**MEMORANDUM**

TO: Project File, City of Huntington, WWTP Improvements, SRF Project # WW10 01 35 03

FROM: Jack Fisher

DATE: December 6, 2011

RE: Green Project Reserve (GPR), Business Case

**Summary:**

• The Wastewater Treatment Plant (WWTP) Improvements Project includes improvements to restore the WWTP’s capacity during wet weather per the city’s Long Term Control Plan and to eliminate ongoing violations as required by the city’s Agreed Order. This business case addresses project components which are considered to meet the requirements of the Green Project Reserve. The components being considered are the digester cover and mixer, grit pumps, sludge thickener feed pumps and thickened sludge pumps, blower replacement with variable frequency drives (VFDs), and the integrated fixed film activated sludge (IFAS) system.

• Estimated State Revolving Fund Loan Amount is $12,052,000.

• Estimated GPR portion cost of loan associated with the WWTP improvements is **$4,118,992** and **$224,000** for planning and design costs for a total of **$4,342,992**. This represents 36 % of the estimated loan amount.

**Conclusions**

• The proposed grit removal system will use approximately 25 % less energy, which puts this component under Energy Efficiency and is categorical due to a better than 20% savings in energy.

• The proposed sludge thickener feed pumps and sludge thickened pumps will use approximately 30% and 50% , respectively, which puts them both under Energy Efficiency and is categorical due to better than 20% savings in energy.

• The anaerobic digester with the proposed external draft tubes mixers will use approximately 50% less energy, which puts this component under Energy Efficiency and is categorical due to better than 20% savings in energy. In conjunction with the digester, the proposed gasholder cover will use approximately 50% less energy which puts the cover under Energy Efficiency and is categorical due to better than 20% savings.

• The proposed blowers, VFDs, and Dissolved Oxygen monitoring system will use approximately 30% less energy which puts these components under Energy Efficiency and is categorical due to better than 20% savings.

• The proposed IFAS technology reuses existing tank infrastructure, which eliminates the need for additional tanks due to site constraints. In addition, this technology allows the city’s WWTP to meet stringent ammonia limits and future phosphorus limits. Due to lower construction costs and a smaller footprint this project falls under the category of Environmentally Innovative section 4.4-1b “Technology or approach that is not widely used in the State, but does perform as well or better than conventional technology/approaches at lower cost.”