Agenda Report

TO: CITY COUNCIL

Date: December 20, 2004

FROM: CITY MANAGER

SUBJECT: AUTHORIZATION TO ENTER INTO CONTRACT WITH POWER ENGINEERS, INC. TO PROVIDE A FIELD INVENTORY DATA COLLECTION OF UTILITY ASSETS USING GLOBAL POSITION SYSTEM FIELD TECHNOLOGY

RECOMMENDATION

It is recommended that the City Council authorize the City Manager to enter into a contract with Power Engineers, Inc., to provide a field inventory data collection of utility assets using global position system field technology for the Water and Power Department, for an amount not to exceed $764,139, which includes the base amount of $694,672 and a contingency of $69,467 for any necessary change orders. The proposed contract is exempt from competitive bidding pursuant to City Charter § 1002(F) contract for professional or unique services.

BACKGROUND

The City of Pasadena, Water & Power Department (PWP) prepared a request for proposal (RFP) to seek the services of a firm to provide a field inventory data collection of utility assets using Global Positioning System (GPS) field technology. The RFP was organized into two distinct data collection requirements. The Power Division is seeking the data collection of all overhead power distribution system pole features. The Water Division is seeking the data collection of city-owned/maintained fire hydrants and water valves.

GPS is a satellite-based navigation system used for determining one's precise location (longitude, latitude and altitude) and providing a highly accurate time reference almost anywhere on Earth. A GPS unit uses these "man-made stars" as reference points to calculate positions accurate to a matter of meters.

PWP currently uses paper records. Recent experience has demonstrated that the quality and accuracy of these records has considerably degraded over time. This condition is problematic from the perspective of both safety and the allocation of limited resources. PWP is increasing the use of technology to make engineering and field staff operations more efficient and provide for accurate "as built" documentation of the power and water distribution systems. The recommended contractor, using GPS technology, will pinpoint the location of

utility assets, update the inventory of the assets and locate missing ones, if any, and provide PWP staff a more accurate and efficient platform to begin the data conversion for the Geographic Information System (GIS) which is a major technology project for the department.

The power distribution system includes approximately 11,000 poles (both municipally and jointly owned), ⅔ of which are rear property poles; and approximately 6,000 underground vaults being fed from 12 substations and 2 receiving stations. There are approximately 44,000 electric service points connected to the electric poles, an average of 4 service connections per pole.

PWP has already completed an inventory of underground facilities, which is helpful in the current effort to expedite the existing utility undergrounding. The power component of the GPS project will result in an electronic database of all overhead power facilities from the substation to the customer. The database will provide a visual and database record of each pole and every associated attachment; every service drop will be mapped to provide a customer/circuit connectivity; all transformer and cable phasing features which will provide the basis for circuit phase/load modeling, which allows for low distribution system optimization. The field information will provide an "as built" inventory, which power engineering has not had for over six years; the ability to run various engineering scenarios with little or no need for fieldwork; the ability to better plan and estimate reconductoring and pole replacements and certain maintenance activities.

PWP's existing paper records would ultimately have to be converted to an electronic format for use in the planned GIS system. The current estimate for the GIS conversion of the power records is $663,000, not including the cost of staff time to validate the information in the field, and the accuracy of the conversion; and would take approximately one year and four months to complete. This contract will eliminate the potential problem of converting paper records that are already incomplete or inaccurate, and can be accomplished in nine months. The power component will cost a little over $509,000.

The Water Division has approximately 38,000 water meters, 85% are within the City limits and 5,550 meters, or 15%, are outside the City limits. The City also distributes water to approximately 3,000 fire hydrants within and approximate to Pasadena's city limits. An inventory of fire hydrants and water valves will allow the Water Division to share information with the Pasadena Fire Department, in order to locate, maintain and assess their condition.

This project will result in an "as built" fire hydrant and valve data, connectivity, planning, maintenance, and modeling capability; and facilitate the data conversion for the water portion of the GIS system. Without this project, the current estimate for converting the existing paper records is $440,000 and will take approximately one year and four months to complete. The water component of the proposed contract will cost a little over $185,000 and will be completed within the same nine-month period as the power mapping.

As a peripheral benefit, other departments including Public Works and Fire can benefit directly by having access to more accurate data.

The Request For Proposal was issued in June 2004 to provide a field inventory data collection of utility assets using global position system field technology. Over 100 vendors received the RFP, five responded. The proposals were evaluated using the criteria set forth in the RFP by a review panel selected by City staff in accordance with the City's competitive selection process for professional services. The total points scored for these firms, out of a maximum possible 100 points, are as follows:

BIDDERS	TOTAL POINTS
Analytical Survey, Inc.	62
Field Data Services, Inc.	58
Integrated Spatial Solution, Inc.	45
Osmose Utilities Services	54
Power Engineers, Inc.	**87**

It is recommended that Power Engineers, Inc., the firm receiving the highest points from the evaluation team, be awarded the contract for an amount not to exceed $764,139, which includes the base amount of $694,672 and a contingency of $69,467 for any necessary change orders.

FISCAL IMPACT

Sufficient funds are available in the Water and Power Department's Capital Improvement Budget. Account numbers: 75% from Power Division's account 3119 Management Information System; 25% from Water Division's account 1009, Geographic Information System.

Respectfully submitted,

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Attachment 1
RFP Evaluation Matrix

REQUEST FOR PROPOSAL
PROVIDE A FIELD INVENTORY DATA COLLECTION OF UTILITY ASSETS USING GLOBAL POSITION SYSTEM FIELD TECHNOLOGY

Criteria	Experience, Qualifications & Reference (25%)	Proposal (35%)	Project Cost (20%)	Project Timeline (15%)	Local Business (5%)	**Total Points**
Analytical Survey, Inc.	21	26	11	4	0	**62**
Field Data Services, Inc.	19	25	10	4	0	**58**
Integrated Spatial Solution, Inc.	12	25	6	2	0	**45**
Osmose Utilities Services	18	26	10	0	0	**54**
Power Engineers	22	32	19	14	0	**87**