

**OFFICE OF THE CITY MANAGER  
DES MOINES, IOWA**

**CITY COUNCIL COMMUNICATION 96-427  
OCTOBER 7, 1996 AGENDA**

SUBJECT:	TYPE:	SUBMITTED BY:
WASTEWATER RECLAMATION AUTHORITY ♦ (WRA) RAW SEWAGE PUMPING STATION PROJECT PROFESSIONAL SERVICES	RESOLUTION ORDINANCE RECEIVE/FILE	HAROLD E. SMITH CITY ENGINEER

**SYNOPSIS —**

An agreement has been negotiated with the engineering firm of Brown & Caldwell to provide preliminary engineering design services for the WRA Raw Sewage Pumping Station Project. The proposed agreement is on a cost plus fixed fee arrangement. The proposed fee for such engineering services is \$78,621, plus a fixed fee of \$9,453, which results in a total maximum fee of \$88,074 for this agreement.

**FISCAL IMPACT —**

Funding for this project is provided for on page 269 of the 1996-97 Capital Improvements Program. Funding for this portion of the project will be made from the WRA Renewal & Replacement Fund which has sufficient cash on hand to pay for this work.

**RECOMMENDATION —**

Approval of the proposed Engineering Agreement with Brown & Caldwell.

**BACKGROUND —**

In order to implement designated housing, the 1992 Western Area Facility Plan describes certain improvements that are necessary to implement the facility plan and also incorporates a schedule for such implementation. One of the improvements described in the plan associated with the item regarding providing peak hour flow improvements provides for replacement of the raw wastewater pumps to accommodate the additional sewage flows contemplated in the facility plan. The Peak Hourly Flow Improvements recommended in the plan include the following improvements: 1) replace the raw wastewater pumps; 2) replace the bar screens; 3) add one primary clarifier, two primary sludge pumps, and one primary scum pump station; 4) add a channel air blower; 5) add two final clarifiers; 6) add a return sludge pump station; and 7) extend the aeration tank gallery and mixed liquor channel. To date, it has been determined that it would be advantageous for the WRA communities to delay making the recommended improvements until the anticipated wastewater flows contemplated in the facility plan actually begin to occur or the existing equipment wears out or fails.

The administrator of the WRA Wastewater Reclamation Facility has recently advised that replacement components for routine repair of the motor controls for the existing raw wastewater pumps are nearly impossible to purchase because the motor controls are obsolete, and replacement parts are no longer manufactured or stocked in supply warehouses. Some replacement parts have been purchased from other facilities that have taken their equipment out of service and replaced it with new equipment; however, this source of supply is rapidly diminishing. Without spare replacement parts, it is possible that one or more of the raw wastewater pumps could soon be out of service and not repairable. In light

of the need indicated in the Facility Plan for larger pumps to handle the raw wastewater it would make sense to purchase new motor controls that would accommodate the existing pumps as well as the new pumps contemplated in the Facility Plan. It is not certain that this is possible and will need further investigation by experts in this field to make a determination if it can be done. In the event that it is necessary to replace the existing wastewater pumps with new larger pumps because of the motor control center problem, it will be necessary to replace the existing bar screens as well, as is indicated in the Facility Plan.

It has been approved by the WRA Management Agency to proceed with action to at least replace the existing motor control centers with new equipment. It has been also approved that we proceed with action to replace the existing motor controls, raw wastewater pumps, and bar screens consistent with the Western Area Facility Plan in the event that it is determined to be impossible or not cost-effective to replace the existing motor controls as mentioned above.

It has been approved by the WRA Management Agency that in the event the motor control only is replaced, the cost of replacement be funded using WRA Renewal and Replacement Funds. It has also been approved that in the event the motor control center, raw wastewater pumps, and the bar screens are determined to be replaced, the cost of such replacement be funded using revenue bonds to be repaid by the WRA communities indicated in the Fourth Supplement of the ICA Agreement as being responsible for such costs. Such WRA communities are as follows:

Des Moines	15.56%
West Des Moines	41.01%
Clive	10.16%
Urbandale-Windsor Heights	
Sanitary District	8.92%
Urbandale Sanitary Sewer	
District	22.70%
Johnston	1.65%

It has been approved by the WRA Management Agency that the Operating Agency proceed with action necessary for procurement of a new motor control center to replace the existing equipment, and if necessary, replace the motor control center, raw wastewater pumps, and bar screens according to the recommendations of the Western Area Facility Plan. The proposed preliminary design services agreement provides for appropriate study to be made to recommend the most cost-effective approach to provide for the needed facilities.