



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 1
 1 CONGRESS STREET, SUITE 1100
 BOSTON, MASSACHUSETTS 02114-2023

August 20, 2009

David P. Breau
 Division of Water Quality Management
 Department of Environmental Protection
 17 State House Station
 Augusta, ME 04333

Dear Mr. McLaughlin:

I am pleased to inform you that EPA has reviewed and approved the revised business case provided by Olver Associates and the City of Belfast, Maine. This approval increases the amount of green project reserve for Belfast from \$70,000 to \$100,000. Below is the revised breakout for the Maine Clean Water State Revolving Fund ARRA Green Project Reserve List.

At this time EPA is approving the following projects and funding towards the green project reserve:

Bangor	NPS – Birch St Stormwater Mgmt	\$1,690,000
Bangor	NPS – St sweeper & in-stream monitor equip	\$270,000
Bangor	NPS – Penjajawoc Stream Stormwater Mgmt	\$877,000
Belfast	CSO Influent Pump Replace & Disinfection inc	\$100,000
Cumberland	NPS – Long Creek NPS	\$2,095,000
Limestone	Facility – WWTF Upgrade	\$1,500,000
Machias	Facility – WWTP Upgrade	\$50,000
TOTAL		\$6,582,000

The total green project reserve of \$6,582,000 that is being approved accounts for 21.7% of the State of Maine's ARRA CWSRF Capitalization grant exceeding the 20% requirement set forth in the March 2, 2009 ARRA Guidance. If a project from the GPR drops off the list or if one or more projects come in underbid and the GPR drops below the 20% requirement, EPA reserves the right to re-evaluate this approval at that time.

We appreciate the great working relationship demonstrated by the State during this process. Should you have any questions regarding this approval please contact me at (617) 918-1658.

Sincerely,

Katie Connors, Environmental Engineer
 Municipal Assistance Unit

November 9, 2009
W-P Project No. 11463C

Ms. Brandy Piers
Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Subject: Business Case for ARRA Green Components
Long Creek Pump Station Replacement and Collection System Upgrade
City of South Portland, Maine

Dear Brandy:

As discussed, we have developed the following business case to identify portions of the above-referenced project that are eligible for American Recovery and Reinvestment Act (ARRA) "Green Project Reserve" funds. There are four components of the project that appear to be eligible as follows:

- Sewage pumping system
- Lighting
- Permeable pavement/permeable pavers for the driveway and parking area
- Bioretention basin to treat stormwater at the pump station

The following is a brief description of each of these components as well as an explanation of how they meet the requirements for "Green Project Reserve" funds.

Sewage pumping system

The sewage pumping system falls under the "green" categories of Energy Efficiency and Green Infrastructure and consists of three sewage pumps and associated variable frequency drives (VFDs). The Long Creek Pump Station is the site of licensed combined sewer overflow (CSO) #004. When influent flows to the pump station surpass the capacity of the existing pumps, the CSO is activated and untreated wastewater is discharged to Long Creek. With installation of the new pumping system, the capacity of the pump station will be increased from 4.61 MGD to 8.00 MGD. It is expected that this will eliminate CSO events up to a 2-year, 24-hour storm condition or greater, depending upon antecedent weather conditions. Pumping more flow to the downstream collection system will mean a lower volume of untreated wastewater and associated pollutants being discharged to Long Creek.

Additionally, the VFDs will be utilized to vary the speed of the sewage pumps to match the influent flows to the pump station. In addition to providing cost savings associated with less starts and stops for the pumps (pump cycling), the pumps will operate at a more efficient operating point and the drives will prolong the life of the pumps by minimizing wear and tear.



The estimated construction cost for providing and installing the pumping system is \$467,000 (which includes approximately \$132,000 for the VFDs), and the estimated engineering costs for design, construction administration and inspection is \$82,000.

Lighting

The lighting at the pump station falls under the "green" category of Energy Efficiency. The lighting in the new building has been designed with energy efficient fixtures (with the exception to the following spaces where appropriate energy efficient lighting is not available: Screenings Room due to the explosion proof space rating and Pump Room due to the height of the ceiling). The new fixtures provide more light with fewer, longer lasting ballasts which will reduce the operation and maintenance costs for the lighting system over the life of the pump station.

The estimated construction cost for providing and installing the lighting (energy efficient lighting only) is \$5,000 and the estimated engineering costs for design, construction administration and inspection is \$1,000.

Permeable Pavement/Permeable Pavers

The permeable pavement and pavers that will be placed at the pump station site fall under the "green" category of Green Infrastructure. The existing pump station driveway impervious pavement and subgrade material will be removed and replaced with new subgrade material, underdrain piping and permeable pavement. In addition, a small parking area will be constructed at the base of the driveway utilizing permeable pavers. The underdrain system, to be constructed along the perimeter of the driveway and parking area, will collect and direct stormwater run off to a bioretention basin.

Table 1 below, shows a comparison of existing impervious area to proposed impervious area.

Table 1: Existing vs. Proposed Impervious Area

Description	Area (square feet)	
	Existing	Proposed
Pump Station Building(s)	1,500	3,100
CSO Structure	100	100
Pavement	8,900	-- ¹
Walkway	--	1,600
Transformer Pad	--	200
Total	10,500	5,000

Note:

1. Approximately 8,500 square feet of permeable pavement and 2,100 square feet of permeable pavers will be installed.

By utilizing permeable pavement and pavers, the total impervious surface at the site will be reduced by approximately 5,500 square feet or 52 percent. If the City utilized standard impermeable pavement, the total impervious area on site would have increased by 5,100 square feet or 49 percent.



The estimated construction cost for providing and installing the permeable pavement and permeable pavers is \$238,000 and the estimated engineering costs for design, construction administration and inspection is \$42,000.

Bioretention Basin

The bioretention basin that will be constructed at the pump station site falls under the "green" category of Green Infrastructure. The basin is designed to collect 90% of the "first flush" runoff from all the impervious surfaces onsite (per the City of South Portland's stormwater management requirements). However as noted above, the underdrain for the driveway and parking area will also drain to this basin. By utilizing well-draining soils and vegetation, the basin allows for a higher runoff uptake and/or infiltration and prevents it from sheeting into the adjacent wetlands and Long Creek.

The estimated construction cost for providing and installing the bioretention basin is \$18,000 and the estimated engineering costs for design, construction administration and inspection is \$3,000.

In closing, the City has endeavored to incorporate "green" construction practices into the design of the new pump station and site where feasible and appropriate. It could be argued that the entire project is a "green" project in that the purpose for the project is to reduce the number and volume of CSO events at the pump station which discharge to Long Creek, thereby reducing the pollutants entering this sensitive water body. However, the items described above are those which appear to meet the criteria as outlined in Attachment 7 of the memorandum from the U.S. Environmental Protection Agency, Office of Water on March 2, 2009 regarding Award of Capitalization Grants with Funds Appropriated by P.L. 111-5, the "American Recovery and Reinvestment Act of 2009".

Should you have any questions or require additional information, please do not hesitate to contact me at (207) 523-1413.

Very truly yours,

Kattie M. Collins
Project Engineer

cc: Pat Cloutier, City of South Portland
Brad Weeks, City of South Portland
Karen Ainsworth, MEDEP - Augusta
Chris Dwinal, W-P
Bartt Booz, W-P