




TO: Board of Contracts and Awards
FROM: Michael P. Slevin III, P.E., Director, Environmental Services 
Geoffrey M. Smyth, P.E., Division Manager, Science & Engineering
COPY: City Council, City Manager, City Clerk, SBE Coordinator, LEAP Coordinator,
Joe Parris, Finance/Purchasing, and Lance Bunch, Project Manager
SUBJECT: Central Treatment Plant Flood Protection – Consultant Services Contract Increase,
Request for Qualifications Specification No. CT12-0001F, Contract No. 4600008752 –
March 18, 2014
DATE: February 27, 2014

SUMMARY:

The Environmental Services Department requests approval to increase Contract No. 4600008752 with CH2M HILL Engineers, Inc. (CH2M HILL), Bellevue, WA, in the amount not to exceed \$122,706.31, for a cumulative contract total of \$649,573.96, sales tax not applicable, budgeted from the ES Wastewater Fund 4300, for consultant engineering services associated with design of the Central Treatment Plant (CTP) Flood Protection project through December 31, 2017.

STRATEGIC POLICY PRIORITY:

- Foster neighborhood, community, and economic development vitality and sustainability.

The project will result in significantly increasing the current level of flood protection at the CTP. Major flooding at this critical facility would have numerous negative sustainability related impacts, including untreated wastewater entering Commencement Bay.

BACKGROUND:

ISSUE: The CTP is located on the west bank of the Puyallup River in the Tacoma tideflats area. The location of the CTP places it within the Puyallup River floodplain. The floodplain is protected from routine flooding by a series of levees constructed by the U.S. Army Corps of Engineers, including a levee on the northeastern side of the CTP that separates the plant from the Puyallup River. Despite the existing levee system the CTP is still at risk from flooding, primarily because the bed of the river has accumulated sediment over the years reducing the capacity of the river to move flood waters downstream, as well as the potential for higher flows due to increased frequency of storm events.

In early January 2009, the Tacoma area experienced severe wet weather conditions which led to very high water levels in the Puyallup River. These conditions were severe enough to require sandbagging operations at the CTP to be initiated. While in the end actual flooding at the CTP was avoided, this storm event was a reminder of the vulnerability of the CTP to flooding events. It was also a reminder that it would be nearly impossible to fully protect the CTP from a severe flood event via the use of temporary sandbags. This was the second close call flooding event experienced since the mid-1990s at the CTP.

These circumstances have prompted the Environmental Services Department to pursue a capital project that would provide protection of the entire CTP from flooding during extreme wet weather events. The proposed Flood Protection project would provide for construction of a floodwall, varying from approximately four to seven feet in height above ground, around the currently unprotected perimeter of the CTP. In addition, the project would provide reasonable protection from the risk of flooding from the existing 30-inch diameter surface water pipe that is currently beneath the CTP and carries surface water runoff from approximately 200 acres in the immediate vicinity of the plant.



The necessary engineering to accomplish the project design work is specialized and requires additional expertise beyond the capabilities of existing City staff. Therefore, in early 2013, the Environmental Services Department recommended award of the original subject consultant services contract to CH2M HILL for this work.

The increase to the original consultant services contract is necessary due to changes that occurred during the design process which were impossible to foresee when the original consultant services scope was developed. The unanticipated design scope changes included: an increase in the length of the flood wall from 1,700 feet to 2,600 feet, the automation of three large flood gates, the increased need for additional creative design solutions to mitigate subsurface risk during construction, and additional quality assurance design reviews to help ensure a high quality set of design documents for this risky subsurface capital project.

The CTP is a critical component of the wastewater infrastructure within the City of Tacoma, treating approximately 80 percent of the wastewater from the citizens of Tacoma and adjacent customers. Severe flooding of this facility would likely result in the inability to treat wastewater for weeks or even months, causing hundreds of millions of gallons or more of untreated wastewater to overflow into the Puyallup River, the Thea Foss Waterway, and eventually Commencement Bay. This capital project is necessary to significantly reduce this risk.

ALTERNATIVES: Two other alternatives were evaluated, including choosing to not have professional services to assist City staff during construction and choosing to pursue a new contract with a different engineering consultant able to provide geotechnical and structural engineering services. Due to the high risk nature of the extensive underground construction required for this project, it has been determined that it would not be prudent for the City to proceed with construction of this project without the services of the geotechnical and structural engineers of record for this project.

COMPETITIVE SOLICITATION: The City of Tacoma solicited Engineering and Architectural Services under Request for Qualifications Specification No. CT12-0001F, dated December 5, 2011, which was used to develop the Citywide Architectural and Engineering (A&E) Roster. A review of the listed consultants on the A&E Roster showed several generally qualified consultants, but none with the specific CTP geotechnical background and the previous CTP floodwall engineering design experience provided by CH2M HILL. CH2M HILL's previous experience at the CTP and also specifically on the initial floodwall pre-design work allowed for efficiencies to be recognized in the remaining design tasks compared to another consulting firm without this unique experience. On this basis, CH2M HILL was selected as the engineering consultant best qualified to perform the necessary original engineering design work.

CONTRACT HISTORY: The proposed contract increase would be the first amendment to an existing contract with CH2M HILL, approved by the City Council in the amount of \$526,867.65, on February 12, 2013, via Purchase Resolution No. 38623. This increase will bring the contract to a cumulative total of \$649,573.96, sales tax not applicable, through December 31, 2017.



SUSTAINABILITY: The overall project will help avoid the potential discharge of hundreds of millions of gallons or more of untreated wastewater that would overflow into Commencement Bay if severe flooding were to occur at the CTP; significantly reduce the risk of loss of extensive infrastructure, and the replacement that would be necessary, in the event of severe flooding; and significantly reduce the staff time necessary for implementation of temporary flood protection measures.

SBE/LEAP COMPLIANCE: Not Applicable

RECOMMENDATION:

The Environmental Services Department recommends a contract increase be awarded to CH2M HILL Engineers, Inc. for additional engineering design services associated with the CTP Flood Protection project.

FISCAL IMPACT:

EXPENDITURES:

FUND NUMBER & FUND NAME *	COST OBJECT (CC/WBS/ORDER)	COST ELEMENT	TOTAL AMOUNT
ES Wastewater Fund 4300	ENV-04015-01-04	5310100	\$122,706.31
TOTAL			\$122,706.31

* General Fund: Include Department

REVENUES:

FUNDING SOURCE	COST OBJECT (CC/WBS/ORDER)	COST ELEMENT	TOTAL AMOUNT
ES Wastewater Fund 4300	ENV-04015-01-04	4300020	\$122,706.31
TOTAL			\$122,706.31

FISCAL IMPACT TO CURRENT BIENNIAL BUDGET: \$122,706.31

ARE THE EXPENDITURES AND REVENUES PLANNED AND BUDGETED? Yes