

# Agenda Report

April 26, 2010

**TO:** Honorable Mayor and City Council

**THROUGH:** Finance Committee

**FROM:** Department of Information Technology

**SUBJECT: AMENDMENT TO THE FISCAL YEAR 2010 CAPITAL IMPROVEMENT PROGRAM BUDGET TO INCLUDE A NEW PROJECT IN THE TECHNOLOGY SECTION ENTITLED "OVERHEAD FIBER CABLE REPLACEMENT" AND APPROPRIATION OF FUNDS TO THE PROJECT**

## **RECOMMENDATION:**

It is recommended that the City Council:

1. Amend the Fiscal Year (FY) 2010 Capital Improvement Program (CIP) budget to include a new project in the *Technology* section entitled "Overhead Fiber Cable Replacement"; and
2. Approve a journal voucher recognizing and appropriating \$282,130 from the unappropriated fund balance of the Telecommunications Fund (Fund 408) to the capital project titled "Overhead Fiber Cable Replacement".

## **PLANNING COMMISSION RECOMMENDATION:**

On March 24, 2010 the Planning Commission found this project to be consistent with the Public Facilities Element of the General Plan.

## **BACKGROUND:**

The City's 25-mile fiber backbone was installed in 1998 and 1999. Approximately 20 miles of the backbone were placed underground, and five miles were installed overhead on utility poles. The useful life of fiber cable is typically 20 to 25 years. However, several sections of the overhead cabling in areas with lots of trees have incurred significant damage from rodents. The proposed project would replace the overhead sections of the fiber network, installing new cable in protective aerial duct and along a path with fewer trees to minimize the possibility of future damage.

Staff recommends funding and proceeding immediately with replacement of approximately 12,000 feet of fiber cable that has sustained substantial damage between the intersection of Lincoln Avenue and Montana Street and the Jet Propulsion Laboratory (JPL) campus (see attached map). Work in subsequent years would replace the other two sections of overhead fiber cable that are currently intact but are susceptible to future rodent damage (one along Montana Avenue between Fair Oaks Avenue and Lincoln Avenue and the other between East Washington Boulevard/Woodlyn Road and New York Drive/East Sierra Madre Boulevard).

Some network traffic has already been rerouted given breaks in the damaged cable. However, there is not alternative network capacity to re-route all traffic on this portion of the City's fiber ring. Given the extent of the damage along the overhead fiber route, the fiber cable is weakened at many spots along its route. The network is at risk for future service interruptions and additional damage from wind storms, tree impacts, and rodents.

The City's fiber optic network provides City Internet access, links between City facilities for voice and data network services, data communications for local institutions and telecom providers leasing fiber from the City, and a related revenue stream. As such, the integrity of this fiber infrastructure is critical. In particular, the damaged section of the fiber ring serves JPL and includes most of the fiber paths that are leased to local institutions. Failure to replace or repair the damaged fiber cable would put annual lease revenues of \$100,000 to \$150,000 in jeopardy. Also at risk is the City's Internet connection, which is provided by Caltech through one of its fiber leases at no cost. Because this Internet connection depends on the links to both Caltech and JPL, if the fiber link to JPL goes down, the City's Internet connectivity will go down too. Absent the fiber lease and link to JPL, the City would have to purchase Internet connectivity from a private sector telecom provider, creating a new expense in the range of \$60,000 to \$75,000 annually. In addition, Pasadena Water & Power (PWP) also plans to use the fiber ring to connect some of its facilities for data networking and homeland security purposes. If this portion of the fiber ring is not replaced, PWP would need to purchase connectivity from an outside service provider as well.

### **COUNCIL POLICY CONSIDERATION**

The above project has been found consistent with the Public Facilities Element of the General Plan, and supports the City's goal of improving, maintaining, and enhancing public facilities and infrastructure.

### **ENVIRONMENTAL ANALYSIS:**

As this project moves through the City's approval process, the appropriate environmental analysis will be conducted and brought before the City Council.

**FISCAL IMPACT:**

The total estimated cost of the project is \$462,130. Staff recommends appropriating funding to complete replacement of approximately 12,000 feet of overhead fiber cable that has sustained significant damage. This funding will come from the unappropriated fund balance in the Telecommunications Fund (Fund 408) in the amount of \$282,130. The remainder of the project will move forward as funds become available.

Respectfully submitted,



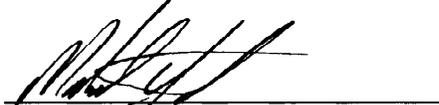
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Attachment: Map of Proposed Overhead Fiber Replacement