



To: Mayor Soliman and City Council
From: Tim Stinnett, Director of Information Technology
Date: June 20, 2022
Re: Network Infrastructure Upgrade

Currently, all city buildings and well locations are connected via ten separate Comcast or AT&T Internet connections and ten separate virtual private network connections (VPN), which connect to the Firewall in the existing administration building. This is an inefficient configuration due to the number of accounts that must be maintained, inconsistent data transfer speeds, security risks, and the number of possible network failure points. In addition, there is a need to seamlessly connect all city locations in order to provide Internet Protocol (IP) telephone service, door access control, security cameras and general networking capabilities.

The existing VPN connections create a secure tunnel between city locations; however, they utilize the public Internet. This means each location must have a reliable Internet connection and separately purchased Cisco Meraki hardware appliances. These appliances can cost as much as \$2,000 each and require annual licensing. Currently we pay \$4,800 for 8 appliances. Due to supply chain delays if one of these devices fails it could not be replaced in a timely manner. Lastly, creating a seamless network with our existing devices is a complicated process that may be unreliable.

New network hardware and redundant fiber Internet services have been installed in the new city center building. These fiber Internet connections offer consistent and reliable service with high band-width capacity. With that infrastructure in place, it would be beneficial to eliminate the individual Internet accounts at the public works building, East and West water treatment plants, and all the well locations. Comcast offers a private fiber network solution that would accomplish this and route all Internet traffic for these locations through the city center's fiber connections.

Comcast would replace the Cisco appliances with routers that can be managed from a single location, and the cost of the routers is included in the monthly service fee. If one fails, it would be promptly replaced by Comcast at no cost. These routers would connect all the city's locations as one large wide-area network which would accomplish the above goals to provide access and security services. This network does not use the public Internet and is private and secure. Comcast monitors the routers, and provides technical support 24/7.

The monthly cost of the Comcast network vs. the current monthly cost is shown below. This solution will increase costs by approximately \$490 per month. While this cost is higher than what we currently pay, the increase amount is offset by cost reductions in other technology areas such as canceling expensive copper telephone lines. Four lines will be canceled in the next 30 days which will save approximately \$2,600 per month. When the move to the new building is complete an additional savings of \$6,000 per month will be realized.

Location	Current Cost	Current Vendor	Backbone		New Cost	Vendor	Backbone	Difference
861 Caton	\$ 151.00	Comcast	Coax		\$ 151.00	Comcast	Fiber	
21215 Division	\$ 151.00	Comcast	Coax		\$ 151.00	Comcast	Fiber	
20025 Division	\$ 151.00	Comcast	Coax		\$ 151.00	Comcast	Fiber	
804 Elrose	\$ 151.00	Comcast	Coax		\$ 151.00	Comcast	Fiber	
2001 Oakland	\$ 151.00	Comcast	Coax		\$ 151.00	Comcast	Fiber	
2227 Parkrose	\$ 151.00	Comcast	Coax		\$ 151.00	Comcast	Fiber	
2401 Waterford	\$ 151.00	Comcast	Coax		\$ 151.00	Comcast	Fiber	
2090 Oakland	\$ 716.20	AT&T	Fiber		\$ 575.00	Comcast	Fiber	
1631 Gaylord	\$ 496.30	AT&T	Fiber		\$ 575.00	Comcast	Fiber	
2250 Broadway	\$ 496.30	AT&T	Fiber		\$ 775.00	Comcast	Fiber	
20690 City Center	\$ -				\$ 775.00	Comcast	Fiber	
Meraki	\$ 500.00	Cisco			\$ -			
Monthly Total	\$ 3,265.80				\$ 3,757.00			\$ 491.20

Staff recommends entering into a 60-month agreement with Comcast for Ethernet Network Services at a cost of \$3,757.00 per month (includes estimated taxes and fees). A one-time installation\construction fee of \$2,200 will be included on the first invoice.

Attachments:

Comcast Enterprise Sales Order Form

Ethernet Network Services Technical Description