

## Scope of Services

Given its robust fiber optics capacity - comprised of both City-owned fiber bundles and City-owned fiber strands within the Lit San Leandro bundles - The City of San Leandro is seeking a consultant team to lead staff through the creation of a ten year Fiber Optics Master Plan to guide the design, construction, implementation, maintenance, regulation, and funding of its fiber optics assets and related technologies.

The two driving questions behind the need for this plan are:

- 1) How can the City better utilize its available fiber optics capacity within both networks?
- 2) Where should the City expand its fiber optics footprints?

The City is currently undertaking several projects that have a fiber optics component and the Master Plan should articulate a mission and vision that unifies these plans around its fiber optics network. In addition, the plan should include specific recommendations for appropriate policies and funding mechanisms to enable it.

The process should include staff, the City Council, the community, and private industry. The Consultant will work primarily with a Planning Committee made up of City management.

## Areas of Focus

The following list will highlight the technology projects the City of San Leandro is currently pursuing and is interested in managing under a cohesive Fiber Optics Master Plan.

### Street Lights and Poles

The City has executed an agreement with Climatec to replace all City-owned street lights with “smart” LED lighting. The lighting system will be centrally controlled, communicate wirelessly, and send alerts, as needed. This project, funded through a bank loan, is forecasted to save the City hundreds of thousands of dollars per year in energy and maintenance costs.

However, the street poles themselves are strategically important assets that can support additional technologies, such as Wi-Fi, sensors, and more. A Master Plan will help the City determine to the feasibility of connecting street poles to the fiber network to support additional technologies. It should address which areas of the City are of the highest strategic importance, which poles provide the best cost/benefit ratio for fiber connectivity, and the types of technologies that should be considered to be used on street poles, along with a simple pro forma cost analysis that can be applied for any pole.

### Traffic Signals

Modern traffic lights can be monitored and controlled centrally, and transportation engineers can use them to control traffic flows, assist public safety and emergency services, and more. The Master Plan shall include a description of the fiber optic infrastructure required to support the traffic signal system.

### Parking

The City is nearing completion of a comprehensive study regarding its downtown parking strategy. A parking control system, which will include the downtown parking garage and nearby

lots and metered spaces, will require a communications systems to support it. The Master Plan shall include a description of the fiber optic infrastructure required to support the parking system.

## Wi-Fi

The City installed Wi-Fi in the downtown core and has expanded it to both community centers and the museum area. However, there is more demand – such as parks and additional commercial and economic development areas. A Master Plan will provide guidance on where the City should deploy Wi-Fi in conjunction with its other projects and construction.

Additionally, the report shall identify new technological advances in wireless technology, especially where these technologies could provide a lower cost solution to the current expense of constructing laterals from the network to the end-user. The Master Plan should also provide guidance on potential strategies for allowing businesses to piggyback on the public Wi-Fi network to provide seamless connections for their customers.

## Commercial Broadband

Lit San Leandro is fundamentally a business-serving initiative. Working in partnership with the City, Lit San Leandro has been successful in getting dozens of businesses and buildings connected to the network. The Master Plan should include strategies for continuing this process and using Lit San Leandro as a business attraction tool.

## Residential Broadband

The City is highly interested in a thorough evaluation of the different business models that could be used to deploy a residential broadband network and would like to understand the pros and cons of each model. In addition, the City would like to have a ballpark cost for each model to ascertain a basic understanding of the financial commitments required. The Master Plan should also provide a high-level assessment of other technologies (either presently available or anticipated in the future, such as wireless broadband) that might provide a comparable quality of residential service at a lower cost.

## Emerging Technologies

Drones, driverless cars, advanced robotics, and mobile library hotspots are technology areas the City is interested in having a high level understanding of as it related to City governance and management. A Master Plan should address, at least in brief, how the City should begin to prepare itself for these advances as it related to their fiber planning.

## Policy Requirements

In general, the City would like an overview of broadband-friendly policies that can be used to support its Fiber Optics Master Plan. In particular, the City would like a detailed evaluation of “open trench” policies and clear guidance regarding how one should be structured in the City of San Leandro. A basic overview of how open trench policies have been structured in other cities and counties and an evaluation of their effectiveness, different models, and costs, is desired.

## Deliverables

A final Master Plan must include the following:

1. A “big picture” vision that unifies the City’s goal to become a center for innovation in the Bay Area with its current and future projects as it relates to fiber optics technology and a methodology to evaluate technologies from the perspective of its fiber optics vision.
2. A detailed analysis of the Area of Focus, including how the city can utilize its fiber optics capacity by connecting its street poles, with specific recommendations regarding what the City’s fiber optics network connections should be over the next ten years (see below).
  - A detailed map of the City showing locations where existing fiber optic cable is located and where future fiber optic cable should be located to achieve the goals listed above. Each present location should indicate the number of fibers in place, each future location should indicate the likely range of fibers needed.
3. A detailed analysis of the models available to deploy residential broadband, including an evaluation of costs and organizational capacity required to deploy each model.
4. A minimum of two community events to discuss the Master Plan and collect feedback from community members and local business owners. The feedback should be summarized in the report.
5. A policy section with clear guidance regarding broadband policies, such as open trench.