SULTAN CITY COUNCIL
AGENDA COVER SHEET

ITEM:	Consent – 3
DATE:	August 14, 2008
SUBJECT:	Public Works Trust Fund (PWTF) PW-06-962-PRE-131 Revised Scope of Work Wastewater Treatment Plant Upgrade Funding
CONTACT PERSON:	Connie Dunn, Public Works Director

ISSUE:
The issue before the Council is to authorize the Engineer of Record for this project to sign a revised scope of work on existing PWTF Loan PW-06-962-PRE-131 to comply with funding requirements and qualify the City to receive full benefit of the one million dollar loan.

RECOMMENDATION:
Approve the revised scope of work to meet the current needs of the Wastewater Treatment Plant (WWTP) upgrade. The revised project scope of work includes the addition of one of the centrifuges that was originally included in the WWTP upgrade project.

The revised scope of work specifically entails preparation of design bid documents for the centrifuge installation, activities during the bid period and construction of the project. This project involves the addition of a centrifuge solids dewatering device to increase solids handling capacity and further dewater the solids to minimize truckloads and maximize potential disposal locations.

SUMMARY:
PWTF is requiring the City to change the scope of work because the original loan agreement required the City to complete the design to 100% with the $1,000,000 PWTF loan and matching funds.

The City has expended the $1,000,000 PWTF loan. Unfortunately, as a result of the economic slow down, the matching funds are not available to complete the design work beyond 50%. The City Council discussed the WWTP design at Council meetings on April 24, 2008 and May 29, 2008. Council directed staff to pursue purchasing the centrifuge solid handling equipment. Direction given at the May 29, 2008 meeting was to stop the remaining WWTP Upgrade at 50% delaying design completion.

Staff submitted a draft revised scope of work to PWTF (attachment A) to phase the project. The design will stop at 50% and the City will design facilities and purchase the Biosolids handling equipment. With this approach, the City has actively adapted the project phasing to meet the immediate and future needs at the WWTP in a way that makes best use of available funding. PWTF is prepared to approve the revised scope of work. The staff is requesting Council to formally review and authorize the Mayor to sign the revised scope before submitting the revised scope to PWTF for their Board's formal approval.

BACKGROUND:

In recent years, the City has experienced growth beyond what had been anticipated when the 1997 Wastewater Treatment Plant (WWTP) upgrade was designed. Additionally, the WWTP experiences significantly higher peak hour flows and peaking ratios than anticipated during the last upgrade. For these reasons, the City began a planning effort to provide the needed solids and liquid stream capacity at the WWTP. That planning effort resulted in a Department of Ecology (DOE) approved Engineering Report in October 2006, which led to the plan of pre design (2007) and design phase (2008) of the upgrades recommended in the Engineering Report.

The overall WWTP upgrade design advanced to about the 50 percent completion level in April 2008. About this time, the City experienced a sharp downturn in housing development activity. Because the City's rate study relied on a significant portion of the project cost to be supported by developer connection charges, the viability of continuing with the full upgrade project was reassessed given the concern of the housing market. In the course of this reassessment, the City determined that the judicious approach would be to re-phase the project so that only those components of the project that were immediately necessary (regardless of additional developer connections) would be advanced at this time.

In order to provide treatment plant capacity for the conditions outlined in the approved WWTP Engineering Report, a number of WWTP upgrades were identified, including a new membrane bioreactor (MBR) plant for adding liquid stream capacity and a new centrifuge for adding solids handling capacity. The City's liquid stream process currently has adequate capacity for the existing flows, but the existing solids dewatering system at of the WWTP is operated on an almost continuous basis to keep up with the waste activated sludge resulting from the current wastewater flows being conveyed to the WWTP. In addition, the existing solids handling system is not a true dewatering system; rather, it is a thickening process that produces only about 9 per cent solids. This dilute sludge requires many more truck trips to transport it to the solids disposal facilities in La Conner and Renton than a system producing at least a two-fold higher solids content sludge from a centrifuge. The lower solids content of the sludge causes the City to incur significantly higher costs for sludge transportation and increases greenhouse emissions from the extra truck trips to La Conner and Renton.

In order to take advantage of the design work that has been completed to the 50% level and to ensure that no sunken capital costs are invested at the WWTP, the City proposes to re-phase the project by adding only one of the centrifuges from the WWTP upgrade design project as part of the first phase of the project. This centrifuge would not only address immediate needs, but also provide capacity for future flows. This centrifuge would be reused as part of the future upgrade phases.

MOTION:

Approve the revision to the scope of work in PWTF loan #PW-6-962-PRE-131 to suspend the design of the Membrane Bioreactor WWTP at 50% and the addition of a centrifuge solids dewatering equipment and design to increase solids handling capacity. Authorizing the Engineer of Record, Tadd Giesbrecht, Brown and Caldwell to sign the revised scope of work and submit the revision to the PWTF Board for final approval.

DATE:

ATTACHMENT:

A PWTF Loan Scope Change

Public Works Trust Fund
PO Box 48319
Olympia, WA 98504

Loan Scope Change

Name of Jurisdiction:	Sultan
Loan Number:	PW-06-962-PRE-131
Project Title:	Wwtp Upgrade
Loan Amount:	1,000,000.00

The following is the information provided to us in your application. If there are any changes to your Scope of Work or your Budget please provide us with your revised information. Construction and Emergency projects need to complete the Performance Measure section, and Construction projects also need to complete the Engineer's Certification. This information will then be used to process your loan contract.

Scope of Work :

This project includes a new membrane bio-reactor (MBR) treatment system to be built parallel to the existing Oxidation Ditch. Three construction phases are proposed for this project and this pre-construction project includes the design of the MBR equipment for each phase of the project. However, preparation of bid documents for construction of Phase II and Phase III is not included in the current project cost estimate.
Phase I of the project will provide additional capacity to accommodate the population forecast for the year 2017 and provide all buildings and tanks with a capacity to accommodate the 2029 population forecast. Phase II will provide additional capacity to accommodate the population forecast for 2021 and add additional MBR equipment to the Phase I buildings and tanks. Phase III will provide additional capacity to accommodate the population forecast for 2029 and add MBR equipment to the Phase I buildings and tanks, and potentially add an equalization tank.
The preconstruction scope of work for this project includes the following primary elements:
Final design and bid period services, including preparation of a 60 percent design report, 90 percent design report, and bid drawing set and specifications package
Permitting and approval
Services during bidding and award

Revised Scope of Work
The revised project scope of work includes the addition of one of the centrifuges that was originally included in the overall WWTP upgrade project. To minimize capital costs and take advantage of existing facility investments, the City plans on installing this new centrifuge in the existing Equipment Building. This centrifuge will be reused as part of the future plant upgrade phases.

This scope of work specifically entails preparation of design bid documents for the centrifuge installation, activities during the bid period, and construction of the project.

Project Description

ATTACHMENT A

Please complete
The City's liquid stream process currently has adequate capacity for the existing flows (since housing development activity has slowed significantly), but the existing solids handling capacity is not sufficient. The City's existing solids handling system limits the capacity of the WWTP since it has to be operated on an almost continuous basis to keep up with the waste activated sludge resulting from the current wastewater flows being conveyed to the WWTP. In addition, the existing solids handling system is not a true dewatering system; rather, it is a thickening process that produces only about 9 percent solids. This dilute sludge requires many more truck trips to transport it to the solids disposal facilities in La Conner than it would do were the system producing at least a two-fold higher solids content sludge as a centrifuge is capable of doing. The lower solids content of the sludge causes the City to incur significantly higher costs for sludge transportation and also increases greenhouse emissions from the extra truck trips to La Conner.

Therefore, this project involves the addition of a centrifuge solids dewatering device to increase solids handling capacity and further dewater the solids to minimize truck loads and maximize potential disposal locations.

ATTACHMENT A

Performance Measures (Construction & Emergency Projects Only)

Performance Measures (from Application):	
Proposed Performance Measure (For Construction and Emergency applicants only):	*Describe how the success of the project will be measured. Be sure to identify how the change will be measured, the standard against which the change will be noted, the amount of change that is expected, and when the change will have occurred.* Specific performance measures are listed and described below: The pre=construction phase of the project will result in the production of Bid Documents for Phase I construction and will be measured by the completion of those documents in 2007. The secondary treatment system will employ MBR technology, which will reduce mass emissions from teh WWTP compared to other treatment technologies. Currently, the effluent discharge of total suspended solids (TSS) averaged between 5 and 10 mg/L on an annual average basis. With completion of Phase I of the project, the TSS discharges are estimated to fall to less than 5 mg/L. The maximum month flow treatment capacity of the WWTP will be increased from the current rate of 0.72 million gallons per day (mgd) to 1.1 mgd after completion of Phase 1 in 2009, and to 1.6 mgd after completion of Phase 3 in 2021. This will be measured by the WWTP capacity rating after construction. The project will allow the City service area to continue to grow, as measured by new accounts added to the system and additional revenues collected from new accounts over the life of the facility. The project will also enable the connection of aging septic systems to the service area, and will provide for continued economic development and growth within the City. The pre-construction phase of the project will result in the production of Bid Documents for construction of the centrifuge design and will be measured by the completion of those documents in ????. The new centrifuge installation will result in greater solids handling capacity at the WWTP and a more concentrated dewatered solids. This improvement will be measured by decreased truck trips and decreased operation of solids dewatering equipment.

Please complete the following:	
How is the Measure to be Measured:	*Such as reduce outflow by 20% or Reduce accidents by 5%*
Success of the project will be measured by its completion on schedule and within budget, as well as its ability to provied additional capacity to serve new and existing customers, increas system performance, and provide water quality/environmental benefits from process improvements that provied for lower-strength effluent discharges. Dewatered solids are expected to be about 18 percent concentration, which about doubles the solids concentration compared to the existing system. As a result, the truck trips will be cut in about half. Additionally, the solids handling hydraulic capacity will be at least 40 percent greater.	
When is the Measure going to be Measured:	*Such as measurement will be accomplished after project completion or by the end of a particular year.*
The construction related changes will occur after construction of the project is complete. Substantial completion of major facilities to allow for projected growth is expected in 2009. Additional capacity will be made available as necessary to accommodate ggrowth within the community through the addition of MBR treatment capacity provided for in each phase. Phase I will be completed in 2009 The construction of the centrifuge project is expected to be complete by ???	
Date Planned to Complete Performance Measure	

Project Financing – (Please Provide any Changes to Budget)

COST CATEGORY	APPLICATION BUDGET	REVISED BUDGET
Engineering Report (Preliminary Engineering)	$ 0.00	$ 186,000.00
Environmental Review	$ 0.00	$ 0.00
Historical Review (Section 106 or 05-05)	$ 0.00	$ 0.00
Land/ROW Acquisition	$0.00	$0.00
Permits	$40,000.00	$40,000.00
Public Involvement/Information	$ 0.00	$ 0.00
Bid Documents (Design engineering)	$ 1,500,000.00	$75,000
Construction	$ 0.00	$ 750,000
Other Fees (Sales or use tax)	$ 0.00	$ 0.00
Contingency (0.00 %)	$ 0.00	$0.00
Other: (DOH Review/Approval Fee) Sewer Comp. Analysis	$ 300,000.00	$ 300,000.00
Other: (Construction Inspection)	$ 0.00	$ 0.00
Other: (Audit cost)	$ 0.00	$ 0.00
Other: (Service meter cost)	$ 0.00	$ 0.00
TOTAL ESTIMATED COSTS	$ 2,026,000.00	$ 2026000.00

Project Financing – (Please Provide any Changes to Budget)

Type of Funding	Source	Application Amount	Revised Budget Amount
Grants			
Grant #1	Unknown	$ 971,000.00	$ 971,000.00
Grant #2		$ 0.00	$ 0.00
Grant #3		$ 0.00	$ 0.00
Other Grants (list sources)			$ 0.00
New Grants (list sources)			
Total Grants		**$ 971,000.00**	**$ 971000.00**
			Loans
This Loan Request	*Public Works Board (PWTF or DWSRF w/o Loan Fee)*	**$ 1,000,000.00**	**$ 1,000,000.00**
Other Loan #1		$ 0.00	$ 0.00
Other Loan #2		$ 0.00	$ 0.00
Other Loans (list sources)		$ 0.00	$ 0.00
New Loans (list sources)			$ 0.00
Total Loans		**$ 1,000,000.00**	**$ 1000000.00**
			Local Revenue
Source #1	Reserves/Developer Contributions	$ 55,000.00	$ 55,000.00
Source #2		$ 0.00	$ 0.00
Source #3		$ 0.00	$ 0.00
Other Local Revenue (list sources)			$ 0.00
Total Local Revenue		**$ 55,000.00**	**$ 55000.00**

Project Financing – (Please Provide any Changes to Budget)			
Type of Funding	**Source**	**Application Amount**	**Revised Budget Amount**
Other Funds		$ 0.00	$ 0.00
New Other Funds			$ 0.00
Total Other Funds		$ 0.00	$ 0.00
Summary Totals			
Total Funding		**$ 2,026,000.00**	**$ 2026000.00**

Engineer's Certification Form

Loan Agreement Number: <<Loan Number>>

Name of Jurisdiction:	Sultan
Project Title:	Wwtp Upgrade

The term of this loan will be based on an engineer's certification of the expected useful life of the improvements, as stated below, or 20 years, whichever is less. If the local government prefers the term of its loan to be less than either 20 years or the useful life of the improvements, the preferred loan term should be indicated: 5years.

I, , licensed engineer, certify that the average expected useful life for the majority of the improvements described above is 20 years. The polymer system component of the centrifuge would have an average expected useful life of about 10 years, but it is only a minor portion of the overall centrifuge system.

Signed: _____

Date:_____

Telephone: _____206-624-0100____

Professional Engineer License Number: 39347