



Date: October 2, 2012

To: Thomas J. Bonfield, City Manager
Through: Keith Chadwell, Deputy City Manager
From: Donald F. Greeley, Director, Water Management
Jerry Morrone, Utility Engineering Supervisor
Subject: Amendment to the North Durham Pretreatment Facility Improvements
Construction Contract with Dellinger, Inc.

Executive Summary

The Hot Water (HW) Loop piping system at North Durham Water Reclamation Facility (NDWRF) is in poor condition and is in need of replacement. The HW system provides both heat and hot water primarily to the six digesters at NDWRF. Biosolids produced at the NDWRF are stabilized in these digesters in order to reduce pathogen concentration prior to land application. Methane gas is a byproduct of the digestion process and is captured and used as a fuel source at the facility. The HW loop provides the heat necessary for the digesters during the winter months. It is important for the HW loop to be in service for NDWRF to remain in regulatory compliance. A temporary repair is planned until such time as a permanent replacement can be designed and installed.

The Department is recommending the contractor currently performing the construction work at NDWRF for the Pretreatment Facility Improvement Contract, Dellinger, Inc. be retained to perform the temporary repair.

Recommendation

The Department recommends that the City Council:

1. Authorize the City Manager to execute a change order amending the contract with Dellinger Inc, for the rehabilitation of the North Durham Water Reclamation Facility Primary Treatment Facility in the amount of \$82,043.00 for a revised total contract cost of \$1,576,795.00;
2. Establish a contingency fund for the contract in the amount of \$149,000.00; and,
3. Authorize the City Manager to negotiate change orders to the contract provided that the cost of all change orders does not exceed \$149,000.00 and the total project cost does not exceed \$1,725,795.00.

Background

The HW system provides both heat and hot water primarily to the six digesters at NDWRF. Biosolids produced at the NDWRF are stabilized in these digesters in order to reduce pathogen concentration prior to land application. Methane gas is a byproduct of the digestion process and is captured and used as a fuel source at the facility. The HW loop provides the heat necessary for the digesters during the winter months. It is important for the HW loop to be in service for NDWRF to remain in regulatory compliance.

During the fall of 2011 the hot water loop experienced several leaks. The pipe was excavated and the steel piping was found to be severely corroded in multiple locations and in need of replacement. In lieu of the emergency replacement NDWRF's staff found a less costly method of heating the Solids Handling Building for the winter using two engine generators while several digesters remained out of service. The winter months of 2011-2012 were fairly mild, which alleviated the loading on the engine generators to heat the Solids Handling Building and the remaining digesters. In order to provide the necessary heat for all six digesters and the Solids handling Building this year the engine generators would need to be overhauled. A major overhaul of the two engine generators in order to reliably use the engine generators would cost approximately \$100,000 per engine. The overhauls would take several months to perform.

Repairs were recently made to the HW Loop at two known leak locations and the loop was placed back in service. Within days the HW Loop failed again and it has remained out of service. The HW loop will need to be back in service by December to ensure proper operations at NDWRF.

Issues and Analysis

The Department is proposing a temporary above ground repair to the HW loop using an insulated piping material. The temporary repair would allow the HW loop to be used throughout the winter. The Department would then pursue the design and construction of a permanent line. In November of 2011 City council approved a construction contract with Dellinger, Inc. for the North Durham Pretreatment Facility Improvements Project. The project is nearly complete, with the contractor still mobilized on site. The contractor is familiar with the material that will be used for this temporary repair and the route and facilities being affected by the HW Loop failure.

The costs for the temporary HW loop installation would be \$82,043.00. An amendment is needed to the existing contract for Dellinger to perform the work.

The materials will be purchased directly by the City to avoid paying markup on standard equipment. The contractor is uniquely capable of doing this work because they are mobilized and experienced with the material in question.

Alternatives

Alternative 1: Do not amend the contract and do not perform the work. The result of inaction would be additional failed plumbing in buildings being served by the hot water loop, and no use of Digesters 1-4. Additionally, the solids handling building may experience damaging freezing conditions without this repair.

Financial Impact

Funding for this amendment is from the Wastewater Facilities Rehabilitation Account. There are currently funds available in this account:

Wastewater Facilities Rehabilitation	\$82,043.00	4100P767-731000-P251G
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The existing contract was approved with a contingency of \$149,000. Amending the contract and adding in the previously approved contingency brings the total potential project cost to \$1,725,795.00

SDBE Summary

This item is a contract amendment that adds resources to an existing contract. It was not reviewed for compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting.