CITY OF CAPE CORAL, FL

Information Technology Plan

FY 2023 - 2025

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I Introduction

This is the FY 2023-2025 update to the City of Cape Coral Information Technology Plan.

The FY 2023 IT budget is $10.4MM and includes capital provisioning of $1.5MM. This compares with $9.2MM total budget for FY 20201 with $1.4MM capital.

II Organization and Governance

II.i Organization

The IT structure consists of five Divisions: Business Applications, Network & Telecom, Security, Information Technology and Communication, and GIS Services – see Organizational Chart below.

**City of Cape Coral
IT Department Organization**
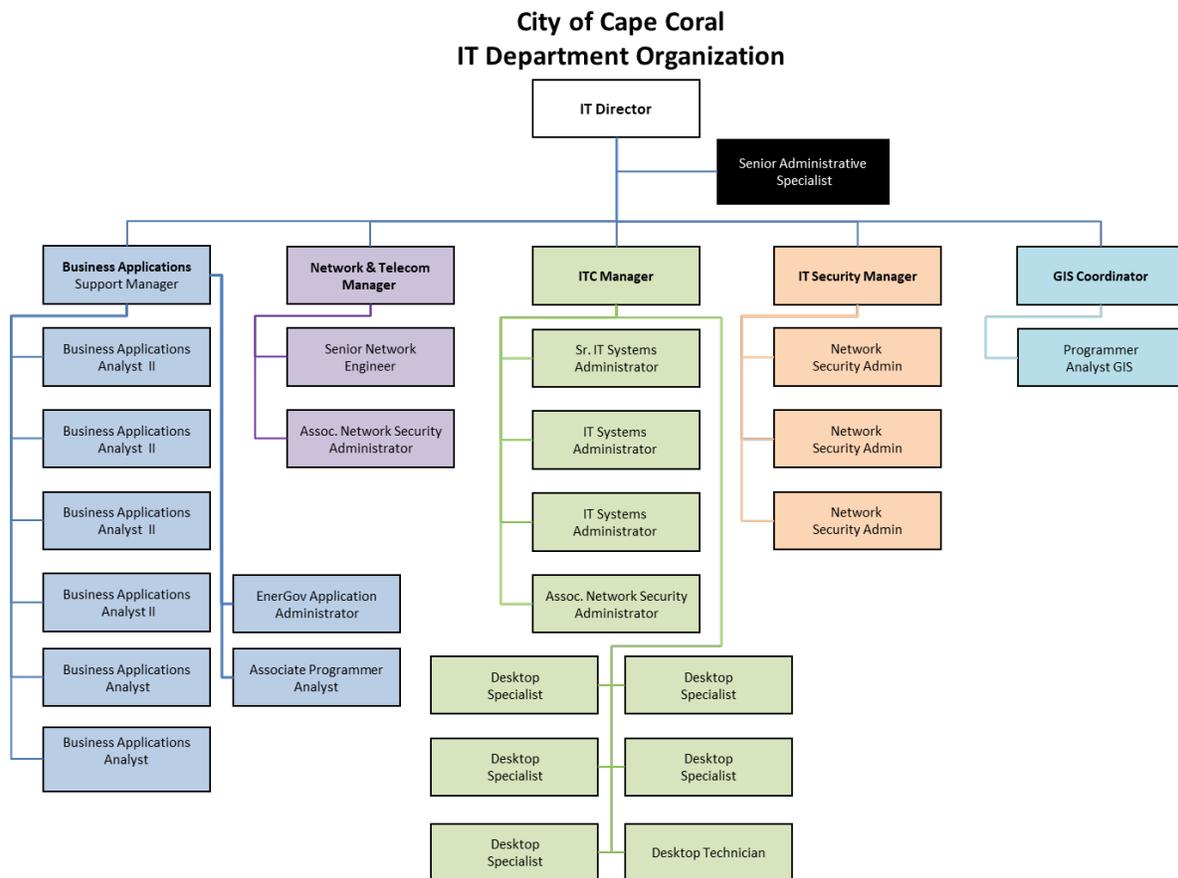
Business Applications is responsible for supporting all application software packages deployed in the City. Our policy is to use commercial off the shelf (COTS) applications and develop software only when compelling cost reasons exist and/or there is a niche requirement where COTS is not available.

Network & Telecom Infrastructure is responsible for the Wide Area Networks (WAN), Local Area Networks (LAN), fiber connectivity, network systems, telecommunications, as well as various services and applications associated with these.

Security is responsible for supporting all IT related security and security training.

Information Technology and Communications is responsible data centers, servers, desktop computers and applications, and peripherals as well as various services and applications associated with these.

GIS Services is responsible for developing and maintaining the enterprise GIS implementation within the City. The enterprise GIS is centralized in terms of server infrastructure and support. Departments are responsible for maintenance of their own specific layers on the centralized database and have staff trained on GIS technology.

II.ii Governance

Effective IT governance helps ensure that the IT organization supports business goals, optimizes business investment in IT, and appropriately manages IT related risks and opportunities. Value, risk, and control constitute the core of IT governance. Effective IT governance enables the enterprise to take full advantage of its information, thereby maximizing benefits and capitalizing on opportunities.

In order to strengthen our IT governance, IT has constructed a comprehensive set of IT policies, procedures, and documents supporting the COBIT (Control Objectives for Information and Related Technology) version 5. See section VI.ii below. COBIT is the best practice IT governance framework published by the IT Governance Institute (ITGI).

In 2017, an IT Governance Committee was re-established. The committee consists of IT management, the Assistant City Manager and the Directors from all the Departments. The committee meets bi-annually and reviews the IT Project Portfolio, including project timelines and cost projections. In-depth reviews of key projects, such as a citywide wireless network upgrade, may also be on the agenda.

III IT Mission Statement

The mission of the IT Department is to deliver innovative solutions that increase the efficiency and effectiveness of City government and to provide value-added technology services for its residents and businesses.

IV Strategic IT Priorities

IV.i Aligning IT to the Business

The City develops a rolling five-year Strategic Plan to document the Council's strategic priorities. The City Strategic Plan is a key input to the City Manager's Budget which also is developed on a five-year rolling basis. The City Strategic Plan is made available to the public in the Open Government section of the website.

The City Strategic Plan provides input to the Information Technology Plan in terms of direct Council priorities where IT could be the lead or secondary supporting department. The overall Information Technology Plan currently has designated five high level strategic IT priorities of Provide Robust Infrastructure; Expand IT's Strategic Role with Departments and other Government Agencies; Facilitate Greater Access to Technology to All Citizens Achieve and Maintain World-Class Security Measures to Safeguard IT Systems while Balancing Business Needs; and Attract and Retain the Most Talented Staff. The direct Council priorities fit under one or more of the strategic IT priorities as documented below. However, as part of the strategic IT planning process additional projects will be designated by IT that support the overall needs and direction of the City. In most cases, the IT priorities support key customer departmental priorities. The IT staff works with each department to look for opportunities to provide technology solutions that add significant value to the business.

Typically, projects identified for the Business Applications and GIS Services divisions will directly support customer departments. The Network & Telecom and Information Technology and Communications and Security division's priorities may indirectly support customers for example by adding capacity, resiliency, and security to the infrastructure supporting their applications. In building the IT priorities, full regard is taken to ensure that the projects comply with IT architectural and technical standards and policies.

As the year progresses, the plan, priorities, and project list may be fine-tuned. Indeed, some new customer requirements may surface during the course of the year and we typically provide budgetary provision for this eventuality.

Aligning IT to the Business
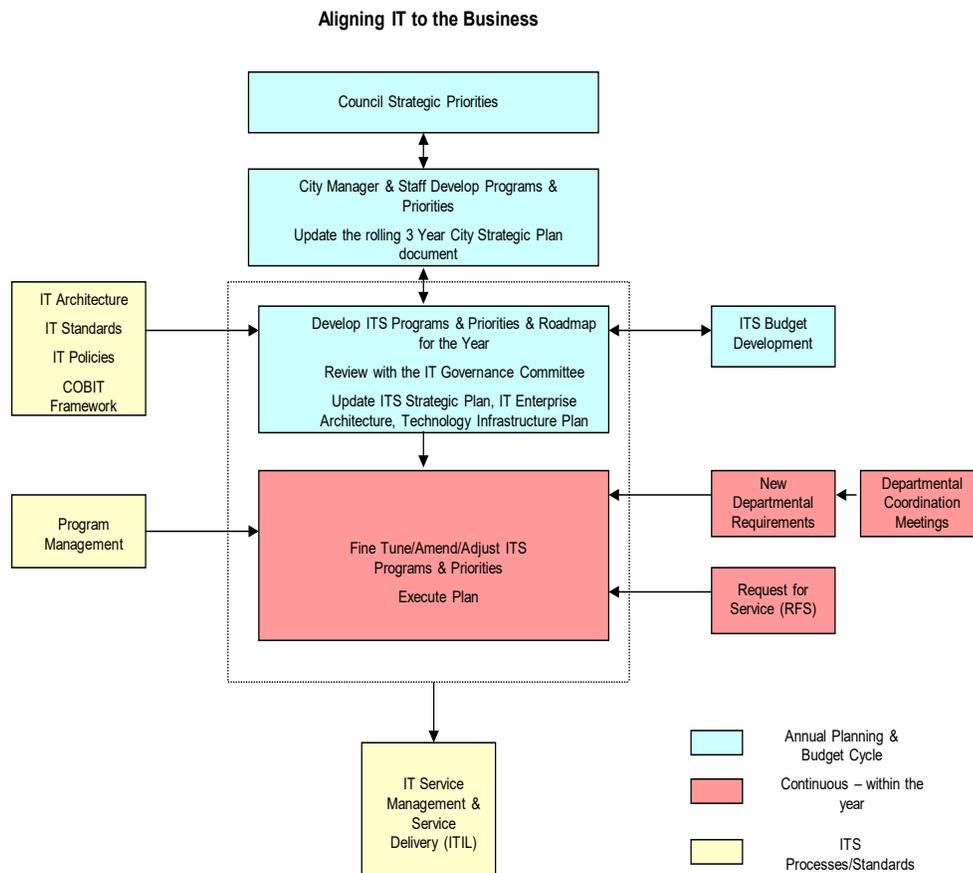
Additionally, routine Requests for Service (e.g. report customizations) arise throughout the year and these must be handled effectively. The larger projects require formal Project Management, see Section VII, and all requests must be delivered effectively complying with our documented procedures.

IV.ii Key Strategic IT Initiatives

The following five areas have been identified as strategic IT priorities:
- **Provide Robust Infrastructure**

Everyday reliance on Information Technology is a reality, and for every department of the City to function at its peak performance IT must provide a robust infrastructure. This includes data centers, server and storage capacity, physical and data security systems, network, telecommunication systems and other related technologies. Redundancy must

be built-in at every possible point, and disaster recovery plans, policies and procedures must be kept current.

A key component of robust infrastructure is automation. Automation reduces the human error factor and increases the speed at which tasks ranging from mundane to critical happen.

- **Expand IT's Strategic Role with City Departments and other Government Agencies**
  - o **Via new application system deployments & upgrades**
    Every year IT introduces new applications and streamlines department's workflows. These new systems and electronic workflows bring improved business processes and enhance operational controls. Progress is documented in the Key Projects section below.
  - o **Via custom development and electronic workflow**
    There are significant opportunities for improving productivity by custom development of electronic workflow and various niche databases, and also by creative configuration and integration of various commercial applications. Progress is documented in the Key Projects section below.

- **Mobile Application Deployment**
  Mobile applications (apps) are now mainstream and we will seek opportunities to obtain value by extending mobile app capabilities to both the public and internal users. In migrating to the Parks and Recreations' hosted City website solution we made sure that the new site was built to render properly on smartphones and other mobile devices. The Cape Coral 311 citizen app keeps informed.

IV.iii Application Deployment across City Departments

The City deploys Information Technology comprehensively across the entire organization. Strategic value provided by IT benefits the entire organization. Departments rely on IT to support their fundamental business processes and E-Government is a key component of the technology deployed to provide information and services to the public.

Major Application deployment
The following are the key enterprise class COTS applications currently deployed:

Financial ERP:
- General Ledger
- Receivables, Payables
- Procurement
- Project Costing
- Inventory Management

- Fleet Management
- Work Orders
- Budgeting

Electronic Payments:
- Cashiering
- Payment Management

Utility Billing:
- Water and Sewer Utility Billing
- Lien Processing

Community Development system:
- Land Management
- Building Permits
- Projects
- Code Enforcement
- Business Tax Receipts
- Contractor Management
- Citizen Request Management
- E-government applications for the public
- Electronic Permit Application & Document Upload
- Mobile Citizen App interfacing with Citizen Request Management
- Electronic plan review

Human Resources:
- Integrated Human Resource & Payroll & Time/Attendance system

Enterprise Content Management:
- High speed indexed document scanning & imaging
- Document archive management and searching

Electronic Public Meeting Agendas:
- Full featured Public Meeting Agenda Management, minutes taking, and archived video recordings indexed by the Agenda

Fleet Management & Fuel Management:
Comprehensive Fleet and Fuel management

Public Safety application:
- Computer Assisted Dispatch
- Records Management
- MCT – field wireless operation

Parks & Recreation application:
- Specialized application for supporting Parks and Recreation activities including event scheduling and point of sale transactions

Geographical Information System:
- Enterprise GIS
- Web services
- Partner product interfaces for many departments

Cloud/SaaS Applications

With the increasing availability of cost effective and resilient Cloud/SaaS applications, it is our policy that these options must always be thoroughly evaluated when seeking new application capabilities.

In addition, the following web-based applications are provided remotely by an external provider where City users access the application via the web and utilize a web browser as the client.
- Enterprise Vault for e-mail searches
- Software is deployed for managing agendas, minutes, and archived recordings for public meetings
- A benefit management system
- Service to manage the procurement RFP/bid submittal process.
- Service is used for online auctions of surplus City equipment
- Cloud based service for routine, non-confidential document sharing across all departments
- Microsoft Office 365 suite
- Legal Case Management
- Auditing Management
- Facilities Management
- Public Records Requests
- Cape Coral 311 Mobile app for citizens to report issues
- Utilities and Public Works project management online systems
- HR Learning Management, Recruitment and Performance Management
- E-Bill for online Water and Sewer billing
- Fire records management
- Police and Fire policies and procedures documentation
- Police Off-Duty Details Management
- Travel Management

V Key Projects

V.i FY 2022 Key Project accomplishments:

Business Applications
- Implemented new Enterprise Asset Management System for Utilities
- Implemented new Utilities Billing System
- Implemented new Land Management and 311 systems
- Major upgrades to Timekeeping, and Parks and Recreation systems
- Implement separate Charter School Finance System

Network/Security
- Integrated new 911 Call Center Phone System for emergency/non-emergency Public Safety Calls
- New desk phones at all City locations and wireless access upgrade at City Hall
- Expanded Fiber to North Reverse Osmosis Plant
- Wireless at Rotary, Four Freedoms and William Bill Austen Youth Center/ Eagle Skate Park
- Installed equipment on two new towers to collect wireless meter reads

Information Technology and Communications
- Improved data replication/storage capacity
- Expanded server capacity for new systems

Geographic Information Systems (GIS)
- Integrated GIS Mapping system to new Utilities Asset Management System
- Integrated GIS Mapping system to new Land Management and 311 System
- Updated all existing map applications and open datasets impacted by new systems
- Completed FY22 Redistricting Project

V.ii Key Projects planned for FY 2023 - 2024:

Business Applications
- Implement new PD Computer Aided Dispatch System
- Implement new HR Payroll and Timekeeper Solutions
- Develop custom web/workflow related solutions to improve productivity

- Develop & implement various mobile applications and/or mobile web capabilities to enhance interaction with the City for residents and obtain productivity improvements for employees

Network/Security
- Replace all 4 core networking switches
- Low-level Fiber ring design
- Expand City fiber ring to additional City assets
- Expand WiFi at parks
- Complete rollout of new VoIP phones

Information Technology and Communications
- Replace UPS Uninterruptible Power Supply at EOC
- Deliver all funded IT hardware and software solutions for the Real-Time Crime Center
- Relocate Disaster Recovery hardware to a more secure and hurricane proof facility
- Implement new IT Help Desk Software

GIS Applications
- Implement new GIS module to manage the city's fiber assets
- Map the city's existing fiber assets
- Update all existing map applications and open datasets impacted by new system
- Deliver Fire Inspectors App

VI Best practice frameworks

VI.i The COBIT Best Practice Framework for IT Governance

COBIT (Control Objectives for Information and related Technology) is the best practice framework for IT governance published by the Information Systems Audit and Control Association (ISACA.) COBIT version 5.0 provides control objectives applied to 37 high level IT processes categorized in five domains: Evaluate, Direct and Monitor; Align, Plan and Organize; Build, Acquire and Implement; Deliver, Service and Support; and Monitor, Evaluate and Assess. COBIT recommendations cover issues related to ensuring the effectiveness and value of IT along with information security and process governance.

In 2018, IT completed its migration to COBIT 5.0. COBIT 5.0 builds and expands on COBIT 4.1 by integrating other major frameworks, standards and resources, including ISACA's Val IT and Risk IT, Information Technology Infrastructure Library (ITIL®) and related standards from the International Organization for Standardization (ISO).

The continuously updated set of policies, procedures, and documents constitutes our IT governance and control manual. The latest versions of all these documents are available to all employees via the intranet. They are categorized by COBIT domain.

The ITIL framework has been utilized to build Service Support procedures covering Change Management, and Incident and Request Management. The COBIT 5.0 framework guides the review and development of all other IT processes.

Service Level Agreement (SLA) Development: In conjunction with the development of the ITIL procedures, formal SLAs were developed, agreed to by the user base, and published on the SharePoint intranet for the City and Charter Schools.

VII Project Management

Project Management – Major Projects
Formal Project Management techniques are employed for the implementation of major tasks including enterprise class application implementations and major infrastructure projects. The City utilizes project management principles from "A Guide to the Project Management Body of Knowledge", also known as the PMBOK® Guide. In many cases, an application vendor or implementation partner will have developed their own methodology which is compliant with PMBOK. The City will generally accede to utilizing these methodologies as they tie in closely to the vendor's experience in implementing their particular application. All these project management methodologies employ the following components:
- Assignment for roles:
  - Project Sponsor
  - Project Manager
  - Project team members with specific responsibilities including SMEs
  - Project stakeholders
- Project Charter
- Project Scope
- Execution Management
- Change control
- Detailed time/resource planning
- Cost management
- Quality control
- Communications
- Risk identification & management

Use is made of collaboration web sites and computerized toolsets including Microsoft Project.

Project Management – Routine and Small Scale Projects
IT frequently develops niche applications especially for the E-Government initiative. The applied man hours for these projects are limited – frequently being in the range of 40 – to 100 man hours. For these projects we utilize a lightweight Project Management approach. The main control feature is the "IT Project Form" which identifies:
- Project Sponsor
- Project Manager
- Project Developer(s)
- Project Description
- Summarized Purpose and Objectives
- Deliverables
- Date Required
- Benefits
- Costs and FTE man hours required

This document is reviewed and approved by the appropriate IT manager(s). A SharePoint area is used to track actions and optionally Microsoft Project may be used for a Gantt chart depending on scope.

VIII IT Enterprise Architecture & Standards

The City's approach to IT Enterprise Architecture is detailed within policy IT-APO02.03 IT Enterprise Architecture – Technological Direction Planning which is available on the IT SharePoint site.

The overall architecture structure is shown in the following table:

City of Cape Coral IT Enterprise Architecture

Infrastructure	Application
Network	Software
Platform	Data/Information
Security	

Plans for Infrastructure development are detailed in the annually updated IT-APO02.05 Technology Infrastructure Plan.

VIII.i Network Architecture

The City of Cape Coral IT environment resides on a Metropolitan Area Network (MAN) using optical fiber, leased lines and wireless infrastructure. The Public Safety (Fire and Police) network interlinks to the City network via optical fiber and is managed by routers and switches. The "remote" facilities with LANs consist of Parks and Recreation complexes; and some Fire Stations. Facilities located at the City Centrum including City Hall, the EOC/Fire Department Headquarters, City Complex building, and Police Headquarters are all fiber interlinked. Broadband cellular wireless using VPN/Private Network is used to provide field workers access to the central applications.

The Public Safety Network covers the Emergency Operations Center (EOC)/Fire Department HQ, the Police Headquarters building and an increasing number of Fire Stations – currently twelve. The Fire Stations are connected via gigabit fiber with five out of the twelve moved onto the City fiber ring.

Internet connectivity is provided by a 3 Gbps connection.

The City deploys a wireless network segments based on standardized protocols in the larger facilities. Within the City Hall complex and several Parks & Recreational sites there is a separate public network available for the convenience of residents, visitors, and the press.

In terms of the Voice network, VoIP technology is deployed.

- **Data Communications:** The City's data communication utilizes the TCP/IP protocol and is built on a 40Gb backbone connecting the two main data centers. LAN segments are connected using a combination of City owned optical fiber and CenturyLink supplied Metro-Ethernet circuits.
- **Wi-Fi:**
  - **Private WiFi:** The City deploys a secure system within the City Hall complex for employee use.
  - **Public Wi-Fi:** A separate public version is also used for the convenience of visitors, the public, and the press.
- **Voice Communications:** VOIP
- **Switching/Routing/Firewall environment:** The City deploys several leading technologies from leading manufacturers.
- **Mobile Computing:** The City has rolled out Microsoft and Apple devices to maintain efficiency in mobile computing as well as to advance the plan to "*go paperless*".

VIII.ii Internet and Intranet Network Architecture

The Internet/Intranet architecture supports the City's extensive E-Government deployment enabling residents and businesses to pay utility bills on-line, submit requests for service and complaints, renew licenses, search archives, view information and so on. Additionally the architecture supports web access for City employees.

- **Physical access to the web**: Physical connectivity is provided via dual public carrier Fiber utilizing separate carriers.
- **Server Infrastructure**
  - **Public Access Web server:** Various back-office e-commerce applications are hosted internally linked from the external site. This infrastructure provides extensive information for residents and the public at large and acts as the portal for web based E-Government services.
  - **Intranet Server:** Supports the City's employees. The intranet is SharePoint Online based and hosts a wealth of information including City wide regulations, policies and procedures, address listings, departmental policies and procedures and action registers for departmental and cross-departmental projects.
  - **Application and Database Servers:** Certain servers are required to be securely accessed by web users to support various E-Government services such as utility bill payment, license renewal, archive searching, etc.

VIII.iii Platform Architecture

- **Application and Database Servers:** Are generally standardized on the Microsoft platform.
- **Network Servers:** Microsoft Active Directory is used to support the City's LAN/WAN environment. A/D supports the directory services, authentication and authorization.
- **Systems:** The City uses a hyperconverged solution for all virtualized resources. This combines storage, processing, memory and networking in a very effective modular design.
- **Virtualization:** Extensive use is made of virtualization technology to consolidate servers and reduce cost.
- **Desktop environment:** Standardized desktop, laptop, tablet and ruggedized laptops models are deployed.

VIII.iv Software Architecture

Software architecture facilitates the selection and acquisition of commercial software and the design and development of niche applications to automate and maintain City processes and provide a foundation for interoperability, integration, collaboration, and communication. It also supports the economical and efficient provision of City information and services to residents. The policy at the City is to utilize Commercial Off the Shelf (COTS) applications wherever feasible and to take a cloud first approach. Internal development will be undertaken when only when dictated by cost or concerns or when the requirement is not available commercially. Additionally, report generation will be undertaken when an application does not provide the specific report format needed "out-of-the-box."

Business Application Software: Section IV.i above "Application Deployment across City Departments " describes the business application software currently in use across the City.

Personal Productivity Software: The Microsoft Office 365 Suite of products is deployed as the baseline for personal productivity. Microsoft Project is the standard for Project/Gantt charts and Microsoft VISIO is the standard for flow charting.

Microsoft SharePoint Online is used for internal collaboration.

Messaging Software: The City's messaging infrastructure utilizes Microsoft Outlook 365.

Web Development Architecture: The City's website is externally hosted externally and the content management system it a proprietary software tool.

VIII.v Data/Information Architecture

Data/Information Architecture focuses on the process of modeling the information that is needed to support the business processes and functions of the City. Data/Information Architecture outcomes are expressed in the form of data models, information flows, and analysis of inputs/outputs for city processes. This provides a framework for business process re-engineering and the optimization of City processes.

Given the City's application environment where commercial, off-the-shelf software provides the backbone applications that support City processes, the data architecture embedded within these systems provide the basis of the City's overall Data and Information Architecture.

In the context of the City, data and information flow modeling comes into play as a component of IT support for the City's Lean Government program where as part of the "kaizen" process it is required to generate Process Value Stream maps. Where information technology is either embedded in the process or its introduction can add value and/or eliminate waste, data modeling will typically be required.

VIII.vi Security Architecture

The City has an information security program in place to ensure the confidentiality, integrity, and availability of information, data, systems, and operations. The security of City systems must be architected in a manner that provides resilient, cost-effective, robust security while minimizing the effect on productivity. Periodic internal and external audits and vulnerability assessments are performed by qualified security experts to provide guidance on areas for development and enhancement. Security controls constraints apply to both the wired and wireless environments. Network authentication and the principle of least privilege are integral parts of the security architecture.

A comprehensive set of security related Policies and Procedures are maintained, many of which are posted on the IT section of the City's SharePoint intranet.

External Security Audits: Third-party audits addressing various aspects of the security infrastructure are commissioned routinely to assure the security infrastructure is robust and to identify areas for improvement.

IX IT related awards & recognition

The City was awarded 7th place in 2021 in the nationwide Center for Digital Government's Digital Cities Survey for Cities in the 125,000 – 250,000 population category, and 2nd place in 2020, 2019 & 2018.