality has an approved plan

7. New Technologies:

The SRF program encourages the use of innovative technology to ensure the delivery of high quality potable water to the citizens of the Commonwealth. MassDEP publishes a list of “new technologies” that have been approved for use by MassDEP on its web-site: <https://www.mass.gov/doc/list-of-massdep-approved-new-drinking-water-technologies>

Extra points will be awarded to projects that include any of the “new technologies” approved by the MassDEP Drinking Water Program as of the latest published list. Applicants seeking points under this category should clearly identify the particular “new technology” they are proposing and the date the “new technology” was approved by the MassDEP Drinking Water Program.

8. Best Management Practices (BMPs):

Items a. through e. below are aimed at identifying if you are implementing the Trust’s BMPs, to the extent that they are applicable to your project and with proper documentation in your application. For guidance visit the Trust website <https://www.mass.gov/info-details/borrower-documents-reports-and-publications-mcwt#best-management-practices->

- a. Asset Management** - Asset Management Planning (AMP) is a process that utilities can use to prioritize and schedule maintenance and replacement of capital assets (pipes, valves, equipment, structures, etc.) in a proactive and cost effective manner that allows for more predictable budget projections.
- b. Full Cost Pricing** – Full cost pricing encompasses all direct and indirect costs related to the service in order to maintain long-term financial sustainability.
- c. Enterprise Funds** - An enterprise fund is a separate accounting and financial reporting mechanism for which revenues and expenditures are segregated into a fund with financial statements separate from all other government activities.

- d. **Leak Mitigation-** Measures being implemented to control water loss in water systems.
- e. **Inter-Municipal Agreement-** Inter-Municipal cooperation on Water infrastructure projects.