Appendix O – Clean Water Checklist

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Clean Water GPR Checklist, July 1, 2010, Revised October 23, 2015

STATE REVOLVING FUND LOAN PROGRAM
GREEN PROJECT RESERVE SUSTAINABILITY INCENTIVE
CLEAN WATER CHECKLIST

SRF Loan Program Participant Information

Participant Name: Brown County Regional Sewer District

Project Name/Location: Low Pressure Sewer Phase 1 - Brown County, Indiana

Date: 3/15/2023 Revision No. 0

Instructions

This checklist shall be completed by the SRF Loan Program participant and be updated as the project changes from concept to design through construction completion. For instance, a checklist should be submitted with:

1. The SRF Loan Program Application,
2. The Preliminary Engineering Report, along with GPR project description and cost estimates,
3. The Post-Bid Documents, including GPR construction costs, and
4. Construction completion.

Please see the *U.S. EPA Green Project Reserve Guidance* available at www.srf.in.gov for a detailed review of eligibility, definition of the GPR categories; examples of ineligible projects; categorical projects and those that require business cases. **All GPR projects, components and activities must be eligible for SRF funding.**

Check all that apply to the project:

I. GREEN INFRASTRUCTURE

1. Categorical Projects

- ☐ Implementation of green streets (combinations of green infrastructure practices in transportation rights-of-way), for either new development, redevelopment or retrofits including:
  - ☐ Permeable pavement,
  - ☐ Bioretention,
  - ☐ Trees,
  - ☐ Green roofs, and
  - ☐ Other practices such as constructed wetlands that can be designed to mimic natural hydrology and reduce effective imperviousness at one or more scales, and
  - ☐ Vactor trucks and other capital equipment necessary to maintain green infrastructure projects.
- ☐ Wet weather management systems for parking areas including:
  - ☐ Permeable pavement,
  - ☐ Bioretention,
  - ☐ Trees,
  - ☐ Green roofs, and
  - ☐ Other practices such as constructed wetlands that can be designed to mimic natural hydrology and reduce effective imperviousness at one or more scales.

- ☐ Vactor trucks and other capital equipment necessary to maintain green infrastructure projects.
- ☐ Implementation of comprehensive street tree or urban forestry programs, including expansion of tree boxes to manage additional stormwater and enhance tree health.
- ☐ Stormwater harvesting and reuse projects, such as cisterns and the systems that allow for utilization of harvested stormwater, including pipes to distribute stormwater for reuse.
- ☐ Downspout disconnection to remove stormwater from
  - ☐ Sanitary,
  - ☐ Combined sewers, and
  - ☐ Separate storm sewers and manage runoff onsite.
- ☐ Comprehensive retrofit programs designed to keep wet weather discharges out of all types of sewer systems using green infrastructure technologies and approaches such as:
  - ☐ Green roofs,
  - ☐ Green walls,
  - ☐ Trees and urban reforestation,
  - ☐ Permeable pavements
  - ☐ Bioretention cells, and
  - ☐ Turf removal and replacement with native vegetation or trees that improve permeability.
- ☐ Establishment or restoration of:
  - ☐ Permanent riparian buffers,
  - ☐ Floodplains,
  - ☐ Wetlands (federal rules prevent the SRF Loan Programs from providing financing assistance for a wetland required as a mitigation measure)
  - ☐ Vegetated buffers or soft bioengineered stream banks
  - ☐ Stream day lighting that removes natural streams from artificial pipes and restores a natural stream morphology that is capable of accommodating a range of hydrologic conditions while also providing biological integrity.
- ☐ Projects that involve the management of wetlands to improve water quality and/or support green infrastructure efforts (e.g., flood attenuation).
  - ☐ Includes constructed wetlands.
  - ☐ May include natural or restored wetlands if the wetland and its multiple functions are not degraded and all permit requirements are met.
- ☐ The water quality portion of projects that employ development and redevelopment practices that preserve or restore site hydrologic processes through sustainable landscaping and site design.
- ☐ Fee simple purchase of land or easements on land that has a direct benefit to water quality, such as riparian and wetland protection or restoration.

2. Decision Criteria for Business Cases

- ☐ Green infrastructure projects that are designed to mimic the natural hydrologic conditions of the site or watershed.
- ☐ Projects that capture, treat, infiltrate, or evapotranspire water on the parcels where it falls and does not result in interbasin transfers of water.
- ☐ GPR project is in lieu of or to supplement municipal hard/gray infrastructure.
- ☐ Other - Please provide an attachment explaining the scope of the project and brief explanation of the approach for the business case.

3. Example of Project Requiring a Business Case

- ☐ Fencing to keep livestock out of streams and stream buffers. Fencing must allow buffer vegetation to grow undisturbed and be placed a sufficient distance from the riparian edge for the buffer to function as a filter for sediment, nutrients and other pollutants.

II. WATER EFFICIENCY

1. Categorical Projects

- ☐ Installing or retrofitting water efficient devices, such as plumbing fixtures and appliances.
  - ☐ For example, shower heads, toilets, urinals and other plumbing devices.
  - ☐ Implementation of incentive programs to conserve water such as rebates.
  - ☐ Water sense labeled products.
- ☐ Installing any type of water meter in previously unmetered areas, if rate structures are based on metered use
  - ☐ Can include backflow prevention devices if installed in conjunction with water meter.
- ☐ Replacing existing broken/malfunctioning water meters, or upgrading existing meters, with:
  - ☐ Automatic meter reading systems (AMR), for example:
    - ☐ Advanced metering infrastructure (AMI),
    - ☐ Smart meters,
    - ☐ Meters with built in leak detection,
  - ☐ Can include backflow prevention devices if installed in conjunction with water meter replacement.
- ☐ Retrofitting/adding AMR capabilities or leak detection equipment to existing meters (not replacing the meter itself).
- ☐ Water audit and water conservation plans, which are reasonably expected to result in a capital project.
- ☐ Recycling and water reuse projects that replace potable sources with non-potable sources:
  - ☐ Gray water, condensate and wastewater effluent reuse systems (where local codes allow the practice),
  - ☐ Extra treatment costs and distribution pipes associated with water reuse.
- ☐ Retrofit or replacement of existing landscape irrigation systems to more efficient landscape irrigation systems, including moisture and rain sensing controllers.
- ☐ Retrofit or replacement of existing agricultural irrigation systems to more efficient agricultural irrigation systems.

2. Decision Criteria for Business Cases

- ☐ Water efficiency can be accomplished through water saving elements or reducing water consumption. This will reduce the amount of water taken out of rivers, lakes, streams, groundwater, or from other sources.
- ☐ Water efficiency projects should deliver equal or better services with less net water use as compared to traditional or standard technologies and practices.
- ☐ Efficient water use often has the added benefit of reducing the amount of energy required by a POTW, since less water would need to be collected and treated; therefore, there are also energy and financial savings.
- ☐ Other - Please provide and attachment explaining the scope of the project and brief explanation of the approach for the business case.

3. Example Projects Requiring a Business Case

- ☐ Water meter replacement with traditional water meters.
- ☐ Projects that result from a water audit or water conservation plan.
- ☐ Storage tank replacement/rehabilitation to reduce loss of reclaimed water.
- ☐ New water efficient landscape irrigation system.
- ☐ New water efficient agricultural irrigation system.

III. ENERGY EFFICIENCY

1. Categorical Projects

- ☐ Renewable energy projects such as wind, solar, geothermal, micro-hydroelectric, and biogas combined heat and power systems that provide power to a POTW. Micro-hydroelectric projects involve capturing the energy from pipe flow.
  - ☐ POTW owned renewable energy projects can be located onsite or offsite.
  - ☐ Include the portion of a publicly owned renewable energy project that POTW's energy needs.
  - ☐ Must feed into grid system that the utility draws from and/or there is a direction connection.
- ☐ POTW energy management planning, including energy assessments, energy audits, optimization studies, and sub-metering of individual processes to determine high energy use areas, which are reasonably expected to result in a capital project are eligible.
- ☐ Projects that achieve a 20% reduction in energy consumption are categorically eligible for GPR. If a project achieves less than a 20% reduction in energy efficiency, then it may be justified using a business case.
- ☐ Collection system Infiltration/Inflow detection equipment.

2. Decision Criteria for Business Cases

- ☐ Project must be cost effective. An evaluation must identify energy savings and payback on capital and operation and maintenance costs that does not exceed the useful life of the asset.
- ☐ The business case must describe how the project maximizes energy saving opportunities for the POTW or unit process.
- ☐ Using existing tools such as Energy Star's Portfolio Manager (http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager) or Check Up Program for Small Systems (CUPSS) (http://www.epa/cupss) to document current energy usage and track anticipated savings.
- ☐ Other - Please provide and attachment explaining the scope of the project and brief explanation of the approach for the business case.

3. Examples of Projects Requiring a Business Case

- ☐ POTW projects or unit process projects that achieve less than a 20% energy efficiency improvement may be justified using a business case.
- ☐ Projects implementing recommendations from an energy audit that are not otherwise designated as categorical.
- ☐ Projects that cost effectively eliminate pumps or pumping stations.
- ☐ Infiltration/Inflow (I/I) correction projects that save energy from pumping and reduced treatment costs and are cost effective.
  - ☐ Projects that count toward GPR cannot build new structural capacity. These projects may, however, recover existing capacity by reducing flow from I/I.
- ☐ I/I correction projects where excessive groundwater infiltration is contaminating the influent requiring otherwise unnecessary treatment processes (i.e. arsenic laden groundwater) and I/I correction is cost effective.
- ☐ Replacing pre-Energy Policy Act of 1992 motors with National Electric Manufacturers Association (NEMA) premium energy efficiency motors.
  - ☐ NEMA is a standards setting association for the electrical manufacturing industry (http://www.nema.org/gov/energy/efficiency/premium/).
- ☐ Upgrade of POTW lighting to energy efficient sources (such as metal halide pulse start technologies, compact fluorescent, light emitting diode (LED)).
- ☐ SCADA systems can be justified based upon substantial energy savings.
- ☒ Variable Frequency Drive can be justified based upon substantial energy savings.

IV. ENVIRONMENTALLY INNOVATIVE

1. Categorical Projects
- ☐ Total/integrated water resources management planning likely to result in a capital project.
- ☐ Utility Sustainability Plan consistent with EPA's SRF sustainability policy.
- ☐ Greenhouse gas (GHG) inventory or mitigation plan and submission of a GHG inventory to a registry (such as Climate Leaders or Climate Registry).
- ☐ Planning activities by a POTW to prepare for adaptation to the long-term effects of climate change and/or extreme weather.
- ☐ Construction of US Building Council LEED certified buildings or renovation of an existing building on POTW facilities.
- ☐ Decentralized wastewater treatment solutions to existing deficient or failing onsite wastewater systems.

2. Decision Criteria for Business Cases
- ☐ Technology or approach whose performance is expected to address water quality but the actual performance has not been demonstrated in the state;
- ☐ Technology or approach that is not widely used in the state, but does perform as well or better than conventional technology/approaches at lower cost; or
- ☐ Conventional technology or approaches that are used in a new application in the state.
- ☐ Other - Please provide and attachment explaining the scope of the project and brief explanation of the approach for the business case.

3. Examples of Projects Requiring a Business Case
- ☐ Constructed wetlands projects used for municipal wastewater treatment, polishing, and/or effluent disposal.
  - ☐ Natural wetlands.
  - ☐ Project may not further degrade.
- ☐ Projects or components of projects that result from total/integrated water resource management planning consistent with the decision criteria for environmentally innovative projects and that are Clean Water SRF eligible.
- ☐ Projects that facilitate adaptation of POTWs to climate change identified by a carbon footprint assessment or climate adaptation study.
- ☐ POTW upgrades or retrofits that remove phosphorus for beneficial use, such as biofuel production with algae.
- ☐ Application of innovative treatment technologies or systems that improve environmental conditions and are consistent with the Decision Criteria for environmentally innovative projects such as:
  - ☐ Projects that significantly reduce or eliminate the use of chemicals in wastewater treatment.
  - ☐ Treatment technologies or approaches that significantly reduce the volume of residuals, minimize the generation of residuals, or lower the amount of chemicals in the residuals.
    - ☐ Includes composting, Class A and other sustainable biosolids management approaches.
- ☐ Educational activities and demonstration projects for water or energy efficiency.
- ☐ Projects that achieve the goals/objectives of utility asset management plans.
- ☐ Sub-surface land application of effluent and other means for ground water recharge, such as spray irrigation and overland flow.
  - ☐ Spray irrigation and overland flow of effluent is not eligible for GPR where there is no other cost effective alternative.

V. CLIMATE AND EXTREME WEATHER RESILIENCY

1. Categorical Projects – none at this time.

2. Decision Criteria for Business Cases

- ☐ Utility functions and performance can be disrupted by climate change/extreme weather events.
  - ☐ Flooding
  - ☐ Drought
  - ☐ Tornado
  - ☐ Lightning strikes
  - ☐ Earthquake
- ☐ Incorporate project elements that provide flexibility to adapt operations and functionality as external conditions change over time.
- ☐ Project components designed to perform beyond the minimum Building Code or Design Standards.
- ☐ Utilize climate resiliency and adaptation strategies when siting or routing key project structures or components.
- ☐ Ability to modify or expand proposed facilities based on future climate change issues.
- ☐ Other - Please provide and attachment explaining the scope of the project and brief explanation of any aspects in the planning, construction or operation phase that support the approach for the business case.

3. Examples of Projects Requiring a Business Case

- ☐ Utilizing natural, native and drought resistant planted elements that are economically replaced at project sites for storm water control or landscaping.
- ☐ Siting new structures away from flash flood areas or poor structural soils in former waterway areas.
- ☐ Consideration of finished floor elevation above the 100 year flood elevation or normal code requirements.
- ☐ Increasing structural, roof (snow) or wind loadings beyond code requirements for new structures.
- ☐ Incorporate passive cooling systems for instrumentation, control or power panel rooms subject to high heat conditions.

Appendix P – Preliminary Design Summary