



**CITY OF PACIFIC GROVE**  
300 Forest Avenue, Pacific Grove, California 93950

**AGENDA REPORT**

**TO:** Honorable Mayor and Members of City Council  
**FROM:** Lee Afflerbach, Founder, Columbia Technologies Corporation  
Thomas Frutchey, City Manager  
**MEETING DATE:** August 5, 2015  
**SUBJECT:** The Pacific Grove Optical Fiber Network  
**CEQA:** Does not Constitute a "Project" per California Environmental Quality Act (CEQA) Guidelines

**RECOMMENDATION**

Receive an update on the financial and risk analysis requested by Council and provide any desired direction.

**DISCUSSION**

In April, 2014, the City and SiFi Networks executed a development agreement. Among other terms, SiFi Networks committed in the development agreement and in discussions since then to undertake the steps necessary to:

- ❖ Build a fiber-to-the-curb network throughout Pacific Grove, except in areas where the cost of construction will exceed 150% of the standard cost.
- ❖ Use microtrenching in all appropriate locations; no overhead wires.
- ❖ Construct the network in one continuous build, taking approximately 7-8 months for full build out.
- ❖ Provide an open access network, such that all ISPs have an equal opportunity to seek capacity.
- ❖ Build a network point-of-presence in distributed locations throughout Pacific Grove.
- ❖ Provide fiber connections between various City buildings.
- ❖ Engage existing and additional service providers to provide content and services to businesses and residents.

SiFi has invested much effort in developing the entire proposal and presenting it to the City for approval. A brief update on some of the progress achieved since the agreement was signed is attached (Attachment 1)

As the City has little in-house expertise in this area, the City retained Columbia Technologies Corporation (CTC), one of the two primary firms providing advice and assistance to cities nationwide in the area of communications technologies.

On July 15, Lee Afflerbach, founder of CTC, provided Council with an overview of the advantages of bringing a 1 gigabyte per second (gbs) fiber system to Pacific Grove. Although most businesses and residents in the community do not need this capability currently, given the rapid advances in video streaming, gaming, and the internet of things that is forecast, a significant percentage of Pacific Grove businesses and residents will benefit from such a capability in the 5- to 10-year time

frame. Recent independent analysis nationwide has indicated that the community can expect property values to appreciate by 3-5% when 1 gbs service is installed; economic activity will increase by comparable percentages.

With general acceptance of the value of a 1 gbs system, Council asked Columbia Technologies and staff to proceed to the next step in the analysis: does the financial model proposed by SiFi that is currently under consideration make financial sense for the City, and does it manage risk appropriately. That analysis is well underway.

SiFi is still able to achieve lower costs of financing, resulting in viable wholesale rates to Internet Service Providers (ISPs) that will satisfy its investors if ownership of the resulting network is transferred to the City at the end of an initial lease period. The model, which features public ownership and private operation, is a better for the community than the others analyzed. The revised proposal enables the City to own the network after the end of the initial 30-year amortization period, but have the network be operated, maintained, and upgraded when needed by SiFi and its affiliates.

This approach would utilize a series of agreements that minimize SiFi's cost of finance without transferring unacceptable risk to the City. Those agreements will be addressed only once the financial and risk analysis has been completed satisfactorily. As can be seen in Lee's status letter, the financial and risk analysis will not be completed for another 30 days or so, due to the quantity and complexity of material being reviewed.

If, at the end of that time, the Council chooses to proceed, staff and SiFi will initiate detailed discussions with Internet Service Providers, to ensure they are willing to enter into agreements with the City sufficient to garner enough revenue to cover the City costs over the life of the investment prior to commencing construction. This creates a long-term sustainable infrastructure, to be owned by the City at the end of the Agreement.

Installation of the cable necessary to serve a reasonably-sized neighborhood can be completed in less than a day. Thus, SiFi can bring the system on line, neighborhood by neighborhood, in very short order. The first subscribers will be able to receive service within 3 months of construction commencing. (Build-out for the entire City is scheduled to be 7-8 months, construction has been phased so as to limit disruption, with multiple teams working in different parts of the City simultaneously).

The originally proposed 30-year pro forma is currently being quantified and qualified by CTC and by the City.

The recommended action does not constitute a "Project" as that term is defined under the California Environmental Quality Act (CEQA) Guideline Section 15378, as it is an organizational or administrative activity that will not result in direct or indirect physical changes in the environment.

## **OPTIONS**

1. Do nothing. This would result in the end of the relationship between the City and SiFi
2. Provide alternative direction to staff.

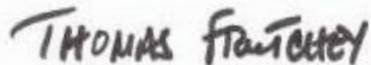
**FISCAL IMPACT**

Staff time; purchase of a performance bond, subject to a 14 day cooling period.

**ATTACHMENTS**

1. Progress achieved to date
2. Lee Afflerbach Letter, dated 7-30-15

**RESPECTFULLY SUBMITTED,**

A handwritten signature in black ink that reads "THOMAS FRUTCHEY". The signature is written in a cursive, slightly slanted style.

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Thomas Frutchey  
City Manager



# SIT Networks



Citywide  
Network

### **Introduction:**

1. Who are SiFi Networks?
2. Why Fiber?
3. FiberCity Pacific Grove
4. Delivery
5. Is it Sustainable



Citywide  
Network

### **Why Fiber:**

- Enables competition
- Increases available services
- Improved reliability and level of service
- Superfast internet 1Gbps
- City wide deployment
- Economic development
- Municipal use



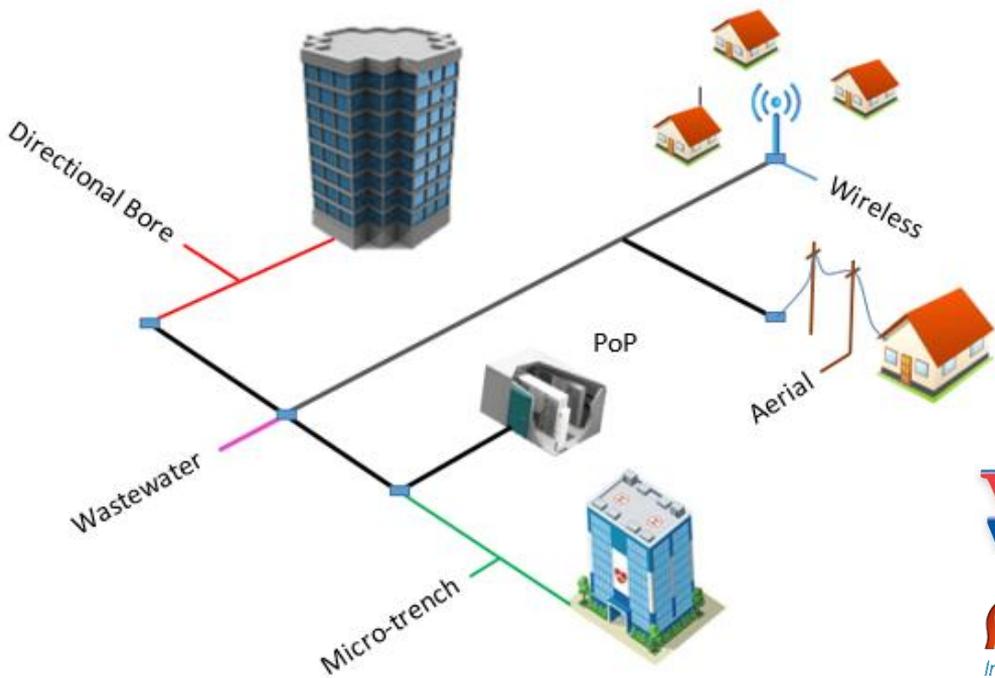
Citywide  
Network

### **FiberCity Pacific Grove Progress:**

- Feasibility study
  - Market survey
- Design methodology
- Network design workshop
- Construction methodology: Public Works session
- Agreements with Alcatel Lucent and others
- Network operations workshop with CTO
- Community meetings
- Sustainable business plan
- ISPs
- Backhaul solution

Citywide  
Network

Construction



Citywide  
Network

Construction



**FOR REVIEW ONLY  
NOT FOR CONSTRUCTION**



NOT TO SCALE

	<b>PROJECT: PACIFIC GROVE MICRO-TRENCH DESIGN</b>	
	<b>LOCATION: PACIFIC GROVE, CA</b>	
	HENKELS ENG: TON HUNLEY (800) 217-8884 EMAIL: tonh@henkels.com	
	SHEET NO: 108-0004 DATE: 11/01/2014	SHEET: 1 OF 1

## Micro Trenching





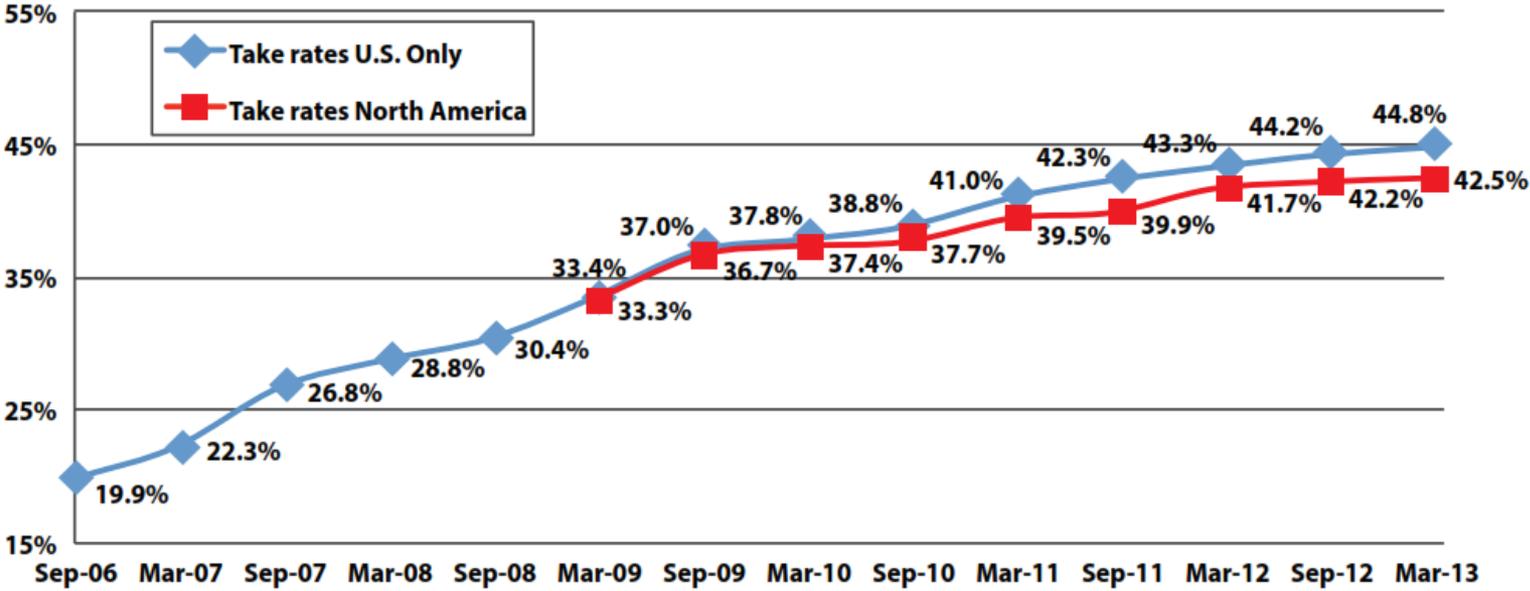
### **Is the Network Sustainable:**

- The FiberCity model requires a long term sustainable model over the life of the agreement
- No Tax dollars
- Potential cash generator for the City, through both direct and indirect sources
- Maintenance and operational risks transferred to SiFi Networks

### **Next Steps in the event of approval:**

- SiFi Networks to:
  - Finalise engineering and construction review with Public works
  - Legal document review
  - Qualify and quantify financial pro formas with PG staff
  - Finalise agreements with service providers
  - Book manufacturing windows with our partners

### FTTH Take Rates, U.S. and North America, Through March 2013



Source: RVA LLC



Progress Update: 2015

July 31, 2015

Mr. Thomas Frutchey  
City Manager  
City of Pacific Grove  
300 Forest Ave.  
Pacific Grove, CA 93950

Via e-mail: [tfrutchey@cityofpacificgrove.org](mailto:tfrutchey@cityofpacificgrove.org)

Dear Tom:

I am writing to update you on CTC's progress in performing the due diligence work SiFi Networks' proposal to construct a citywide broadband fiber-optic network.

Last week, CTC signed a nondisclosure agreement with SiFi—and immediately submitted questions to the company relating to the details of its technical design and the business plan for this project.

In order for our team to assess the financial viability of the project, we need additional details from SiFi regarding the assumptions it made in preparing the Pacific Grove pro forma—specifically, what items (functions, services) are included and how the assumptions were established. (Naturally, the company views much of this information as proprietary and hence our work needs to be covered by the nondisclosure agreement.)

Some of the pertinent factors that we are examining in the initial phase of this work include:

- Funding established in the project for upgrading electronic equipment during the 30-year life of the project
- The maximum response time for customer outages due to technical hardware failures
- Response times for system-level failures
- Response time to repair fiber-optic cable cuts in both subscriber drops and backbone network fiber
- Funding for fiber maintenance and repair (i.e., is this funding included in the budget provided to the City?)

**Columbia Telecommunications Corporation**

10613 Concord Street • Kensington, MD 20895 • Tel: 301-933-1488 • Fax: 301-933-3340 • [www.ctcnet.us](http://www.ctcnet.us)

- Lease agreements with ISP:
  - Proposed lease agreements
  - Duration of the initial leases
  - Guarantees provided by lessee
- Details on the maintenance agreement, including clear definitions of annual costs, services included under the agreement, and excluded services to be paid out of pocket by the City
- Supporting validation of SiFi revenue projections
  - Business services relating to Internet access
  - SiFi's assumption that there will be substantial annual revenues from leasing dark fiber to wireless cell tower

I am pleased to report that in this very short period of time, SiFi has replied to many of our questions with supporting material that amplify and illuminate some of the specifics not covered in the documents received. We are currently reviewing the material received and formulating additional questions as follow-up relating to SiFi's initial response.

Assuming that SiFi continues to be so responsive to our requests, we anticipate that we will be able to provide you with a preliminary report of our findings within 30 days. We will continue to work closely with you and to update you weekly on our progress and any pertinent developments.

We appreciate the opportunity to provide Pacific Grove with an objective analysis of the SiFi proposal—and to enable your elected officials to evaluate and make a decision on the risks and rewards of this innovative project.

Regards,

A handwritten signature in black ink, appearing to read "Lee Afflerbach". The signature is fluid and cursive, with a long horizontal stroke at the end.

Lee Afflerbach, P.E.