



Wastewater Planning & Design / State Revolving Fund Facilities Plan Checklist

USE OF THIS CHECKLIST: This checklist must be completed and attached to any Facilities Plan (FP) submitted for review and approval. All checklist items in plain text must be answered/addressed in the FP. All checklist items in *italics* must be answered/addressed in the FP to be eligible for construction funding assistance programs involving federal funds (e.g. State Revolving Fund [SRF] Program). For a FP Reaffirmation, please refer to the FP Reaffirmation Checklist.

Page No./NA

I. Executive Summary _____

II. Statement of Project Need

A. Health, Security, Aging Infrastructure, and Resiliency _____

B. Service Area Growth _____

C. New RIPDES permit limit(s) or other enforceable actions _____

III. Planning Area

A. Provide a description of the following:

1. Planning area (include map) _____

2. Geographical boundaries (include map) _____

3. Institutional (governmental unit) structure _____

4. A description of wastewater utility management structure _____

5. The current rate structure _____

6. The entities conducting planning _____

B. Relationship between FP and the Community Comprehensive Plan (CCP) _____

C. Provide a map which shows:

1. Service area _____

2. Political boundaries _____

3. Natural (e.g. wetlands, coastal), cultural, historical and archeological resources consistent with CCP inventory _____

IV. Effluent Limitations

A. Copy of RIPDES permit _____

B. Is the receiving water impaired (303(d) List: Category 5)? _____

C. Will the project(s) contemplated in the FP address impacted waters (303(d) List: Cat. 4a, 4b, 5)? _____

V. Assess Current Situation

A. Existing Environmental Conditions (provide text and maps)

1. Geophysical _____

a. Soils _____

b. Topography _____

c. Geology _____

d. Hydrology _____

2. Surface water watersheds, wetlands, floodplains, estuarine (coastal) areas and water supply sources _____

3. Groundwater aquifers, recharge, and wellhead protection areas _____

4. Surface and Groundwater quality, quantity, and uses _____

5. Documentation of OWTS problem areas _____

- 6. Land-use and demographic data consistent with CCP _____
- B. Existing System and Flows
 - 1. Existing System
 - a. Wastewater Treatment Facilities (WWTF)
 - i. Location of all treatment plants, sludge treatment and disposal areas, pretreatment facilities _____
 - ii. WWTF performance compared to RIPDES permit _____
 - iii. Quality of operation and process control _____
 - iv. Actual number and qualifications of operating staff versus planned/needed _____
 - v. Adequacy of
 - 1) Plant hydraulics _____
 - 2) Laboratory facilities _____
 - 3) Sampling & testing _____
 - 4) Maintenance program _____
 - vi. Cost recovery and user charges _____
 - vii. Impact of septage on WWTF _____
 - viii. Effluent treatment/reuse methods _____
 - ix. Sludge treatment/disposal/reuse methods _____
 - x. Flow/waste reduction measures _____
 - b. Collection System (include map)
 - i. Location of all pumping stations and sewers _____
 - ii. Number of service connections and population currently served by sewers _____
 - iii. Present design service population _____
 - iv. Location and description of major industrial discharges _____
 - v. Location of all bypasses and overflows _____
 - 2. Existing Flows and Wasteloads
 - a. Monthly average, maximum month, maximum day and peak hour flows _____
 - b. Dry and wet weather _____
 - c. Septage (in-town and out-of-town) _____
 - d. Combined sewer overflows _____
 - e. Proportion and quantity of flow attributed to infiltration/inflow _____
 - f. Wastewater characteristics (BOD, TSS, TN, TP, Ammonia, etc.) _____
 - g. Proportion of residential/commercial/industrial flows _____

VI. Assess Future Situation (Twenty-Year Planning Period)

- A. Land-use Forecasts
 - 1. Consistent with local CCP _____
 - 2. Utilized in estimating future development _____
 - 3. Utilized in estimating future wasteloads _____
- B. Demographic Forecasts (consistent with State Guide Plan (SGP)) _____
- C. Socioeconomic Forecasts (consistent with SGP)
 - 1. Industrial projections _____
 - 2. Commercial projections _____
 - 3. Median household income or other financial data _____
 - 4. Designated environmental justice area(s) _____
- D. Forecasted Flows and Wasteloads
 - 1. Residential
 - a. Residential wastewater strength approximates 0.17 lb/day BOD, 0.2 lb/day TSS _____
 - b. Domestic future flows are based on analysis of flow records and/or approximates 70 gpcd _____

- c. Sewer service area extensions consistent with CCP _____
- 2. Industrial
 - a. Future industrial flows are consistent with similar flows and loads within the service area _____
 - b. Forecasted future industrial flows are consistent with the CCP _____
- 3. Commercial
 - a. Future commercial flows are consistent with similar flows and loads within the service area _____
 - b. Forecasted future commercial flows are consistent with the CCP _____
- 4. Septage
 - a. Septage forecasts are based on sewer/unsewered forecasts in CCP _____
 - b. Septage forecasts consider domestic, industrial, commercial sources _____
 - c. Out-of-town septage considered in forecasts _____
- 5. Sludge treatment and disposal
 - a. Forecasts quantity and composition of sludge generated from WWTF treatment process(es) and septage _____
 - b. Forecasts quantity and composition of sludge from sludge treatment and dewatering process _____
 - c. Method for final disposal of sludge complies with DEM's Sewage Sludge Management Regulations _____
 - d. If method for final disposal is for liquid sludge only, ability to dewater sludge is still maintained _____
- 6. Flow and wasteload reduction programs
 - a. Infiltration/Inflow (I/I)
 - i. Does an I/I study exist for the sewer service area? _____
 - ii. Does excessive I/I exist by DEM criteria? (i.e. 120 gpcd of infiltration during periods of high groundwater, and during a storm event inflow flow does not exceed 275 gpcd or cause WWTF operational problems) _____
 - iii. Does a sewer rehabilitation program (SSES) exist or is one proposed which includes a cost-effectiveness analysis of reduction versus treatment costs, scope of work, cost estimates, and schedule for completion which is reasonable and represents realistic expectations for excessive I/I reduction? _____
 - b. Pretreatment
 - Is the Pretreatment Program currently in compliance with DEM regulations? _____
- E. Climate Change and Resiliency

Wastewater infrastructure will need to be resilient to the impacts of climate change. To that end the FP must address the following:

 - 1. Consistency with DEM's Guidance for the Consideration of Climate Change Impacts in the Planning and Design of Municipal Wastewater Collection and Treatment Infrastructure _____
 - 2. Implementation of projects and/or improvements identified in any WWTF Resiliency Plan required under the RIPDES permit. _____

VII. Development and Evaluation of Alternatives

All reasonable alternatives generated must be based upon and consistent with the local CCP and the SGP and must be evaluated to include the following factors: no action alternative; direct, indirect, beneficial, and detrimental impacts of the entire municipal wastewater treatment system on all other related environmental objectives; existing and future environmental conditions, including all other related environmental objectives, affected by the entire system; the total life-cycle costs of the alternative, including net annualized cost; land-use and other socioeconomic parameters affected by the entire system; cumulative

impacts evaluated within the context of complete municipal treatment system as well as other public works projects and future community growth.

A. Optimizing Existing Facilities (i.e. “no-build” alternative)

- 1. The optimum performance level possible with the existing process design _____
- 2. The age and reliability of existing equipment and its remaining useful life _____
- 3. The qualifications, number and training of current operating personnel _____
- 4. Additional operating modifications/improvements and laboratory facilities needed to monitor and/or improve operations _____
- 5. Possible process or operational modifications _____
- 6. The impact of reducing I/I or other flow and waste reduction programs including storm water (i.e. integrated planning) _____

B. Regional Solutions

Regionalizing facilities and services must be considered. An analysis of regional solutions should address the following special considerations:

- 1. Effects of interceptor location on land use, particularly where land is undeveloped _____
- 2. Effects of alternative combinations on surface waters in the region _____
- 3. Possible limitation on future expansion due to unavailability of land _____
- 4. Differences in reliability, operation, and maintenance of facilities. _____
- 5. The regionalization alternative is consistent with the recommendations of the applicable water quality management (WQM) plan/TMDL and the SGP _____
- 6. Are there inter-municipal service agreements? _____
- 7. Evaluates cost savings realized through economies of scale/more efficient operation _____

C. Unsewered Areas

(If after a public meeting, the recommendation of this section is to implement an OWTS management program solely featuring the repair/replacement of individual systems on individual lots, then the community may elect to end the facilities planning process for unsewered areas at this point and request a Categorical Exclusion. The information developed to this point shall be used to justify the Categorical Exclusion request. A group or community OWTS unit cannot qualify for a Categorical Exclusion.)

- 1. Description of the unsewered area
 - a) Identification of the approximate number, type, and location of OWTS _____
 - b) Map of the unsewered area _____
 - c) Identification of the approximate number of and impacts of failed/failing systems on surface and ground water _____
 - d) An analysis of the cause(s) in OWTS failure area(s) _____
 - e) An estimated cost for repairing/replacing failed OWTS in the area _____
- 2. Assessment of the continued use of OWTS within the unsewered area(s). If continued use is found to be unsuitable, evaluate alternatives (e.g. septic system management program, advanced OWTS, cluster systems, sewers) for other means of wastewater disposal and establish a schedule for implementation of those alternatives. (Note: this assessment can form the basis for an Onsite Wastewater Management Plan (OWMP) but is not, in and of itself, an OWMP.) _____
- 3. Description of a method to ensure regular OWTS maintenance including, but not limited to: an information and education initiative with a method for tracking maintenance activities; an information and education initiative with inspection and maintenance incentives (e.g. pump-out subsidies); a requirement for regular inspection and maintenance. _____
- 4. Description of a community assistance program for OWTS repair/replacement. At a minimum this should include: _____

- a) The nature and extent of the assistance to be provided to the community (i.e. financial, technical, etc.) _____
- b) Application procedure and any community-imposed eligibility requirements _____
- c) Method to advertise the assistance _____
- d) Designation of a party responsible for the assistance program _____
- e) Estimated cost(s) for OWTS management program as described _____

D. Sewer Extensions

- 1. The need for sewers is justified and documented, including justification for abandoning OWTS rather than implementing a wastewater management district (WWMD) _____
- 2. Consideration is given to conveyance of treated wastewater by small diameter, low-pressure, vacuum or variable grade sewers _____
- 3. Alternative methods of collection and disposal have been evaluated and compared to conventional sewers with regard to total costs *and environmental impacts* _____
- 4. The sewers will not encourage or induce development in identified environmentally sensitive areas (e.g. wetlands, prime farmland) _____
- 5. The sewers are aligned and designed so construction will minimize impacts to identified environmentally sensitive areas _____
- 6. Preliminary designs and the resulting cost estimates reflect state design guidelines _____

E. Combined Sewer Overflows (CSOs)

- 1. Does the municipality/sewer authority have an approved Long-Term Control Plan (LTCP) and, if so, are the CSO controls in the FP consistent with the CSO controls in the approved LTCP? _____

If yes to item 1 above, no further evaluation is necessary. If no, the FP must include an evaluation consistent with items 2-6 below. The plan for control of pollution from CSOs must be considered if application of Best Available Technology (BAT) for wet-weather flows would not meet water quality standards. Where measures are to be considered for CSOs, the FP is to evaluate the following for a 20-year planning period.

- 2. Alternative control techniques and management practices that could attain various levels of pollution control _____
- 3. Cost of achieving various levels of pollution control by each of the control techniques that appear to be most feasible and cost effective _____
- 4. Benefits to receiving waters of a range of pollution control alternatives during wet weather conditions _____
- 5. Costs and benefits from addition of advanced wastewater treatment (AWT) processes or dry weather flows in the area as an alternative to CSO control _____
- 6. A final alternative selected for control of CSOs must meet the following criteria:
 - a. Recommendations are consistent with the RI CSO Policy _____
 - b. Provision has been made for treatment to RIPDES effluent limits of all dry weather flows in the planning area _____

F. Septage Treatment and Disposal

- 1. Does the FP consider a WWMD as the mechanism for regulating septage? _____
- 2. Has the applicant given appropriate consideration to current and future septage treatment and disposal by evaluating several alternatives? _____
- 3. Do the alternatives evaluated include regionalized treatment and disposal at an existing WWTF? _____

G. Treatment Technologies

- 1. Evaluated treatment technologies capable of meeting RIPDES effluent limits _____

- 2. Small communities (usually populations of 10,000 or less) have considered low cost treatment technologies _____
- 3. Treatment process appropriate for the character and quantity of the wastewater and the size and location of the community _____
- 4. Treatment technologies evaluated for water and energy efficiency _____
- H. Sludge Treatment and Disposal
 - 1. Sludge treatment and disposal methods comply with regulatory requirements of applicable state and federal laws (e.g. RI Clean Air Act, RI Groundwater Protection Act, Resource Conservation and Recovery Act) _____
 - 2. Appropriate consideration given to sludge treatment and disposal by evaluating several alternatives _____
 - 3. Selected/evaluated sludge treatment and disposal method(s) appropriate to the size and location of the project _____
 - 4. Consideration given to sludge treatment and disposal alternatives which recycle or reclaim sludge such as methane recovery, self-sustaining incineration, composting, and land application _____
- I. Environmental
 - 1. Forecasts the future environment in the planning area without the proposed project(s) (i.e. "no build" alternative) _____
 - 2. Direct Impacts
 - a. Disruption of traffic, business or other daily activities during construction _____
 - b. Damage to historical, archaeological, cultural, prime farmlands or recreational areas during construction or permanently _____
 - c. Disturbance of sensitive ecosystems such as wetlands, essential fish habitats, Floodplains, and habitats of endangered or threatened species during construction or permanently _____
 - d. Pollution of surface waters due to erosion in the project(s) area(s) during or after construction _____
 - e. Impacts on water quality from WWTF effluent discharge(s) during construction or operation _____
 - f. Displacements of households, businesses, or services during construction or permanently (indicate how many) _____
 - g. Visual impacts resulting from the project _____
 - h. Increased air or noise pollution, solid waste production, or demand for potable water from induced changes in population and land use _____
 - i. Impacts to barrier beaches and other coastal zone features _____
 - 3. Indirect Impacts
 - a. Adequate discussion of indirect impacts _____
 - b. Special attention given to determine that the project(s) will not violate federal, state, or local laws _____
 - c. Consideration given to impacts on induced sprawl _____
 - 4. General Aspects
 - a. Adequate consideration of cumulative impacts _____
 - b. Mitigation measures specified for direct and indirect detrimental impacts _____
 - 5. Summary of Environmental Considerations
 - a. Summary of the existing system and environmental needs _____
 - b. Summary of the future environment without the project _____
 - c. Summary of the alternatives generation, evaluation, and selection process which led to the preferred alternative _____
- J. Phased Construction

1. Determine if adding plant capacity or extending sewers in phases during the planning period is more cost effective/affordable than full construction initially _____
2. Compare the relative cost of providing full capacity initially to the present worth of deferred costs for providing capacity when needed _____
- K. Is this a multiple purpose project? (i.e. meets RIPDES permit requirements, but also may serve agricultural, recreational, commercial, industrial, water supply, or energy production purposes) _____
- L. Financial
 1. For phased construction, develop a schedule and an affordable financing plan for the construction of all contracts, to provide adequate capacity for wastewater treatment needs during the twenty-year planning period _____
 2. Construction and costs consistent with the implementation and capital improvement budget elements of the CCP for the next five years _____
 3. Rate structure analysis performed that defines the least expensive cost recovery/rate increases necessary to build the contracts proposed in the FP _____

VIII. Plan Selection

- A. Selected Plan
 1. Summary of why the proposed plan was selected _____
 2. Narrative summary demonstrating that the proposed plan is cost-effective and environmentally sound _____
 3. Summary of how the selected alternative will address and comply with federal, state, and local environmental laws and regulations _____
- B. Evaluation and Ranking of Proposals
 1. Engineering considerations (e.g. reliability, energy use, process complexity) used to evaluate and select the plan _____
 2. Monetary considerations (e.g. capital costs, annual O&M costs, cost per user/household/capita) used to evaluate and select the plan _____
 3. Waste reduction, recycling, and reclamation considered in evaluating and selecting the plan _____
 4. Legal, institutional, and financial constraints considered in evaluating and selecting the plan _____
- C. Environmental Impacts of Selected Alternative
 1. Unavoidable detrimental impacts identified _____
 2. Mitigation measures for unavoidable detrimental impacts identified _____
 3. Irretrievable and irreversible commitments of resources identified _____
 4. Relationship between short-term impacts to the environment and the maintenance and/or enhancement of long-term environmental benefits _____
 5. Mitigation measures for all significant detrimental impacts _____

IX. Plan Implementation

- A. Implementation Steps (including phased construction)
 1. Implementation/construction schedule (if necessary to implement the FP) consistent with enforceable requirements of the RIPDES discharge permit _____
- B. Operation and Maintenance
 1. Staffing plan for both the WWTF and collection system _____

X. Preliminary Design and Cost Estimates

- A. Basic design criteria that meet state guidelines _____
- B. If applicable, explanation of whether each phased contract will result in a fully _____

- operational component of the plan _____
- C. Detailed cost estimates along with a current ENR cost index number _____

XI. Cost and Effectiveness

Evaluate the cost and effectiveness of the process, materials, techniques, and technologies for carrying out the proposed project(s). The selection of a project or activity that maximizes the following factors must also be considered:

- A. Efficient water use, reuse, recapture, and conservation _____
- B. Energy conservation _____
- C. Cost of construction _____
- D. Cost of operating and maintaining the project over the life of the project _____
- E. The cost of replacing the project _____

XII. Fiscal Sustainability Plan (FSP)

The recipient of a loan for a project that involves the repair, replacement, or expansion of a publicly owned treatment works must develop and implement an FSP that includes, at minimum, the following factors:

- A. Inventory of critical assets that are part of the treatment works _____
- B. Evaluation of the condition and performance of inventoried assets or asset groupings _____
- C. Certification that the assistance recipient has evaluated and will be implementing water and energy conservation efforts as part of the plan _____
- D. A plan for maintaining, repairing, and, as necessary, replacing the treatment works and a plan for funding such activities _____
- E. FSP to be regularly reviewed, revised, expanded and implemented as a part of the operation and management of the system _____

XIII. Public Participation

- A. Public participation program implemented which adequately informed the public of the project alternatives and provided a mechanism for comment _____
- B. Public meeting/workshop held to solicit further public comment at the point where several reasonable alternatives were identified for detailed study _____
- C. Public notice of a scoping meeting (if an EIS is necessary) _____
- D. Public hearing held to present the final DRAFT FP and EA/EIS _____
- E. Discussion of any substantive public comments _____
- F. Copies of all agency and substantive public comments appended to the FP _____
- G. Responses to all substantive comments _____
- H. Views of the public considered in selecting the preferred alternative _____

XIII. Intergovernmental Review

- A. Copies of the FP recommended alternatives sent to the agencies indicated on DEM's Intergovernmental Review Contacts list _____
- B. Copies of all intergovernmental review correspondence appended to the FP _____

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(Yes/No)

- Is the environmental information sufficient to be considered an Environmental Assessment? _____
- Do(es) the project(s) qualify for Categorical Exclusion? _____
- Will a FONSI be required? _____
- Will an EIS and ROD be required? _____

REVIEWED BY: _____