

604(b) Water Quality Management Planning Funds – ARRA

“The American Recovery and Reinvestment Act of 2009” provided funding for numerous federal programs, including \$4 billion nationally for the Clean Water State Revolving Fund (CWSRF). Section 604(b) of the Clean Water Act (CWA) provides for reservation each fiscal year of 1% of each State’s CWSRF allocation (or \$100,000, if that is greater) to carry out water quality management planning consistent with related CWA provisions. As a result of additional CWSRF funding allocated under ARRA to the Rhode Island Clean Water Finance Agency, the State of Rhode Island was also allocated \$265,800 in 604(b) water quality management funds. As manager of the State’s water quality management program, the Rhode Island Department of Environmental Management (DEM) applied for and in April was awarded a grant for these funds. Funds must be expended in accordance with US Environmental Protection Agency (EPA) guidance:

http://www.epa.gov/water/eparecovery/docs/604bARRA_guidance_memo_FINAL.pdf

DEM will expend the funds on three projects:

Nutrient Criteria Development in Freshwaters: In collaboration with the New England Interstate Water Pollution Control Commission, one fulltime person will be hired to work with the DEM Office of Water Resources to advance the development of numerical nutrient criteria for freshwaters: lakes and ponds, rivers and streams.

Green Infrastructure via Wastewater Reuse and Related Water Efficiency Measures: DEM will procure technical consulting services to undertake a project aimed at identifying opportunities and advancing planning for viable wastewater reuse projects. The project will involve a statewide screening analysis to identify opportunities and further planning and conceptual engineering design work for a subset of prioritized locations. Wastewater reuse can assist in restoring and maintaining the natural hydrologic regime within watersheds.

Water Quality Management Planning Program: A portion of the funding will be used to support the existing DEM Water Quality Management Planning Program including the administration of the State water quality standards, the assessment of water quality conditions including related data management functions and oversight of related water quality planning work, including nutrient and biocriteria development.

DRAFT 2009 604(b) STIMULUS WORKPLAN

I. WORK ELEMENT #1

A. Title of Work Element

Nutrient Criteria Development

B. Problem Statement

Excessive nutrients are a known impairment in Rhode Island's freshwaters. Given limited internal capacity, progress on developing refined nutrient criteria has been slow. Rhode Island Department of Environmental Management (RIDEM) is interested in advancing progress on implementing its plan for development of numeric nutrient criteria.

C. Work Element Objective

The objective of this workplan element is to advance RIDEM's development of numeric nutrient criteria for freshwaters. EPA has asked all states to develop nutrient criteria and in response the RIDEM has previously submitted a multi-year plan for doing so. Progress in RI has been constrained by limited available staff time. RIDEM proposes to collaborate with the New England Interstate Water Pollution Control Commission (NEIWPCC) to complete work toward establishing nutrient criteria in lakes and ponds as well as rivers. This would result in the hiring of one fulltime contractual employee. Based on work completed to date, including prior technical assistance projects supported via EPA, RIDEM expects to complete nutrient criteria development for freshwater lakes and ponds. In addition, RIDEM would advance the development process for rivers and streams by preparing and executing a sampling program to collect additional data needed to support analysis of the biological response to nutrients in RI rivers and streams.

D. Work Element Tasks:

1. Develop and execute contract with NEIPWCC
2. NEIWPCC recruits and hires staff.
3. Review of nutrient criteria federal guidance, other background materials and methodologies employed by New England and selected other states for freshwaters.
4. Compilation of data for lakes and ponds, as needed.
5. Preparation of a plan for data analysis for lakes and ponds.
6. Statistical analyses of lake and pond data.
7. Based on technical review of results from task 6, select preferred approach and prepare initial draft of numeric nutrient criteria for lakes and ponds.
8. Coordinate internal and external review of proposed criteria and refine draft for eventual promulgation.
9. Update the compilation of data on rivers.
10. Update recommendation on approach to nutrient criteria development for rivers, identifying more specifically any critical data gaps.
11. Develop sampling plan and QAPP to support development of nutrient criteria in rivers and streams.
12. Execute sampling plan in coordination with other RIDEM ambient monitoring programs.
13. Reporting as required by ARRA and 604(b).

E. Work Element Deliverables

1. Contract with NEIWPC.
2. Data analysis plan for lakes and ponds.
3. Report regarding completed statistical analyses of lake and pond data.
4. Draft nutrient criteria document – lakes and ponds.
5. Memorandum on refined approach to developing nutrient criteria in rivers.
6. QAPP for sampling to support development of nutrient criteria in rivers.
7. Data report from 2010 sampling season (contingent on availability of resources to implement sampling).
8. Reports as required by ARRA and 604(b).

II. WORK ELEMENT #2

A. Title of Work Element

Feasibility, Analysis and Planning to Promote Green Infrastructure via Wastewater Reuse and Related Water Efficiency Measures in RI

B. Problem Statement

Competing water demands in Rhode Island have highlighted the need for innovative approaches in water management that support maintenance of the natural hydrologic regime. A large portion of RI's population is serviced by public sewer systems. The majority of wastewater collected through these systems is discharged directly into estuarine waters, often constituting a withdrawal of water from the original basin of origin. While there are projects that have integrated wastewater reuse into their operations, further planning is needed to foster the benefits of wastewater reuse in water management regimes statewide.

C. Work Element Objective

RIDEM believes there are opportunities to contribute to the maintenance and restoration of the natural hydrologic flows within watersheds by retaining water within basins through greater application of wastewater reuse. RIDEM proposes to undertake a statewide screening level analysis to identify potential opportunities for reuse and conduct a more detailed feasibility analysis and complete conceptual designs for a select number of locations. Preference will be given to reviewing water demands in basins determined to be flow stressed. Where feasible, for those locations selected for conceptual design work, RIDEM will also identify and incorporate other water management efficiency measures including infiltration of stormwater, water recycling or other actions that would further reduce water demand and enhance maintenance or restoration of the natural hydrology regime within the affected watershed. RIDEM expects, at minimum, to evaluate in detail opportunities in the Hunt River Basin at the Quonset Point Industrial Park area, in the Chipuxet River Basin in the University of Rhode Island region, and the Goddard State Park area within the Greenwich Bay Watershed. With respect to the Hunt River Basin, the project will contribute information to an on-going pilot project, being coordinated by the Rhode Island Water Resources Board and in which RIDEM participates, that is aimed at addressing stressed streamflows in this basin.

The planning work is intended to spur subsequent capital projects to install modifications to or new infrastructure to implement the selected wastewater reuse projects. This project supports the EPA goal of encouraging green infrastructure as specified for the Clean Water State Revolving Loan Fund. It further is intended to support efficient water management within watersheds by reducing the use of potable for non-drinking water purposes. RIDEM would solicit consulting engineering services to execute this project. RIDEM staff from both water quality and wastewater programs would assist in supervising this project.

D. Work Element Tasks

1. Develop RFP and procure technical services consultant.
2. Statewide spatial analysis using GIS to screen for potential wastewater reuse opportunities. Field verification as needed.

3. Preparation of report of initial screening analysis.
4. Prioritization and selection of sites for further feasibility and planning.
5. Assessment of selected sites including physical and engineering analysis (existing infrastructure, potential piping pathways, pump stations, etc.), environmental constraints, land availability or other legal constraints, and fiscal viability.
6. Memorandum summarizing initial assessment results and recommending sites for further conceptual design work.
7. Final report providing the business case and conceptual designs for selected wastewater reuse projects.
8. Reporting as required by ARRA and 604(b).

E. Deliverables

1. Contract for technical services.
2. Report on completed GIS analysis.
3. Memorandum summarizing initial assessment results.
4. Final report including conceptual designs for selected wastewater reuse opportunities.
5. Reports as required by ARRA and 604(b).

III. WORK ELEMENT #3

A. Title of Work Element

Administration of State Water Quality Standards Program

B. Problem Statement

Effective water quality management programs have at their foundation a water quality standards program that adapts to new information gained through a comprehensive monitoring and assessment programs. RIDEM needs to coordinate multiple activities aimed at further developing and refining the water quality standards and criteria that are fundamental to the state's water quality management program.

C. Work Element Objective

RIDEM is Rhode Island's designated state water pollution control agency and implements provisions of the federal Clean Water Act, including the statewide water quality regulations. RIDEM proposes to use a portion of the ARRA 604(b) funding to support the fulltime position, Principal Environmental Scientist, dedicated to this function with the RIDEM Office of Water Resources. This is consistent with the ARRA objective of retaining jobs and is necessary due to the fact that the costs to support the position now exceed the funding made available via the annual 604(b) allocation of \$100,000.

D. Work Element Tasks

The allocation from ARRA, in combination with other funds, will support the completion of the following tasks with the Water Quality Standards Program:

1. Promulgation of updates to the state Water Quality Regulations.
2. Complete update of the Consolidated Assessment and Listing Methodology to support assessments during 2009.
3. Complete a statewide assessment of water quality conditions to support reporting pursuant to Integrated Report requirements for 2010.
4. Maintenance and update of the Assessment Database (ADB) as required by EPA.
5. Oversight of management of water quality data in WQUAL.
6. Assistance in updating the state's water quality monitoring strategy.
7. Oversight of work to develop numeric nutrient criteria.
8. Oversight of development of biocriteria including indices of biological integrity (IBIs) for macroinvertebrates.
9. Continued coordination with DEM GIS program regarding the delineation of watersheds and subwatersheds, the delineation of waterbody identification units and other matters.
10. Assists with oversight of ambient monitoring programs for freshwaters.
11. Reporting as required by ARRA and 604(b).

IV. SCHEDULE

Work will initiate immediately upon award of ARRA funds to RIDEM. RIDEM, in coordination with the Rhode Island Department of Administration, will establish a separate account for the management of ARRA 604(b) funds. RIDEM does not anticipate incurring expenses until after July 1, 2009 which is the start of the new state fiscal year.

For Work Element #1, RIDEM would work to have a contract in place by 7/15/09 with staff hired by October 1, 2009. Work would continue over the next 15 months to the end of December 2010. RIDEM estimates data analyses for lakes and ponds would be completed by the spring of 2010. The sampling plan for rivers would be completed by March 2010 to support planning of the 2010 field season. Draft lake criteria are estimated for completion by the end of 2010.

For Work Element #2, RIDEM would develop an RFP for consulting services and procure services by October 1, 2009. The contractor would work over the next 12 – 15 months to complete the project. The first phase of the project (GIS screening analysis) would be completed by March 2010. Final report currently estimated for end of 2010.

For Work Element #3, RIDEM would expend these funds between 7/1/09 and 12/31/09.

V. CONSOLIDATED BUDGET & BUDGET DETAILS

Budget Category	Work Element #1	Work Element #2	Work Element #3	Totals
Personnel -- salary			\$18,298	\$18,298
Fringe (50%)			\$18,298	\$18,298
Travel				
Equipment				
Supplies	\$3,000			
Contractual	\$103,320	\$116,480		\$219,800
Other				\$3,000
Indirect (17.5%)			\$6,404	\$6,404
Total	\$106,320 (a)	\$116,480 (b)	\$43,000 (c)	\$265,800

(a) Constitutes the 40% mandated pass through to appropriate regional planning or interstate entity.

Work Element #1: Contract employee for 15 months (Oct 2009- Dec 2010) – personnel and indirect =\$80,000 annually; \$100,000 for 15 months contract duration; \$3,320 for other expenses. Total FTEs: 1.25 new FTE.

(b) Work Element #2: Contract for consulting engineering services. Contract will be phased with more detailed engineering be contingent on the results of the preliminary screening. Level of effort to report FTEs to be determined. Contract to be a minimum of 12 months.

(c) Constitutes 0.28 FTE retained. Funds expended internally.