**City of Culver City, California**

# City Council Agenda Item Report

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| Meeting Date: 06/25/07 | Item Number: A-4 |
| **AGENDA ITEM: Approval of a Contract with Nobel Systems (San Bernardino, CA) to Obtain a Digital Asset Inventory of Street Lights.** | |
| Contact Person/Dept.: Michele Williams (IT) | Phone Number: 310.253.5959 |
| Fiscal Impact: Yes [X] No [] | General Fund: Yes [X] No [] |
| Public Hearing: [ ] | Action Item: [X] Attachments: [X] |
| Public Notification: E-mail Master Notification List on 06/20/07; Charles Herbertson, Public Works Director on 06/07/07; Nobel Systems on 6/20/07. | |
| Department Approval: John Richo 06/05/07 | City Attorney Approval: Carol Schwab (by H. Iker) (06/18/07) |
| City Controller Approval: Marlee Chang (06/20/07) | City Manager Approval: Jerry B. Fulwood (06/20/07) |

## RECOMMENDATION:

Staff recommends the City Council approve a contract with Nobel Systems of San Bernardino, CA to obtain a digital asset inventory of the City's street lights.

## BACKGROUND:

Most of the information the City generates and maintains is based on location. The Geographical Information System (GIS) program maintains various geographical data layers to facilitate analysis, decision-making and dissemination of public information. Some of the geo-data layers currently maintained include property parcels, traffic signals, fire hydrants, manholes, and bus routes. There are two primary components for each geographical layer: spatial data and attribute data. Spatial data identifies specifically where the feature is located while attribute data represents information related to each feature. For example, a fire hydrant data layer would display the location of each hydrant (spatial information) and would also identify attributes such as hydrant number, operational status, and maintenance schedule.

Various methods can be used to assist with identifying location data. Global Positioning System (GPS) is a technology often used to identify specific locations for point features. GPS is a satellite-based navigation system which is used to identify a location any place on the Earth. This requires using a GPS device and physically going to the specific object to capture the location coordinates. Alternatively, if there are hardcopy accurate maps, they can be digitized to alleviate physically traveling to

each feature location. Attribute data can be stored, maintained, and made accessible to enhance City operations once the digital locations have been acquired.

**DISCUSSION:**

Currently, there is no centralized asset inventory of City street lights. Public Works manually updates logs and maps specific to maintenance; however there is a high reliance on institutional knowledge of long-time key staff. There is also an inventory mixture of city owned street lights and Edison owned/controlled street lights. A centralized inventory of all street lights within the city boundary would enhance maintenance operations. This would result in a database identifying street light locations along with attribute information such as maintenance schedules, installation dates, and lighting components.

Acquiring a street light inventory would also support the implementation of a citywide wireless network. On January 11, 2007, the City obtained vendor responses after distributing a RFP for citywide Wi-Fi. Implementation of a wireless network would result in providing city residents with Internet access and a secure communication for public safety and other city applications. In order to provide citywide coverage, access nodes would be installed on city owned infrastructure such as street poles and buildings. Street lights are typically preferred as they provide unobstructed line of coverage and can also serve as a power source for the devices. The ability to digitally represent all street lights (and being able to differentiate which are owned by the City) is required to produce accurate wireless network coverage models. This would assist in determining the ideal locations for installing devices to obtain optimal coverage throughout the city.

In the absence of hardcopy accurate maps, GPS is required to obtain location coordinates for all City street lights. Staff initiated contact with three vendors in the surrounding area who have expertise with survey collection and GIS analysis. The vendors were asked to provide a quote for obtaining GPS asset inventory of street lights. Public Works has estimated that there are approximately 3500 street lights in the City. The vendor quotes detail a cost range based on collecting GPS points for 3000 to 4000 street lights. The quotes also included capturing at least one data attribute during the collection process. The attribute collected would be the “street light type”. The vendor would be provided with pictures of each unique street light for identification purposes. During data collection, each street light type would be identified and attached to the appropriate point feature.

The following outlines the quotes received:

| VENDOR | NUMBER OF ATTRIBUTES COLLECTED | GPS PRECISION | QUOTE COST RANGE |
|---|---|---|---|
| Psomas (Los Angeles, CA) | 2-3 | < 3.28 Feet | $65,000 - $75,000 |
| RBF Consulting (Irvine, CA) | 1 | < 3.28 Feet | $57,000 - $73,300 |
| Nobel Systems (San Bernardino, CA) | 1 | < 1 Foot | $15,000 - $20,000 |

*Recommended Vendor*

Based on the quote received, responses to client references, and proposed high GPS accuracy, staff recommends contracting with Nobel Systems to obtain a digital asset inventory of street lights. Nobel Systems is a privately held corporation that specializes in GIS data collection, data conversion, and GIS consulting services. The company was founded in 1992, is headquartered in San Bernardino, CA and employs over 125 full-time skilled GIS professionals. Attachment 1 provides a summary of 15 client references detailing the specific work that Nobel Systems has performed. Five of these clients were contacted and they provided exceptional references and highly recommend this vendor. The client list for Nobel Systems includes the following government agencies:

- City of La Verne, CA
- City of Long Beach, CA
- City of Manhattan Beach, CA
- City of Ontario, CA
- City of Oxnard, CA
- City of Pasadena, CA
- County of San Bernardino
- Los Angeles County Sanitation Districts
- Rancho California Water District, Temecula, CA

Staff questioned Nobel Systems' significantly lower priced quote compared to the other two vendors. Nobel Systems markets themselves as a "Low Cost Solution for GIS Needs". They also send off-shore many of the larger data conversion projects to their wholly owned branch office in Bangalore, India. This results in overall lower overhead for the organization and contributes to their ability to quote a lower cost. Given this justification for the lower cost, staff will take additional precautions to ensure that quality will not be negatively impacted as a result of the lower cost.

The following quality control checks will be implemented:

- 20% of the street light points will be verified using the city's aerial photography
- A sampling of at least 100 street lights will be physically spot checked by City GIS staff.

A provision will also be added to the contract stating that payment will not be issued until the quality control processes have been conducted and the City verifies that the delivery meets the stated quality standards.

## FISCAL ANALYSIS:

The authorization to contract with Nobel Systems to obtain a digital asset inventory of city street lights would result in an expenditure not to exceed $20,000 (attachment 2). Sufficient funds have been allocated in the Information Technology Contractual Services Budget – 10124100.619800.

## ATTACHMENTS:

1. Client List and Previous Pertinent Experience
2. Quote from Nobel Systems

## MOTION:

That the City Council:

1) Approve a contract with Nobel Systems (San Bernardino, CA) to obtain a digital asset inventory of street lights allowing an expenditure not to exceed $20,000;

2) Authorize the City Attorney to prepare any necessary contract documents and authorize the City Manager to execute such documents on behalf of the City.