



DATE: July 24, 2018

TO: Mayor and City Council

FROM: Director of Information Technology

SUBJECT: Authorization for the City Manager Negotiate and Execute a Professional Services Agreement with Contra Costa Electric for the Completion of a City-Wide Fiber Asset Audit

RECOMMENDATION

That the Council adopts the attached resolution (Attachment II) authorizing the City Manager to negotiate and execute a professional services agreement with Contra Costa Electric for the completion of a city-wide fiber asset audit, in an amount not to exceed \$105,000.

SUMMARY

The City's Fiber-Optic Master Plan (Attachment III) was adopted on July 18, 2017. Its primary objective is to "analyze and outline the best potential path and business model to deploy a fiber optic network that can meet the community's needs, with an initial emphasis on service businesses located in Hayward's Industrial Corridor." Specifically, the Fiber-Optic Master Plan directs the City to complete an audit of City-owned fiber infrastructure and records.

BACKGROUND

In 2016, the U.S. Economic Development Administration awarded the City a \$2.74 million grant to support the installation of an 11-mile fiber optic loop (fiber loop) within the City's industrial corridor. To capitalize on this transformative project, the City contracted with CTC Technology and Energy to develop a holistic fiber master plan to provide a roadmap for the development and deployment of a municipally owned fiber-optic network.

The City's Fiber-Optic Master Plan (Attachment III) was adopted on July 18, 2017. Its primary objective is to "analyze and outline the best potential path and business model to deploy a fiber optic network that can meet the community's needs, with an initial emphasis on service businesses located in Hayward's Industrial Corridor." Specifically, the plan recommends the following actions: Pursue a dark fiber to the premises (FTTP) model for operating the municipally owned network

- Adopt a dig-once policy
- *Audit fiber infrastructure and records*
- Implement a comprehensive fiber asset record management system
- Construct a fiber segment to connect an internet point-of-presence (POP)
- Expand FTTP to select industrial corridor areas
- Procure a dark fiber manager
- Lease dark fiber to select industrial corridor customers

DISCUSSION

The fiber loop being constructed utilizes a portion of existing City owned fiber along Mission Blvd., W. Winton Ave., and Clawiter Rd. to complete the loop (see Attachment IV Fiber Loop Map). Currently, the City does not have centrally accessible or reliable information on the City's existing fiber assets. As the City moves forward with the construction of the Fiber Loop, it is imperative that the City centralize its documentation of existing fiber assets and audits those assets to ensure that there are no issues with their physical and operational state.

The adopted Fiber-Optic Master Plan directs the City to conduct a Fiber Asset Audit of existing fiber assets and records. In order for the City to provide access to its dark fiber network, knowledge of City owned assets, which include conduit and fiber location and fiber count, must be carefully documented and maintained. In addition to providing access to the dark fiber network, accurate and up-to-date documentation will help the Public Works Department mark fiber locations during road construction and other disruptive activities in the public right of way, reducing the likelihood of accidental fiber breaks, aiding future construction and the future allocation of fiber strands.

Furthermore, this work will assist in the production of an initial GIS fiber map which can be updated as future deployments of fiber take place in real time.

Technical Summary

Contra Costa Electric (CCE) will survey the fiber cables and fiber termination equipment that support the City of Hayward's fiber underground network. CCE will take an inventory of the existing underground pull boxes, splice point locations, and building fiber panel locations throughout the City's fiber network.

CCE will audit the condition of fiber and conduit. The audit will note if underground fiber cables move easily in their conduits or if tight. Tight cables may indicate that the underground conduits may be crushed or broken making the conduit unavailable for future use. If the fiber is damaged this will be noted when fiber is tested. CCE will confirm conduit type and location along with fiber strand counts and any spare or unused fiber strands. CCE will also test existing fiber cables that support the 19 building locations that are occupied by the City of Hayward.

Based on current documentation of the fiber network, CCE has identified approximately 406 underground pull box and splice locations and 440 fiber termination points that need testing. CCE was also able to identify approximately 32 traffic cabinet locations that house fiber termination points. There are approximately sixteen miles of underground fiber to inventory as well as the short runs of fiber that go out to the 19 City building locations from splice points.

CCE will work with the City to make sure the fiber asset audit includes a survey matrix that encompasses all items described above. CCE will submit proper paper work and a plan showing the areas of underground conduit inspection, a traffic control plan, and a certificate of insurance.

FISCAL IMPACT

The cost of the fiber asset audit is \$103,877.34. This includes materials, documentation, labels, labor, permits, testing expenses, truck rollouts, fiber testing tools and equipment.

The Fiscal Year 2019 Capital Improvement Program, Fund 731, Project 7275 includes \$125,000 in funding for this work.

STRATEGIC INITIATIVES

This agenda item is a routine operational item and does not relate to one of the Council's Strategic Initiatives.

NEXT STEPS

Following approval, staff will execute an agreement with CCE. Contra Costa Electric is prepared to begin the fiber asset audit immediately. This work should be completed by the end of Calendar Year 2018.

Prepared by: Carolyn Saputo, IT Manager, Infrastructure
John Stefanski, Management Analyst II

Recommended by: Adam Kostrzak, CIO/IT Director

Approved by:



Kelly McAadoo, City Manager