



LEE T. PURCELL ASSOCIATES

Consulting Engineers

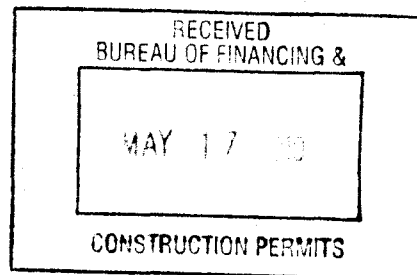
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May 11, 2010

Mr. Shadab Ahmad, Section Chief
Municipal Finance and Construction
N.J. Dept. of Environmental Protection
Division of Water Quality
PO Box 425
Trenton, NJ 08625-0425



Re: NJDEP Project No. S340636-07
NJDEP Priority List No. 60 (FY2010)
Justification for "Green Project Reserve"
PLBMUA Construction Contract No. 92 Revised

Dear Shadab,

In accordance with your request, we have made a specific study of the above-referenced construction contracts to determine what "Positive Impacts" the implementation of these contracts will have in terms of Energy, Efficiency and Savings. The following findings are presented:

CONTRACT NO. 92 REVISED - SLUDGE THICKENING SYSTEM

For Contract 92 REVISED, the proposed Sludge Thickening System will reduce the sludge gallonage to be hauled, processed, and disposed conservatively by 50% based on the operation of the sludge drum thickener and selected polymers. Based on this reduced gallonage there will be a reduction in the number of hauling trips from the Pompton Lakes Borough Municipal Utilities Authority (PLBMUA) water pollution control plant to the Passaic Valley Sewerage Commission (PVSC) facility where the sludge is processed and disposed. This will in turn reduce fuel consumption and result in an energy cost savings at both locations as well as the hauling trip.

The average annual sludge volume hauled to PVSC for processing and disposal over the past five (5) years approximated 2,600,000 gallons. Based on a typical truck volume of 8000 gallons and 80 miles round trip, the number of trips annually calculates to be 325 trips or 26,000 miles per year. Utilizing an average fuel consumption of 6 miles per gallon, the amount of fuel consumed annually would be 4333 gallons. At a present average fuel cost of \$3.50/gallon, the annual fuel cost amounts to \$15,165 per year.

OVER 60 YEARS OF SERVICE TO MUNICIPALITIES

**ENGINEERING • PLANNING • DESIGN • OBSERVATION OF CONSTRUCTION AND OPERATION
WATER SUPPLY, TREATMENT AND DISTRIBUTION • WASTEWATER COLLECTION AND TREATMENT • STORMWATER MANAGEMENT • CADD SERVICES**

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Page 2 - May 11, 2010

Once the proposed Sludge Thickening System for PLBMUA has been constructed and placed in operation, the quantity of sludge being hauled from the PLBMUA water pollution control plant to the PVSC facility will be reduced by 50% resulting in an annual fuel cost savings of \$7,580. Over the expected useful life of the proposed Sludge Thickening System of 20 years without major modifications the total savings would approximate \$152,000.

Equating the above to fuel savings would result in the following:

- a) 180.5 gallons per month
- b) 2166.5 gallons per year
- c) 43,330 gallons over 20 years

It should be noted that following past trends, fuel costs will be increasing in future years resulting in further cost savings due to the reduced amount of trips from PLBMUA water pollution control plant to the PVSC facility.

The above savings meets Part B, Sect II, 4 as a Energy Efficiency Improvement in accordance with the Green project Reserve Guidance for Determining Project Eligibility.

In addition, truck hauling, processing and disposal charges for PLBMUA will also be reduced due to the reduction in the amount of trips between PLBMUA water pollution control plant and the PVSC facility. The present cost for hauling, processing and disposal is \$0.064/gallon. Conservatively assuming that sludge gallonage is reduced by 50%, the annual cost savings to the PLBMUA would be: 2,600,000 gallons x 0.50 x \$0.064/gallon, or \$83,200/year. Over the useful life of 20 years for the Sludge Thickening System, the savings would equate to \$1,664,000. In addition to the cost savings described hereinabove, this reduction in trips also results in other "Green" benefits less easy to measure such as:

- a) reduction in pavement and truck wear and tear.
- b) air pollution reduction
- c) savings in labor and administrative costs

In summarizing, installation of the new Sludge Thickening System at the PLBMUA water pollution control plant will result in significant "green benefits" for the community and area. The green benefits realized from this technology will include:

- a) A reduction in the carbon footprint due to fewer truck operations, from the PLBMUA water pollution control plant to the ultimate processing and

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Page 3 - May 11, 2010

- disposal site at the PVSC facility.
- b) Fuel consumption, truck operation and maintenance, and roadway wear and tear will be reduced proportionately.
 - c) Energy consumption at the water pollution control plant will be reduced due to the reduction in volume of sludge to be stored between trucking operations.
 - d) Energy consumption at the PVSC facility processing and disposal site will also be reduced as a result of the reduction in sludge volume to be processed and water to be evaporated.

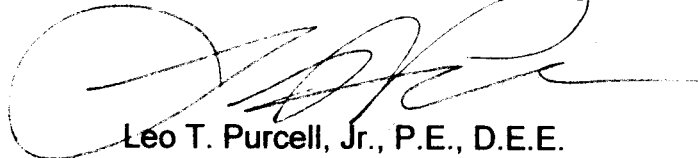
The estimated construction cost of Contract No. 92 Revised is \$650,000. This construction contract is a 100% "Green Project" or \$650,000.

We trust you will find the above information sufficient to classify this construction contract as a "Green Project".

Should you have any questions, regarding this submission, please call me.

Very truly yours,

LEE T. PURCELL ASSOCIATES



Leo T. Purcell, Jr., P.E., D.E.E.
Principal

LTPjr/as

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