



## AUDIT MEMORANDUM

October 12, 2007

**TO:** Stockton City Council  
**FROM:** F. Michael Taylor, City Auditor  
**SUBJECT:** Substantive Testing: Wireless Access Points

In accordance with our 2007-2008 audit plan, we have completed an audit of the City's Wireless Access Points. We concluded that adequate security and controls are in place to protect the Wireless Access Points to the City's network, and no unauthorized access points were detected.

### **BACKGROUND:**

In our audit, the wireless networks refer to wireless Local Area Networks (LAN). Wireless networks use radio instead of wires to transmit data back and forth between computers on the same network.

A wireless network uses its Wireless Access Points to broadcast radio waves that can be picked up by receivers attached to different client computers. The client computers are not physically linked to the network. Wireless network communication is typically governed by a communication protocol.

Wireless networks are becoming increasingly common. They are inexpensive and provide the user with greater flexibility than wired networks. However, the security vulnerabilities of wireless technology have increased as the service has become more popular.

The City provides Wireless Access Points, which allows authorized users wireless access to the City's network. It gives increased mobility and productivity to approximately 300 users in the City. However, the wireless access to the City's network does pose a risk that must be addressed. The Information Technology Department is primarily responsible for ensuring that controls are in place to address these risks.

## **OBJECTIVES AND SCOPE:**

The objectives of our audit were to determine if there is proper control and security at the Wireless Access Point(s); and whether unauthorized Wireless Access Points exist.

The scope of our audit included:

- Examining existing IT Policy and Procedures,
- Evaluating existing control and security over the Wireless Access Points, and
- Identifying unauthorized Wireless Access Point connections to the City's network at selected testing locations.

Our audit testing period was from June 2007 through August 2007.

## **METHODOLOGY:**

To gain an understanding of the City's wireless network structure, we reviewed the related Administrative Directives for applicable policies and procedures. In addition, we interviewed the City's network staff and sent out questionnaires to them. We also reviewed the topology IT is using on the City's wireless network. We selected a sample of City facilities and tested the Wireless Access Points at each facility. We utilized software applications to detect the available wireless network signals and signal strength at the selected locations.

We provided management with a suggestion for system improvements under a separate memorandum. Suggestions for improvement are those conditions deemed by the auditor to be of less significance than audit findings. Generally, these are areas where procedures could be more efficient or where opportunities exist to make minor internal control improvements. No follow-up work is performed on suggestions for improvement. Our audit was conducted in accordance with Generally Accepted Government Auditing Standards.

## **RESULTS:**

Based on the results of our work, we concluded that the controls and security over the Wireless Access to the City's network are adequately designed and functioning as intended. The City has adequate policies and procedures for Wireless Access Points, and systems are in place to sufficiently protect the City network from unauthorized access. We also found no unauthorized Wireless Access Points at the City facilities that were tested.

We would like to express our appreciation to the staff of the Information Technology Department, Police Department, Fire Department, and Municipal Utilities Department for their assistance during this audit.



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