Management Audit of the Building Operations Division of the Facilities and Fleet Department

**Prepared by the Management Audit Division
Of the Board of Supervisors
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May 21, 2018

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County of Santa Clara

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May 21, 2018

Supervisor S. Joseph Simitian, Chair
Supervisor Cindy Chavez, Vice Chair
Board of Supervisors' Finance and Government Operations Committee
70 West Hedding Street
San Jose, CA 95110

Dear Supervisors Simitian and Chavez:

We have completed the Management Audit of the Building Operations Division of the Facilities and Fleet Department. This audit was added to the Management Audit Division's Fiscal Year 2016-17 work plan by the Board of Supervisors of the County of Santa Clara, pursuant to the Board's power of inquiry specified in Article III, Section 302(c) of the Santa Clara County Charter.

This audit was conducted in conformity with generally accepted government auditing standards as set forth in the 2011 revision of the "Yellow Book" of the U.S. Government Accountability Office, except as described in the Introduction of this audit.

The purpose of this audit was to examine the operations, management practices and finances of the Building Operations Division, and to identify opportunities to increase the efficiency, effectiveness and economy. This report includes seven findings and 29 recommendations related to facility access and badging; work orders; trade contacts; inventory control and warehouse management; customer service; the Grounds unit; and, employee recruitment. In the attached response to this audit, the Facilities and Fleet Department "agrees" with all of our recommendations. Other County departments and agencies reviewed relevant portions of this report. Their responses are also attached.

Board of Supervisors:

| Mike Wasserman | Cindy Chavez | Dave Cortese | Ken Yeager | S. Joseph Simitian |
| District 1 | District 2 | District 3 | District 4 | District 5 |

County Executive: Jeffrey V. Smith

If implemented, these recommendations would:

- Protect the County from both material losses and potential liability resulting from unauthorized facilities access;

- Help the Division to better understand its current performance and make targeted improvements;

- Ensure the Division is in compliance with State law governing public works contracts, and maximize the efficiency of contract staff and contractors.

- Reduce the risk of loss and inefficiencies associated with difficulty locating tools and equipment;

- Provide more information to customer departments, which will improve Building Operations' relationship with them, and be more efficient for the customer;

- Restore the County's landscapes by strengthening the Grounds unit;

- Improve the ability of the Division to fill vacancies to ensure that it is sufficiently staffed to meet the County's facility maintenance and repair needs;

We would like to thank the Facilities and Fleet Department and its Building Operations Division for their cooperation and assistance throughout this audit.

We would also like to thank the Employee Services Agency, the Information Services Department and the Office of Sustainability for their helpful feedback to a draft of this report.

Respectfully submitted,

Management Audit Manager

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EXECUTIVE SUMMARY

Section 1 - Facility Access and Badging

Building Operations maintains the County-wide facility access system, which enables departments to create identification badges that unlock specific doors in County facilities. However, it lacks adequate procedures and centralized records for verifying whether Facilities and Fleet's own active badges belong to current or previous workers. This is not limited to Facilities and Fleet, however. Other departments may face the same problem due to the lack of County-wide procedures governing badge deactivation and destruction. The Board of Supervisors should adopt County-wide procedures on badges.

Section 2 - Efficiency of Maintenance and Repair Services

Building Operations is responsible for the maintenance and repair of 234 County-owned facilities that are currently operating. It uses a work order/maintenance task scheduling system to manage this work. However, Building Operations has no written standards governing the quality and timeliness of completing work orders. In addition, it does not know how long it currently takes to carry out work orders. As such, Building Operations should implement a six-month pilot of establishing clear deadlines for work orders, expected performance standards, and service levels. A follow-up audit should be conducted to review the new policies and procedures and evaluate staffing levels and productivity using the new data.

Section 3 - Use and Monitoring of Trade Contracts

Building Operations uses trade contractors to supplement its staff by assigning specific work orders to contractors. Most of these contracts are bid informally by the Division, and as a result are capped by State law at $175,000. A review of solicitations during the last three fiscal years found some contracts were bid as often as every 10 weeks. This practice raises statutory compliance concerns, is inefficient for Division staff, and in at least one instance has demonstrably increased costs. Building Operations should develop procedures for determining when the volume of work in a particular trade merits awarding a larger-dollar volume contract, which requires approval by the Board of Supervisors.

Section 4 - Inventory Control and Warehouse Management

Building Operations has numerous tools and pieces of equipment. Although it tracks tools and equipment assigned to specific workers in a spreadsheet, based on a sample taken by auditors, 7.4 percent of these items were unaccounted for. In addition, most warehoused tools and equipment have not been inventoried. Building Operations should develop policies and procedures to provide reasonable assurance against waste, theft, and loss of equipment and tools and to provide for improved Warehouse security. It should also inventory and add to its digital system all assets that are required by County policy to be inventoried and ensure that items are accounted for and readily locatable.

Section 5 - Customer Service

Building Operations gets a significant portion of its workload from other County departments requesting maintenance and repairs or upgrades. We surveyed 14 County departments who are Building Operations customers to assess their perceptions of customer service. Ten of 14 departments reported that when they submit a work order for a repair or facility improvement project, communication from the Division, other than acknowledging receipt of the order, is minimal. Building Operations should develop procedures to communicate work order status to customers, either using work order/maintenance task scheduling system or other methods.

Section 6 - Strengthening the Grounds Unit

The Grounds unit lies within the Building Operations' sub-division called Building Operations Support. It manages approximately 27 acres of landscapes around County-owned or leased facilities. It also manages the Santa Clara Valley Health and Hospital System campus. Generally speaking, all the County's landscapes are in poor condition, as evidenced by the photographs in this report. Facilities and Fleet should transfer the Grounds unit from Building Operations Support to another section whose manager has fewer direct reports, and designate a second Lead Gardener, for a total of two Lead Gardeners. The Employee Services Agency should create a new Supervising Gardener position with authority to manage the other Gardeners.

Section 7 - Improving Human Resource Management

Building Operations employs a variety of staff including but not limited to heating, ventilation, and air conditioning/refrigeration (HVAC/R) mechanics, plumbers, electricians, janitors, general maintenance mechanics, and gardeners. It has an overall vacancy rate of about 25 percent. Its vacancies are particularly concentrated in the trades. As of August 2017, the vacancy rates for carpenters, plumbers and HVAC/R mechanics were 50 percent, 33 percent, and 31 percent, respectively. Among other actions, Facilities and Fleet should work with the Employee Services Agency to establish an apprenticeship program to train individuals in the trades since large percentages of applicants are being removed from employment consideration because they lack the requisite apprenticeships.

Introduction

This *Management Audit of the Building Operations Division of the County of Santa Clara Facilities and Fleet Department* was added to the Management Audit Division's Fiscal Year (FY) 2016-17 work plan by the Board of Supervisors, pursuant to the Board's power of inquiry specified in Article III, Section 302(c) of the County of Santa Clara Charter. The Board added this audit after considering the annual County-wide audit risk assessment conducted by the Management Audit Division in accordance with Board policy.

Purpose, Scope and Objectives

The purpose of the audit was to examine the operations, finances, and management practices of the Building Operations Division of the Facilities and Fleet Department (FAF), and to identify opportunities to increase the efficiency, effectiveness and economy of the Division. Work on this audit began with an entrance conference on June 28, 2017 and a draft report was issued to the Building Operations Division on February 7, 2018.

We also sent the draft audit to the Office of the County Counsel, and relevant sections of the draft audit to the Employee Services Agency (ESA), Information Services Department (ISD), and the County's Integrated Pest Management (IPM) Program for review and comment.

An exit conference was held with the Building Operations Division on March 15, 2018.

A revised (final) report incorporating feedback from the exit conferences was issued to the Building Operations Division and the other stakeholder departments on April 24, 2018.

The audit's main objectives were:

- To assess facilities management, administration, operations, maintenance, janitorial, grounds keeping, and repair services;
- To evaluate procurement, management and performance of contractors; and
- To evaluate security controls in place to ensure the safety of County facilities, employees, and visitors.

Audit Methodology

We interviewed both management personnel and line level staff. Management interviewed included the director of FAF, the deputy directors of all FAF's divisions including Building Operations, and the assistant managers (or engineers in charge) of all Building Operations' units (Trades, Support, Logistics, Utility & Energy, and Administration).

In the Trades unit, we interviewed the Work Center Managers of all trades-specific work centers (HVAC/R, architectural, and electrical/plumbing) and all location-specific work

centers (the Elmwood Correctional Facility in Milpitas, the Civic Center at 70 West Hedding Avenue, and FAF's headquarters at 1555 Berger Drive). We interviewed other supervisory in the Support and Logistics units (e.g., janitor supervisors, lead gardener, etc.).

Line staff interviewed for this audit included various tradespeople such as HVAC/R mechanics, carpenters, painters, roofers, electricians, and plumbers, and other staff such as general maintenance mechanics, utility workers, janitors, and gardeners, among others. We asked for and were granted permission to "job shadow" a number of these workers to learn about their jobs. For example, we walked through the Main Jail with a plumber responding to service requests; "rode along" in a van with gardeners on their regularly-scheduled maintenance stops; and, observed MAC Room staff monitoring building systems.

We also interviewed the service managers (or similar staff) of 15 client departments to gauge their satisfaction with maintenance services. Specifically, interviews were held with managers in Behavioral Health Services, Clerk of the Board, Controller's Office, County Communications, County Counsel, Department of Correction, Information Services, Probation, Procurement, Public Defender, Registrar of Voters, Risk Management, Sheriff's Office, Social Services Agency, and Valley Medical Center's health clinics.

We reviewed Building Operations' current and prior year budgets and actual costs. We reviewed its direct billing and cost allocation plans for current and prior years. We also reviewed its contracts with firms in each of the trades. The contracts include amounts up to $175,000, which are competitively bid and awarded by Building Operations itself, and contracts exceeding that amount, which must be approved by the Board of Supervisors.

We analyzed data on demand requests (or work orders) and preventative maintenance (PMs) extracted from Building Operations' electronic work request system called *Archibus.* We also analyzed data from its inventory management system called *Checkmate*, which it uses to manage tools that are temporarily assigned to staff, and from a spreadsheet, which it uses to manage tools that are on long-term assignment to staff. We analyzed data from the County-wide facility access system called *Lenel*, which is operated by Building Operations, to verify whether Building Operations-issued badges belong to current or former employees. In addition, we surveyed the administrators of all County badge-issuing stations outside of Building Operations to identify their procedures for collecting, deactivating and destroying the badges of separated staff.

We surveyed the 10 most populous counties in California to identify and compare key facilities management policies and procedures in those counties against the County of Santa Clara. The results of this survey are provided as Attachment I.1.

We reviewed all relevant local laws and regulations regarding facilities management including the County Charter, ordinances addressing safety and environmental compliance, administrative policies and procedures from the Board of Supervisors and

County Executive's Office, as well as state and federal laws and regulations. A list of these laws is provided as Attachment I.2.

Compliance with Generally Accepted Government Auditing Standards

This management audit was conducted under the requirements of the Board of Supervisors Policy Number 3.35 as amended on May 25, 2010. That policy states that management audits are to be conducted under generally accepted government auditing standards (GAGAS) issued by the U.S. Government Accountability Office. We conducted this performance audit in accordance with GAGAS as set forth in the 2011 revision of the "Yellow Book" of the U.S. Government Accountability Office. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. In accordance with these auditing standards, we performed the following procedures:

<u>Audit Planning</u> - The task plan for this audit was developed after reviewing our annual County-wide audit risk assessment relative to Building Operations, reviewing the results of the Grand Jury Report on Jails and Building Operations, and speaking with the Director of FAF.

<u>Entrance Conference</u> - An entrance conference was held with FAF management to introduce the audit team, describe the audit program and scope of review, and to respond to questions. A letter of introduction from the Board, the audit work plan and a request for background information were also provided at the entrance conference.

<u>Pre-Audit Survey</u> - Audit staff reviewed documentation and other materials to obtain an overall understanding of the Department's operations, and to isolate audit areas that warranted more detailed assessments.

<u>Field Work</u> - Field work activities were conducted after completion of the pre-audit survey, and included: (a) interviews of all levels of Building Operations staff; (b) interviews with the Service Managers of client departments; (c) analyses of data collected from *Archibus*, *Checkmate*, *Lenel* and other electronic systems; (d) tours of the warehouses at Berger Drive; (e) walk-alongs and ride-alongs with tradespeople; and, (f) peer benchmarking to identify how other governments organize and execute their facilities maintenance function.

<u>Draft Report</u> - On February 7, 2018, a draft report was provided to Building Operations to describe the audit progress, and to share general information on our preliminary findings and conclusions. We also provided the draft report to County Counsel, and relevant sections of the draft report to ESA, ISD, and the County's IPM Program for feedback.

Exit Conference – An exit conference was held with FAF management on March 15, 2018 to obtain views on the report findings, conclusions and recommendations, and to make fact-based corrections and clarifications as appropriate. Following these meetings, a revised draft was provided to Building Operations and others on April 24, 2018 for use in preparing their formal written responses.

Final Report - A revised (final) report was prepared and issued on May 21, 2018. Written responses attached to the final report.

Background and Staffing

Building Operations, also referred to as Facilities Management, is a division of the County of Santa Clara Facilities and Fleet Department (FAF). Building Operations is responsible for performing all maintenance services for County facilities. To perform these services, Building Operations employs a variety of staff including but not limited to heating, ventilation, and air conditioning/refrigeration (HVAC/R) mechanics, plumbers, electricians, janitors, general maintenance mechanics, and gardeners.

Building Operations is currently authorized to fill 211.0 full-time equivalent (FTE) positions, which are included in the FY 2017-18 Approved Budget. The following is a brief description of each position, *in alphabetical order*.

Administrative Services Manager II (1.0 FTE): This position plans, organizes, directs and coordinates the central administrative services of the Building Operations Division to assist management in the formulation and implementation of administrative policies and procedures.

Associate Management Analyst B (1.0 FTE): Under close supervision, initially in a training capacity, this position conducts or assists in conducting of a variety of analytical, staff studies and/or projects for assigned departmental activities.

Assistant Manager, Building Operations (2.0 FTEs): This position manages the Building Operations Division in the absence of the Building Operations Manager, and assists in the management of the County's real property infrastructure and facilities maintenance activities.

Building Inspector (2.0 FTEs): This position inspects the construction or alteration of buildings and structures, and installation of equipment for compliance with applicable codes and ordinances.

Building Operations Supervisor (1.0 FTE): This position supervises crews of tradespeople and performs activities to complete assigned in-house work plans according to specification for the maintenance, repair, construction and alteration of the County's real property and facilities.

Building Systems Monitor (2.0 FTEs): This position operates a computer terminal in monitoring the status of building operating systems and receives service calls in the County's Monitoring Automation Center (MAC Room).

Capital Projects Manager II (1.0 FTE): This position provides project management, liaison, inspection and contract administration for the design, construction and modification of County buildings and structures.

Carpenter (14.0 FTEs): This position performs skilled carpentry work in the maintenance and remodeling of buildings and related equipment.

Custodial Services Manager (1.0 FTE): This position manages the custodial services for the County; plans, schedules, assigns and supervises work; and, inspects facilities.

Deputy Director of FAF, Building Operations (1.0 FTE): This position manages the operations and staff of both the Building Operations Division and the Fleet Management Division.

Electrician (13.0 FTEs): This position installs, maintains and repairs electrical wiring systems and related equipment and fixtures.

Electronic Repair Technician (6.0 FTEs): This position maintains, repairs and installs a variety of solid state devices and systems.

Elevator Mechanic (2.0 FTEs): This position maintains and repairs elevators and auxiliary equipment, including electrical circuitry.

Executive Assistant I (1.0 FTE): This positions performs administrative and secretarial work and provides general office management for the Deputy Director of FAF, Building Operations.

Facilities Materials Coordinator (2.0 FTEs): This position coordinates the work activities related to picking up, receiving, storing and delivering a variety of tools, materials, equipment and other related items to a County warehouse, facility or construction job site.

Gardener (11.0 FTEs): This position performs skilled gardening and maintains landscapes, including plant life and grounds of County facilities.

General Maintenance Mechanic II (16.0 FTEs): This position performs semi-skilled work in the maintenance and repair of mechanical and electrical equipment, buildings, hospital and office furniture and equipment; performs chemical water treatment; and, maintains a tool crib.

General Maintenance Mechanic III (6.0 FTEs): This position performs skilled work in the maintenance and repair of mechanical and electrical, buildings, hospital and office furniture equipment.

HVAC/R Mechanic (16.0 FTEs): This position inspects, services and repairs a variety of refrigeration and air conditioning units, and centrifugal or reciprocating chillers.

Information Systems Analyst II (1.0 FTE): This position interacts with information system users; gathers and analyzes information; develops possible solutions to department information processing problems; and, coordinates and implements hardware and software systems additions and enhancements.

Information Systems Technician III (1.0 FTE): This position performs a variety of highly complex technical duties relating to troubleshooting, monitoring and operating of information systems and equipment.

Janitor (43.0 FTEs): This position cleans and cares for an assigned building or building area and performs watch duties for an assigned building or building area, and performs as a member of a work projects crew.

Janitor Supervisor (3.0 FTEs): This position plans, assigns, inspects and supervises the work of a group of janitors and others in the cleaning, maintenance, repair and security of assigned building and areas.

Locksmith (3.0 FTEs): This position installs, maintains and repairs locks and makes keys.

Maintenance Project Manager (7.0 FTEs): This position develops, organizes, plans, directs and manages the building maintenance, repair and minor improvement projects for County real property and facilities.

Management Analyst (2.0 FTE): This position conducts a wide variety of administrative, analytical, and staff studies and/or projects for assigned departmental activities; analyzes programmatic practices and procedures; and, makes recommendations for organizational, operational, policy, and procedural improvements.

Office Specialist III (2.0 FTE): This position performs a wide variety of moderately complex and responsible assignments requiring comprehensive knowledge of subject matter, organizational activities and operations.

Painter (6.0 FTEs): This position prepares surfaces, mixes, matches and applies a variety of paints and paint products to the interior and exterior of buildings, equipment, furniture and machinery.

Plumber (12.0 FTEs): This position performs skilled plumbing work in the installation, alteration, maintenance and repair of water, sewer and other plumbing systems.

Project Control Specialist (5.0 FTE): This position estimates, schedules and coordinates work order requests of the Building Services Division, and coordinates and supervises maintenance and remodeling programs in the County.

Roofer (4.0 FTEs): This position installs, services and performs scheduled maintenance, and conducts new construction and repair of existing roofing systems and waterproofing on County's real property and facilities.

Senior Carpenter (1.0 FTE): This position supervises and coordinates the daily activities of Carpenters; performs journey level carpentry work; and, participates in all phases of carpentry projects.

Senior Construction Inspector (1.0 FTE): This position performs difficult and complex work in the contract administration and technical inspection of the construction and contracted maintenance work on roads, parks, airports, bridges, major buildings, related major public works, transit construction and land development projects; and, he/she may supervise Construction Inspectors and Aide subordinates.

Senior Electrician (1.0 FTE): This position supervises and coordinates the daily activities of Electricians; performs journey level electrician work; and, participates in all phases of electrician projects.

Senior Facilities Engineer/Architect (1.0 FTE): This position provides planning, engineering, or architectural design, construction and facilities management services either directly or through subordinate staff.

Senior HVAC/R Mechanic (1.0 FTE): This position supervises and coordinates the daily activities of HVAC/R Mechanics; performs journey level HVAC/R work; and, participate in all phases of an electro-mechanical maintenance program.

Senior Painter (1.0 FTE): This position supervises and coordinates the daily activities of Painters; performs journey level painting work; and, participates in all phases of paint projects on County buildings, equipment, furniture and machinery.

Senior Plumber (1.0 FTE): This position supervises and coordinates the daily activities of Plumbers; performs journey level plumbing work; and participates in all phases of the County's plumbing program.

Senior Warehouse Materials Handler (1.0 FTE): This position provides lead supervision and participates in the receipt, storage and delivery of a variety of materials in a large County warehouse.

Utility Worker (8.0 FTEs): This position performs a variety of building and grounds cleaning, maintenance and repair tasks.

Work Center Manager (7.0 FTEs): This position manages a work center of the Building Operations Division that carries out the in-house maintenance, repair, construction and alteration of the County's real property and facilities.

Building Operations Organization

As a division within FAF, Building Operations is managed by a Deputy Director and consists of five units (Trades, Support, Logistics, Utility & Energy, and Administration), as illustrated in Chart I.1 below. Each unit is managed by an Assistant Manager, or a Utilities or Facilities Engineer. The Utility & Energy and Administration units manage nine different consultants.

Chart I.1
Building Operations Division
Organizational Chart
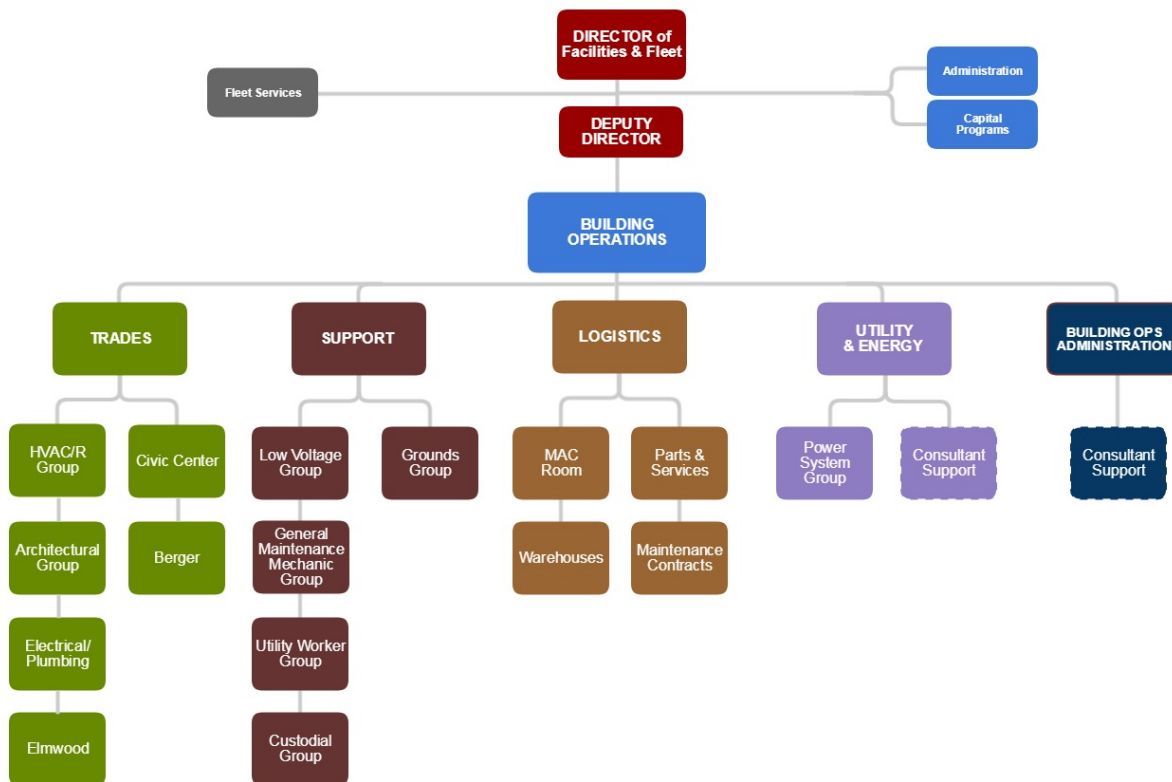
FY 2017-18 Approved Budget

The FY 2017-18 Approved Budget for Building Operations includes gross expenditures of approximately $39.9 million, which are offset by anticipated expenditure reimbursements of approximately $6.1 million and transfers in of $400,000, for net expenditures of approximately $33.3 million, as shown in Table I.2 below.

Table I.2
Building Operations FY 2017-18 Budget

FY 2017-18	Budgeted Amount
Expenditures	
Salaries & Benefits	$ 27,810,872
Other Expenses	12,064,595
Expenditures Total	**39,875,467**
Revenues	
Expense Reimbursements	6,127,008
Revenues Total	**6,127,008**
Transfers In	**400,000**
Net Expenditures	$ **33,348,459**
Maintenance Reserve	$ 11,200,000

Source: Cost Center 026304, Report: ZFMP003, County's SAP Accounting System.

As discussed later in this Introduction section, the Board of Supervisors reserved approximately $11.2 million for maintenance, which when added to the above-noted Salaries & Benefits of approximately $27.8 million amount to $39.0 million, and comply with the Board's policy of funding maintenance at 2 percent of the value of all County facilities.

Department Accomplishments

Audits typically focus on opportunities for improvements within an organization, program or function. To provide additional insight into the Building Operations Division of FAF, we requested that it provide some of its noteworthy achievements. These are highlighted in Attachment I.3.

Survey of Other Counties

As previously noted, we surveyed the 10 most populous California counties. Three counties completed the survey (Riverside, Sacramento and Ventura). Despite the low response rate, we gained insightful responses from the survey. When appropriate, we included the survey responses in this audit report. We note the survey responses are self-reported data, and we did not verify the accuracy of the data.

Topics Requiring Additional Review

During the course of a management audit, certain issues may be identified and brought to the attention of the agency being audited and the Board of Supervisors, even though a specific finding is not included in the report due to insufficient time to complete the analysis, or other factors. Two such matters are described below.

Certain Types of Facilities May Require a Greater Level of Maintenance Funding Than the Board of Supervisors' 2 Percent Policy

In 1998, the Board of Supervisors adopted a policy to set a level of funding for facilities maintenance based on the value of County-owned buildings. That policy states:

> *"The preventative maintenance annual funding standard shall be 2% of the facility value."*
> – Policy 4.11.3, Board Policy Manual.

We note the term "preventative maintenance" is somewhat of a misnomer because Building Operations uses funding for both ongoing maintenance and preventative maintenance to comply with the 2 percent standard.

Building Operations staff reported that historically the Board has not allocated enough funds to comply with the standard, except over the last two fiscal years.

For FY 2016-17, Building Operations determined that the Board needed to allocate $34.1 million to comply, which was about 2 percent of the current replacement value or CRV of all County-owned buildings of $1.7 billion at the time. As part of the annual budget process the Board set aside a $14.2 million reserve for facilities maintenance. This plus $23.2 million for regular maintenance staffing, services and supplies in Building Operation's budget amounted to $37.4 million, or $3.3 million more than what was required to meet the standard. To put a finer point on it, in FY 2016-17, the Board funded facilities maintenance at about 2.2 percent of the value of all facilities.

For FY 2017-18, based on total CRV of $1.8 billion, which was updated in February 2017, Building Operations determined that the Board needed to allocate $36.0 million to comply with standard. The Board allocated a maintenance reserve of $11.2 million. This plus $27.8 million for regular maintenance staffing, services and supplies amounted to $39.0

million, or $3.0 million more than what was required to comply. Thus, facilities maintenance was again funded at about 2.2 percent of the value of all facilities.

However, in September 2017, total CRV increased by $500 million, from $1.8 billion to $2.3 billion, primarily as a result of large CRV changes to correctional facilities. It is unclear from this preliminary analysis if and how these changes could have been anticipated. The Management Audit Division suggests that Building Operations realign the timing of CRV updates with the Board's annual budget process. This would ensure that the Board has the most up-to-date information as it allocates funds for maintenance for the entire year.

We suggest that Building Operations review if large CRV changes to correctional facilities (and other types of facilities) between CRV updates have caused total CRV to fluctuate significantly in the past. If Building Operations determines that such facilities are driving total CRV, then the Board could consider increasing the 2 percent standard for them, only.

Building Operations is Not Compliant with Parts of the Procurement Department's Small-Dollar Purchase Policy Using Field Purchase Orders

Field Purchase Orders (FPO) are a mechanism through which the Director of Procurement can delegate small-dollar purchasing authority to County departments. To receive this authority, departments must comply with requirements set forth by the Procurement's *Small Dollar Purchase Policy Using Field Purchase Orders*. Among other requirements, this policy dictates that:

1) the total cost of a FPO may not exceed $5,000 per purchase, including all additional charges such as tax and freight;
2) departments are required to notify the appropriate staff buyer in Procurement when their FPO acquisitions from a single vendor total more than $25,000 in one fiscal year;
3) departments may not use FPOs for items or services covered by an existing County contract; and
4) P-Cards should be used as the first purchasing option.

Based on FY 2016-17 FPO data extracted from SAP, we found that Building Operations' usage of FPOs was not in compliance with some of the above-noted requirements. The data shows that Building Operations issued approximately $1.4 million in FPOs to 197 vendors during FY 2016-17. While none of Building Operations' *individual* purchases exceeded $5,000 during this period, it did not report 10 single vendors from whom purchases totaled more than $25,000 in the year, and the County has existing service or procurement contracts with three of these vendors, a condition which precludes the use of FPOs for these suppliers.

Building Operations' management stated that the Division recently developed procedures to reduce the excessive use of FPOs. For instance, every week an Assistant Manager reviews financial activity associated with contracted vendors in SAP, and if he sees an FPO issued to one of these vendors, he will contact the relevant Work Center Manager and request details on why Procurement's purchase policy was not followed. The Management Audit Division suggests that Building Operations adopt formal written procedures to reduce the excessive use of FPOs, and place them in the Division's policies and procedures manual.

P-Card Usage

Building Operations reported that its staff may be using FPOs in lieu of P-Cards due to the extensive restrictions surrounding P-Card use. As noted above, FPOs totaled $1.4 million in FY 2016-17, while P-Card transactions totaled $435,498 in the same fiscal year. In addition, according to Building Operations, there may be staff trepidation around inadvertently using a P-Card for an inappropriate transaction. To ensure that staff are not issuing FPOs in lieu of using P-Card per Procurement's purchase policy, Building Operations should administer an assessment on P-Card policies to all individuals responsible for the Division's purchasing. If the results of this assessment are poor, Building Operations should solicit Procurement for additional training.

In addition to staff knowledge gaps around P-Card policies, Building Operations reported further challenges around using P-Cards for items available through master contracts. In order to purchase an item available through a master contract using a P-Card, Building Operations has to obtain P-Card exemption authorization from Procurement. Building Operations may choose to request this exemption authorization due to master contract vendors not stocking the correct parts or having stores that are not locally situated. However, the Division reported that this process of receiving P-Card exemption authorization takes considerable time, and urgent repairs require a more immediate avenue of acquiring parts. The Division thus issues FPOs as an alternative.

While using FPOs in these instances may be a more effective and efficient way to address work requests, FPOs are subject to fewer oversight mechanisms than P-Cards, posing a risk to County funds. Further, the liberal use of FPOs, even if justified, violates County Procurement policy, as described above. The Management Audit Division suggests that Building Operations work with Procurement to create an expedited mechanism for obtaining P-Card exemption authorization for urgent work requests.

Recommendation Priorities

The priority rankings shown for each recommendation in the audit report are consistent with the audit recommendation priority structure adopted by the Finance and Government Operations Committee of the Board of Supervisors, as follows:

Priority 1: Recommendations that address issues of non-compliance with federal, State and local laws, regulations, ordinances and the County Charter; would result in increases or decreases in expenditures or revenues of $250,000 or more; or, suggest significant changes in federal, State or local policy through amendments to existing laws, regulations and policies.

Priority 2: Recommendations that would result in increases or decreases in expenditures or revenues of less than $250,000; advocate changes in local policy through amendments to existing County ordinances and policies and procedures; or, would revise existing departmental or program policies and procedures for improved service delivery, increased operational efficiency, or greater program effectiveness.

Priority 3: Recommendations that address program-related policies and procedures that would not have a significant impact on revenues and expenditures, but would result in modest improvements in service delivery and operating efficiency.

Acknowledgements

We would like to thank the Director of the Facilities and Fleet Department for opening up the FAF-Building Operations Division for this analysis. We would also like to thank the Deputy Director of Building Operations and his entire staff for their assistance and cooperation throughout the audit. They provided much of the data contained in this report, and provided helpful feedback to a draft of this report. We especially appreciate the assistance and cooperation of Building Operations staff who allowed us to observe their day-to-day work activities.

County	Agency	How much space is your agency responsible for maintaining?	Ongoing maintenance annual budget	Preventative maintenance annual budget	Maintenance funding standard (eg, 2% of facility value)?	What facilities management system does your agency use?	What is that system's functionality?	Does your system provide status updates to client departments?	How does your agency obtain feedback from client departments?	How are your county's facilities secured?	If employee badges are used, how are they promptly deactivated upon separation?	Does your agency use infomal bidding per Code Section 232034?	Does your agency award contracts of up to $3M per Code Section 20128.5?	Does your agency maintain a warehouse?
Riverside	Economic Development Agency, Facilities Management	7.5 million square feet	$ 30,000,000	$ 24,000,000	No	Current system was developed in-house	Schedule & manage maintenance tasks; analyze costs; and access data via mobile devices	No, we generate aging reports.	We conduct bi-monthly surveys.	Employee IDs; physical locks & keys	Upon HR notification	We use informal and formal bidding per code per cost of item.	We utilize primary awarded vendors, RFPs & RFQs, job order contracting and EZIQ processing…to name a few.	Yes, we do witin our limitation and capability of inventory control.
Sacramento	Department of General Services	133 County-owned facilites & 119 leased facilities	$ 23,347,285	$ 14,977,024	2% of acquisition plus improvements (the old OMB A-87 standard)	Tririga - purchased from vendor	Schedule & manage maintenance tasks; inventory assets; and measure performance	Yes, we use an online web request for services.	Our system auto generates a survey that is emailed to the customer after the work order is complete to gauge the customer's satisfaction.	Digital badges & readers; employee IDs; and physical locks & keys	We have an employee separation checklist that prompts the supervisor to request badge de-activation.	No	Yes	We don't maintain a warehouse for maintenance items. We purchase items as needed from local vendors. Tools are on our trucks.
Ventura	County of Ventura	100 facilities	$ 7,800,000	$ 3,900,000	No	MainStar - purchased from vendor	Schedule & manage maintenance tasks; inventory assets; and analyze costs. Has separate PM scheduling module.	No	We randomly survey work orders & annually survey our customer base.	Digital badges & readers; and physical locks & keys	Managers complete separation form/checklist which include deactivation of badges, collection of keys.	Respondent skipped this question	Respondent skipped this question	Respondent skipped this question

Attachment I.1

Local policies as well as State laws and regulations relevant to Building Operations include but are not limited to:

Local

- ➢ Board Policy 3.57: Record Retention and Destruction Policy
- ➢ Board Policy 4.11-4.11.6: Policy for Planning, Reporting, and Financing Capital Projects
- ➢ Board Policy 5.3-5.3.6: Contracting Authority
- ➢ Board Policy 5.4-5.4.6: County Contracting Activities
- ➢ Board Policy 5.8-5.8.6: Architect-Engineers-Construction Project Management and Other Related Contracts
- ➢ Board Policy 7.10: Energy Efficiency Standards for New Building Designs, Facility Leases, Equipment, and Exploration of Solar Energy and other Renewable Resources
- ➢ Board Policy 7.1: Tree Preservation Policies
- ➢ Board Policy 7.14-7.14.6: Green Building Policy For County Government Buildings
- ➢ Board Policy 8.3: Green Cleaning Policy
- ➢ Board Policy 8.4: Zero Waste Policy for County Facilities and Operations
- ➢ Board Policy 8.5: Sustainable Landscaping Policy
- ➢ Parking and Parking Violation Penalties on County-owned property except for the Social Services Agency and the Santa Clara Valley Medical Center campus.

State

- ➢ California Code, Public Contract Code (PCC) 20101: Regulations on bidding and perspective bidders.

- ➢ California Code, PCC 20122: In counties containing a population of 500,000 or over, the work referred to in Section 20121 need not be done by contract if the estimated cost thereof is less than $6,500, exclusive of the estimated cost of materials or supplies to be furnished pursuant to Section 20133.

- ➢ California Code, PCC 22032: (a) Public projects of $45,000 or less may be performed by the employees of a public agency by force account, by negotiated contract, or by purchase order. (b) Public projects of $175,000 or less may be let to contract by informal procedures as set forth in this article. (c) Public projects of more than $175,000 shall, except as otherwise provided in this article, be let to contract by formal bidding procedure.

County of Santa Clara

Facilities and Fleet Department

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San Jose, California 95131-1011
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February 24, 2018

To: Cheryl Solov, Contract Management Audit Manager
                 Santa Clara County Board of Supervisors, Management Audit Division

From: Jeff Draper, Director, Facilities and Fleet Department
                 Facilities and Fleet Department

CC: Sylvia Gallegos, Deputy County Executive
                 Gabe Cabrera, Contract Management Audit Project Manager

Subject: Management Audit of the Building Operations Division of the Facilities and Fleet
                 Department- Department Accomplishments

Thank you for the opportunity to provide a description of the Building Operations Division accomplishments. The Facilities and Fleet Department (FAF) forwards the comments below for consideration at the Exit Conference meeting scheduled for March 15, 2018.

Five Year Strategic Business Plan

On April 11, 2017, Item No. 17, the Board of Supervisors received the report on the use of the maintenance reserve. Within this report, the strategic plan to improve performance on preventive maintenance was outlined and included the following:

1. Upgrade the Archibus work order management information system. Significant progress has been made to implement the upgrade to date, including sandbox user acceptance testing of new functionality and reporting, and documentation of process and procedures to create new business processes. The upgrade is on track to go-live in April 2018. This version will also provide mobile work force management and allow for the addition of the Real Property Asset and Capital Planning modules.
2. Consultant Services for comprehensive building system and equipment inventory, and updated facility condition assessments. This will confirm the preventive maintenance schedule for all facility systems and components, planned capital replacement program (backlog), and validate the Current Replacement Value of the portfolio.
3. Departmental Staffing Reorganization that included restoration of craftworker and Senior positions from the budget reduction years, Assistant Managers, development of the Power Systems group to refocus high and medium voltage system major maintenance, additional project managers for service contract and major maintenance project support and added support for sustainable landscaping and tree maintenance.

Board of Supervisors: Dave Cortese, Mike Wasserman, Cindy Chavez, Ken Yeager, S. Joseph Simitian
County Executive: Jeffrey V. Smith

Progress in accomplishing Maintenance and Repairs

Over the past 90 days, Building Operations division has worked to address preventive maintenance and service call open work orders. This effort has reduced the overall open work order summary value by 3,000. The division is using every possible solution to do this considering the challenges to fill vacant positions, including contracted services and targeted major maintenance projects. Also of note, major maintenance repairs related to HVAC systems were successfully delivered to the County Government Center and Berger Building 2.

Active engagement in Capital Project Design

The Building Operations division is continuing to develop trade-based standards for use in the design phase of projects. In addition, staff has committed to actively participate in design meetings for new construction so that sustainable maintenance practices can result from the projects.

Support for Jail Reform efforts

Building Operations has adjusted maintenance practices and worked to provide a high level of response so that jail facilities remain operational. A significant number of maintenance projects to benefit jail operations have been delivered. FAF has improved communications with the Office of the Sheriff Custody Bureau and the Department of Corrections.

Support for Unplanned High-Priority Work

Building Operations division has supported a high level of unplanned work resultant from Board of Supervisors' priorities, and urgent policy requirements. Recent projects delivered include the Sobering Center, the South County Re-Entry Resource Center, temporary expansion of the Hamlin Shelter capacity, the Crisis Stabilization and Residential Treatment facility, signage and painting to reorganize parking at the Government Center, maintenance and repairs of triple-net leased facilities, installation of many Surface Hubs, security access reconfigurations, and more.

Responsibility for Data and Low Voltage Cabling

Building Operations division assumed responsibility for all data and low-voltage cabling, performing minor public works with force labor including electricians. Building Operations does the layout and provides scope of work for major maintenance and capital improvement cabling projects.

Enhanced Janitorial Services

Building Operations now provides extra days, nights, and weekend support for Evans Lane and County Communications, which are 24/7/365 facilities.

FEMA Reimbursement

Building Operations responded to the 2017 President's Day storm floods at Main Jail South, 852 N First Street, and James Ranch. FAF also responded to trees down that damaged facility infrastructure at the County Government Center, James Ranch, 725 E Santa Clara. Because of the extensive documentation within the Archibus work order management system and field records and reports, FAF was able to apply for $450,000 in reimbursement.

<u>Water Management</u>

Building Operations division expanded the water monitoring and sampling to include all cooling towers at County facilities, and domestic water throughout seven campuses. This provides data and reporting to confirm potable water is safe for occupants.

Section 1.   Facility Access and Badging

Background

Building Operations maintains the County-wide facility access system, which enables departments to create identification badges that unlock specific doors in County facilities. Badges are for employees, temporary employees, extra help, contractors, and interns (workers). County Departments request facility access for their workers, and Building Operations implements these requests for most departments. Exceptions include the Health and Hospital system and several leased facility department users such as the Department of Child Support Services, which maintain their own facility access systems. The Division also resolves software and system problems, maintains badge readers, and prints all Facilities and Fleet (FAF) Department badges. In September 2017, the Division maintained 12,867 active badges Countywide.

Problems and Adverse Effects

Building Operations lacks adequate procedures and centralized records for verifying whether FAF's own active badges belong to current or previous workers. This is not limited to Building Operations, however. Other departments may face the same problems due to the lack of uniform policies governing badging throughout the County. The Division does not regularly generate and distribute periodic reports of active badges for either FAF or other County departments. Further, there are eight separate departmental badge-issuing stations, all of which operate according to their own procedures. There is no tracking of deactivated badges, which could be used to gain access to County facilities, even if deactivated badges can no longer unlock doors. At least 28, or 4.9 percent, of FAF's active badges belonged to workers who had left FAF's employ anywhere between one and five years prior. Given the lack of County-wide policies governing badge deactivation and destruction, it is likely that separated workers from other County departments have active badges as well. Applying the rate of FAF badges that should not have been active to the number of badges Building Operations maintains, equates to an estimated minimum of 624 unauthorized individuals with access to County facilities.

Recommendations, Savings and Benefits

The Board of Supervisors should adopt County-wide policies governing badge deactivation and destruction, which require periodic comparison of active badges to active workers and require physical badges be tracked in a proposed Information Services Department hardware asset management system. Building Operations should create and maintain a central record of FAF workers that have left County service. Doing so will improve Building Operations' capacity to verify the accuracy of its active badges. This will reduce the number of individuals with unauthorized access to County facilities, thereby improving security.

BACKGROUND

The Security Risks of Inappropriate Insider Access to Facilities

When it comes to data security and physical safety, insider threats are a serious concern. One specific group of insiders, former employees, are particularly dangerous due to their knowledge of internal systems and access credentials, building layouts, and critical files. This insider familiarity, combined with potentially malicious motives stemming from unideal circumstances around separation, make departed staff a potent security threat. In 2014, the Department of Homeland Security issued a public safety announcement stating that the cost to each business, as a result of actions of disgruntled or former employees, ranged from $5,000 to $3 million.[1]

While many security breaches involve information technology systems and remote activity, continued facility access for former employees can also result in losses and liabilities for an organization. For instance, in January of 2017, a former employee at a Bay Area company used an active employee's access credentials to enter one of the company's facilities and steal approximately $50,000 worth of electronics.[2] Furthermore, while electronic data breaches are becoming more common, a former employee with inappropriate facility access may also acquire hard-copy records and personnel information.

Continued facility access of separated workers can threaten the physical safety of current personnel and clientele. While violent attacks by former employees are rare relative to instances of theft and data breaches, they do occur. In a highly publicized incident on June 30, 2017, a former doctor at a Bronx hospital opened fire in his old workplace, leaving one dead and six injured.[3] Several weeks prior in Orlando, an individual walked into a business at which he was formerly employed and shot and killed five people.[4] According to the CEO of Kiernan Group Holdings, a business management consulting firm specializing in law enforcement and security, one of the first steps in preventing these types of incidents is to ensure that separated employees can no longer access their former workplace.[5] Thus, to improve the security of both its information and current workers and clientele, it is crucial that the County utilize a robust facility access system with up-to-date credentials.

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[1] Department of Homeland Security, 2014. *"Increase in Insider Threat Cases Highlight Significant Risks to Business Networks and Proprietary Information."* Retrieved from https://www.ic3.gov/media/2014/140923.aspx.

[2] Geha, J. (2017, Feb. 1). Fired Tesla employee allegedly returned four times to steal laptops, electronics. *East Bay Times.* Retrieved from http://www.eastbaytimes.com/2017/02/01/fremont-ex-employee-arrested-for-allegedly-stealing-teslas-electronics.

[3] Nir, S. (2017, Jun. 30). Doctor Opens Fire at Bronx Hospital, Killing a Doctor and Wounding 6. *The New York Times.* Retrieved from https://www.nytimes.com/2017/06/30/nyregion/bronx-hospital-shooting.html.

[4] Croft, J. & Grinberg, E. (2017, Jun. 6). Gunman 'singled out' victims in Orlando shooting spree. *CNN.* Retrieved from http://www.cnn.com/2017/06/05/us/orlando-fatalities/index.html.

[5] Berman-Gorvine, M. (2017, Jul. 10). When Ex-Employees Turn Violent, HR Is on the Front Line. *Human Resources Report.* Retrieved from https://www.bna.com/exemployees-turn-violent-n73014461347.

Building Operations' Management of the County's Facility Access System

The Building Operations Division of FAF maintains the County-wide facility access system, which runs on a security platform called Lenel. Building Operations' Lenel administrator encodes different "access levels" within the software based on the requests of County departments. These access levels correspond to badge readers and other access hardware installed within County facilities. Access levels determine which badges open which doors, and when. Health and Hospital departments, including Valley Medical Center, have a separate system that was not reviewed as part of this audit.

After access levels are created by the Lenel administrator with input from department heads, the Lenel administrator makes these levels available to the departmental badge-issuing stations, which assign access levels to employees according to the instructions of department managers. Departments have full discretion over which access levels are encoded into their workers' badges. Outside of FAF, Building Operations does not make any determinations on who is allowed into which County Facilities.

The stations then print out photo identification badges that correspond with these permissions. Across the County, there are eight departmental badge-issuing stations. Six of these stations can assign permissions and print badges for their own department only. Two stations, the one in Building Operations and the one in the Employee Services Agency (ESA), can also print badges for external departments that do not have their own stations (e.g., Registrar of Voters, Clerk of the Board, Procurement, etc.). For a summary of this badging process, see Chart 1.1.

Once an employee leaves the County, they must return their badge to their department to be deactivated and destroyed.[6] Each department has its own procedures for collecting, returning, and destroying its badges. While there is County-wide policy that requires decommissioning badges from all separating workers, there is no policy that dictates guidelines over deactivating and destroying these badges.

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[6] This process applies to badges with names only. These badges are furnished to long-term employees, temporary employees, extra help, contractors, and interns. FAF also keeps generic pool badges for its own workers that must be checked in and out for short-term use. Other departments with badge-issuing stations may create pool or temporary badges for their internal use as well.

Chart 1.1[7]
Access Level Assignment and Badge Issuing Process
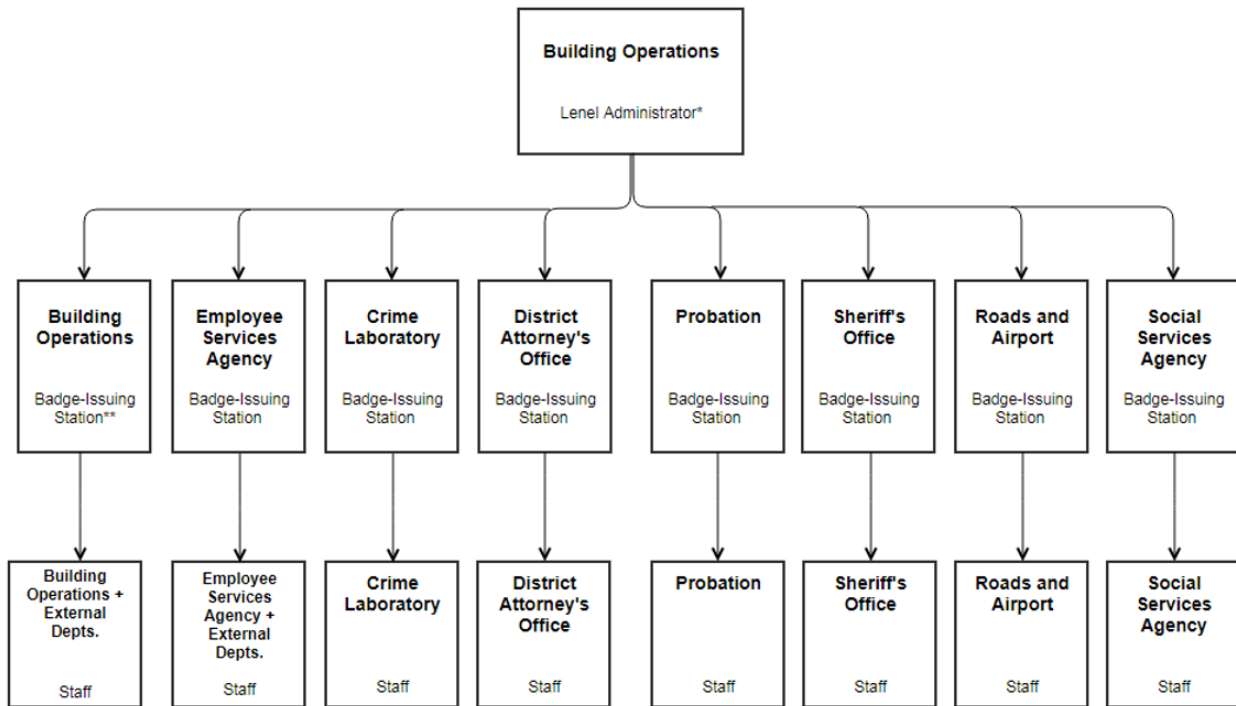
*Lenel Administrator: Encodes access levels and grants departmental access level permissions. For Building Operations and the Employee Services Agency, the Administrator also grants external department access level permissions.

**Badge-Issuing Station: Assigns access levels and prints badges.

Apart from creating initial access levels for almost all County Departments and printing badges for FAF, the Building Operations Division is also responsible for any subsequent badge access changes, additions, and restrictions or removals for County departments that do not have a Lenel workstation. Additionally, the Division maintains and troubleshoots the Lenel software and associated access hardware. Further, the Division responds to individual requests having to do facility access, such as a malfunctioning card reader or badge.

An Estimated 28 Former FAF Workers have Inappropriate Access to County Facilities

FAF does not routinely verify and update its own active badge list. As of August 4, 2017, FAF's "active badge" report contained 577 entries. To narrow the field of workers with

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[7] This chart was created based on a list of badge-issuing stations furnished by Building Operations. However, based on a survey we issued on September 1, 2017, the Crime Laboratory has a Lenel workstation, but no badge-issuing capabilities. The District Attorney's Office prints badges for the Crime Laboratory.

active badges that should have been deactivated, the audit team requested that FAF, through the Information Services Department (ISD), furnish a list of active entries for individuals who had not used their badges since July 1, 2017. This list contained 235 active badges.

For 202, or 86.0 percent, of these "unused but active" badges, neither we nor the Division were able to determine whether these badges were issued to individuals who need them. Several of the unused badges were tagged as "test" or "FAF Contractor Checkout," indicating badges not associated with a specific individual. Unfortunately, inconsistent naming practices within the Lenel data made it impossible to determine exactly how many badges belonged to specific workers, and how many were "checkout" or otherwise "generic" contractor badges.

For the remaining 33 unused but active badges, we determined that five were assigned to County employees who were on leave. At least the remaining 28 badges should have been deactivated due to transfers, retirements, ending of extra help status or the termination of contracts. These badges should have been shut off one to five years earlier. The 28 were made up of seven retired[8] employees, some of whom had been gone for more than two years; two employees who transferred[9] to Valley Medical, which has a different access system; one former extra help employee[10], and 18 employees of contractors whose contracts had expired. These 18 were affiliated with six County contracts that expired between 2012 and 2016. Of the 235 unused but active badges, five were for individuals on leave. Therefore, the unused but active badges amounted to 230 for which there was no obvious explanation. Of these, at least 28, or 12.2 percent, should have been deactivated.

The 28 active badges that we determined should have been deactivated represents 4.9 percent of all of the Department's 577 active badges. The number of badges that should have been deactivated could be higher since for the majority of badges, we have no way to determine their validity. The status of FAF badges as of August 4, 2017 is summarized in Chart 1.2.

Given that the County badge issuing and deactivation/destruction processes are spread across multiple departments, and given that there is no Countywide oversight of these departments' active badge tracking and verification procedures, it is likely that this issue of inappropriately active badges extends beyond FAF. Applying the numbers we calculated above, even if only 4.9 percent of the 12,867[11] active badges as of September 9, 2017 throughout the County remain active when they should be deactivated, it means there are an estimated 624 badges that could be used by unauthorized individuals to unlock County facilities. This does not include potential access by former workers who may have a deactivated badge that could be used to gain access. No one knows how many physical badges exist for former workers. In

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[8] According to the Employee Services Agency.
[9] According to the Employee Services Agency.
[10] According to Fleet Division management.
[11] The exact number varies daily but is believed to be similar to the count as of August 2017.

addition, the Management Audit Division discovered that *even after deactivation*, a former contractor's badge continued to unlock certain doors whose badge readers were undergoing repairs.

Chart 1.2

Status of Facilities and Fleet Dept Active Badges as of August 4, 2017

	Count	Percent
Total active badges within the Facilities and Fleet Department	577	100.0%
Active badges not used from July 1 - August 4, 2017	235	40.7%
Active badges for employees on leave during July 1 - August 4	-5	2.1%
Unused active badges not accounted for by leave time	**230**	**97.9%**
Retired employees whose badges should have been deactivated	7	3.0%
Transferred employees whose badges should have been deactivated	2	0.9%
Extra help badge the department says should have been deactivated	1	0.4%
Former employee badges that should have been deactivated	**10**	**4.3%**
Named badges for former contractors[1] that should have been deactivated	**18**	**7.8%**
Total active, unused badges issued to unauthorized personnel	**28**	**12.2%**
Total active, unused badges for which the status was undetermined	**202**	**87.8%**

1) These individuals worked for contractors whose contracts expired between 2012 and 2016.

The inaccuracy of these active credentials poses a serious security concern. If these 28 workers still have active badges in their possession, they have the ability to inappropriately access County facilities and information. A 2016 audit by the federal Treasury Inspector General for Tax Administration found that Smart ID cards of two separated Internal Revenue Service (IRS) employees had been used to access IRS facilities, and cards of two additional separated employees were used to access other government facilities.[12] It is thus critical for Building Operations to minimize the number of parties who can access County facilities without authorization.

Building Operations does not have Adequate Procedures for Verifying whether Badges of Previous Workers have been Properly Deactivated

The Division's own badge deactivation process is heavily dependent on individual managers and project managers, and exhibits vulnerability in the badge collection and return stages. When FAF employees, temporary employees, extra help, contractors, and interns leave the Department, their respective managers or project managers are responsible for collecting their badges and returning them to Building Operations' badge-issuing station. After these badges are returned, the station immediately

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[12] Treasure Inspector General for Tax Administration, 2016. *"Access to Government Facilities and Computers Is Not Always Removed When Employees Separate."* (Reference No. 2016-10-038). Retrieved from https://www.treasury.gov/tigta/oa_auditreports_fy16_noscript.shtml.

deactivates access in Lenel and then destroys these badges. However, this process has two risk points: managers may not collect badges of their staff in a timely fashion (or at all); and managers may fail to return all collected badges to Building Operations' badge-issuing station for deactivation and destruction.

Exacerbating these risks is the fact that the Division has no written policy for when managers must collect and return badges. Building Operations' badge-issuing station estimated that they generally receive badges within a week of a staff member's departure. Because Building Operations' badge-issuing station and the Lenel administrator have no understanding of when Building Operations staff leave FAF's employ outside of the information they receive directly from managers, the Division cannot verify the accuracy of FAF's currently active badges through these two parties.

The Division does not Generate or Distribute Periodic Reports of Active Badges

As of August 2017, Building Operations did not generate or distribute Lenel active badge reports to either FAF or other County departments, although the Division will sometimes generate these reports upon request. As a result, neither FAF nor other County departments regularly review whether their separated employees have had their badges properly deactivated in the Lenel system.

The Division has no Method of Readily Assessing whether Workers on the Active Entry Report are Previous or Current Personnel

Building Operations does not have any centralized tracking systems for separated workers, and thus no way of definitively assessing who belongs on FAF's active badge list, even if these reports were made readily available. From the audit team's modified report of individuals who had not used their badges since July 1, 2017, the Division was unable to identify who had separated from FAF, and had to resort to deactivating all badges on this list.

This is especially troubling in that Building Operations has a large number of contractors, who, unlike County employees and extra help, cannot be verified in the County's payroll system. The same is true of interns, volunteers, and all other categories of workers not on regular payroll. Consequently, Building Operations has no method of verifying the appropriateness of all of its own active badges.

Countywide Security Problem: The County does not have a Uniform Policy for Badge Deactivation and Destruction

The issues of inappropriate facility access and inadequate controls for verifying the badge status of separated employees are not limited to Building Operations. Rather, these problems are symptomatic of the County's lack of uniform policies governing badging as a whole. There are currently two County-wide policies governing badges and facility access:

1. Countywide Surveillance Use Policy for Facility Access Control Technology (2017) provides an overview of the countywide facility access system and defines proper use, sharing, and retention of data captured by this system.[13]

2. Employee and Visitor ID Badges (2014) describes protocols for issuing and collecting employee badges and issues guidelines for wearing these badges in County facilities. Further, the policy discusses visitor badges and how to approach unescorted persons without a County identification badge.[14]

Neither of these policies discusses specific guidelines for badge activation. However, given the security concerns around former personnel having access to County facilities, the more problematic deficiency is the lack of guidelines around badge deactivation and destruction. The "Employee and Visitor ID Badges" policy only states, "County employee badges are issued at the time of hiring and must be collected and returned to the departmental personnel unit at the time of separation to be destroyed." However, this section does not define the following:

1. Timeframes for the deactivation and destruction of badges

2. Whether badges should be deactivated and destroyed by the same badge-issuing station that created them

This lack of governing policies around badging, particularly around their deactivation and destruction, has resulted in inconsistent badging practices across the County. As discussed earlier, there are eight different badge-issuing departmental stations that have different policies and procedures. On September 1, 2017, we issued a survey on badging procedures to the County's seven departmental badge-issuing station administrators outside of Building Operations.[15]

All seven departments responded to our survey; however, one department sent us their administrative directives around badging in lieu of a completed survey, due to their department only having a Lenel workstation for assigning permissions—not a physical badge printer. According to the completed survey responses, badge collection, deactivation, and destruction procedures vary. While all respondents stated that their station was solely responsible for badge deactivation and destruction, several follow-ups with the departments revealed that the Lenel administrator at Building Operations also sometimes deactivates badges for these departments. For one of the stations, the deactivation and destruction process is split between the Human Resources (HR) Division of the Employee Services Agency and the department managers: the station will deactivate badges when they receive notice from HR of separating employees, and

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[13] FAF's Surveillance Use Policy submission that was received by the Board of Supervisors on April 11, 2017, per section A40-5 of the Surveillance-Technology and Community-Safety Ordinance (NS-300.897).
[14] Submitted by ESA and uploaded on March 12, 2014.
[15] For Building Operations, the contents of the survey were encompassed by the Management Audit Division's previous discussions with the Division regarding badging protocols, and thus we did not issue the survey to Building Operations.

then destroy the badges once the managers collect and return them to the station. Other stations deactivate and destroy badges in a single process once they are collected and returned by the managers.

Further, the existing County-wide policies do not discuss procedures for routinely verifying whether badges have been appropriately deactivated. Within our survey results, four badge-issuing station administrators responded "yes" to the question, "Does your Department ever perform periodic checks to ensure that all badges of separated staff have been appropriately collected, deactivated, and destroyed?" Like Building Operations, it is possible that the remaining departments that do not perform periodic checks have inappropriately active badges.

County policies also do not require departments to confirm that actual physical badges have been destroyed. The mere possession of a badge potentially allows an unauthorized individual to access a County facility. The "Employee and Visitor ID Badges" policy states that an employee badge may be used in lieu of a visitor badge. In a worst-case scenario, an individual might show their inactive badge to a current County employee, prompting them to unlock a facility door. For instance, the gunman at the Bronx hospital described in the "background" of this section used his outdated hospital identification from 2015 to enter the facility.

CONCLUSION

FAF has at least 28 workers with inappropriate access to County facilities. The Division's ability to ensure only authorized persons have access to facilities is hindered by Building Operations' lack of procedures to verify the proper deactivation and destruction of badges belonging to separated workers. It is likely that other departments also have problems of unauthorized County facility access, given the lack of County-wide policies around badge deactivation and destruction. As discussed above, in the September 2017 survey, only four of eight badge-issuing administrators responded "yes" to the question, "Does your Department ever perform periodic checks to ensure that all badges of separated staff have been appropriately collected, deactivated, and destroyed?"

Providing uniform standards for badge deactivation and destruction, implementing checks to ensure the proper deactivation and destruction of separated employee badges, and improving upon Building Operations' ability to verify its own departed staff will minimize the risk of individuals and firms with unauthorized access to County facilities.

RECOMMENDATIONS

The Building Operations Division should:

1.1   Generate and distribute periodic reports showing active badges and active badges not recently used to all County departments. (Priority 1)

1.2   Create and maintain a centralized tracking system of all separated employees, extra help, and contractors from FAF. (Priority 1)

The Board of Supervisors should:

1.3   Adopt a policy governing badge deactivation and destruction (including automatic deactivation after a certain period of inactivity), as well as new protocols for verifying the proper deactivation and destruction badges belonging to separated County workers. These protocols may include the development of tracking systems similar to the one described in Recommendation 1.2. In concert with the new policy, the Board should designate an existing County department or agency, or create a temporary task force or working group to develop and execute any new centralized processes defined in this policy. (Priority 1)

The Information Services Department should:

1.4   Continue with the implementation of its planned hardware asset management system, and track physical badges as a hardware asset. The hardware asset management system should be governed by and included in the Board's policy on verifying the proper deactivation and destruction of badges. (Priority 1)

SAVINGS AND BENEFITS

Recommendations 1.1 and 1.3 are feasible within the County's existing budget allocations. Implementation of Recommendation 1.2 could require modest additional programming or effort by staff in affected departments, although we do not believe this impact is substantial enough to warrant additional staffing. According to the Information Services Department, the implementation of Recommendation 1.4 will not incur any additional cost, as long as badges are defined early in the implementation process as a "hardware asset" that will be tracked like all other hardware (e.g., mobile devices, laptops, equipment, etc.).

These recommendations will protect the County from both material losses and potential liability resulting from unauthorized facilities access. Further, instituting improved controls over facility access will improve the physical safety of County employees and clientele.

Section 2.   Efficiency of Maintenance and Repair Services

Background
The Building Operations Division is responsible for the maintenance and repair of 234 County-owned facilities that are currently operating. The Division uses a work order/maintenance task scheduling system to manage this work. During FY 2016-17, the system managed 22,157 unique requests for repairs and service projects, and assisted in scheduling 17,014 recurring maintenance tasks. The majority of these tasks were performed within the County's correctional facilities, including the Main Jail, Elmwood campus, Juvenile Hall, and Holden Ranch.

Problems
Building Operations has no written standards governing the quality and timeliness of completing work orders. The Division does not know how long it takes to carry out tasks because it has no standards for tracking time in its system or in hard copy. Although work orders are "prioritized," the expected timeline for completing a top-priority versus a second, third or fourth priority task is not defined in policy. Therefore, some staff interpret a "priority one" task as needing to be completed within hours, others say it equates to days. Managerial review of requests and labor hours is inconsistent across the Division.

Adverse Effects
Based on a sample of 141 hardcopy work orders, we estimate that in FY 2016-17 the average work order was completed in 28.6 days. Relative to its own priority system, the Division exceeds the specified work time in 64.5 percent of cases. Since the Division has no effective prioritization of work orders and does not keep reliable data on how long it takes to complete tasks, it is impossible to determine whether the Division's task completion timelines are slow because of inefficient allocation of staff or work orders or insufficient staff. Further, preventive maintenance has been consistently de-prioritized. As of August 8, 2017, there were 2,376 outstanding PMs. The labor hours recorded over FY 2016-17, compared to the number of work orders completed, indicate maintenance staff spend less than 60 percent of their work time on work requests, but it is impossible to determine or if work time is actually inefficient, or just not properly tracked, or both.

Recommendations, Savings and Benefits
The Division should implement a six-month pilot of establishing clear deadlines for work requests, expected performance standards, and service levels. In addition, the pilot should include further guidelines for all affected staff to promote accurate recordkeeping. Staff should also receive further training on the electronic system and its report formats. A follow-up audit should be conducted to review the new policies and procedures, assess the accuracy of the data, and evaluate staffing levels and productivity using the new performance data.

BACKGROUND

Building Operations performs facilities maintenance for 234 currently operating County-owned facilities, providing services such as heating, ventilation, and air conditioning (HVAC); plumbing; electrical; custodial; grounds; and general maintenance.[1] This maintenance is conducted through an electronic work request system called Archibus, which contains two main work request modules: 1) demand requests and 2) Preventative Maintenance (PMs).

Demand requests are specific, unplanned facilities-related issues such as failures, leaks, breaks, or malfunctioning equipment that are submitted to the Division by designated County staff. Other work that gets entered as demands in Archibus are service requests, which include client-initiated modifications, improvements, reconfigurations, and special event setup. In contrast, PMs are routine maintenance procedures that are automatically generated according to a preset schedule. These schedules are entered into Archibus from documents called "New or Replacement Equipment Forms" created by Building Operations' Work Center Managers, who manage maintenance and repair staff by service categories called "trades".[2] During Fiscal Year 2016-17, Building Operations received 22,157 demand requests and generated 17,014 PMs.

Archibus routes both demand requests and PMs to the MAC Room, which is the Division's central control room for phone support, monitoring, and administration of requests. The MAC Room personnel review requests and assign each a unique work request code and a priority level. The Division reported that priority levels are defined by Service Level Agreements (SLA) in Archibus. These SLAs are associated with the following completion timelines in Chart 2.1 below.

Chart 2.1
MAC Room's Request Priority Timeline

Priority Level	1	2	3	4	5
Timeline	1 day	3 days	1 week	1 month	No urgency

However, these Archibus SLAs are not included in departmental policy, and Building Operations personnel and the Division's County clientele have differing views on expected timelines for work request completion. By default, all demand requests are granted a priority 3 designation, and all PMs are assigned as priority 1. The MAC Room will manually reassign priority levels for some demand requests depending on the level

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[1] List of operating and disabled County facilities, as provided by FAF fiscal staff to the Management Audit Division on August 10, 2017.

[2] Up until July of 2017, Building Operations was organized geographically, with each Work Center Manager supervising maintenance staff by County region. After the July restructuring, Work Center Managers generally oversee staff associated with a specific trade (in other words, there is a Work Center Manager for HVAC, electrical, architectural, etc.).

of urgency (for instance, service requests are usually the highest priority for Building Operations' clients), but all PMs remain priority 1.

After this assignment, MAC Room staff forward the work requests to the appropriate Work Center Managers, who review and approve the requests. The Work Center Managers print paper copies of the approved requests and assign them to maintenance staff under their supervision. Maintenance staff then complete the requests and enter their hours into Building Operations' Kronos timecard system that subsequently feeds these logged labor hours into Archibus. After work on the request is complete, Work Center Managers sign off on the paper requests and submit them to the MAC Room for data entry into Archibus.

Chart 2.2
Work Request Workflow
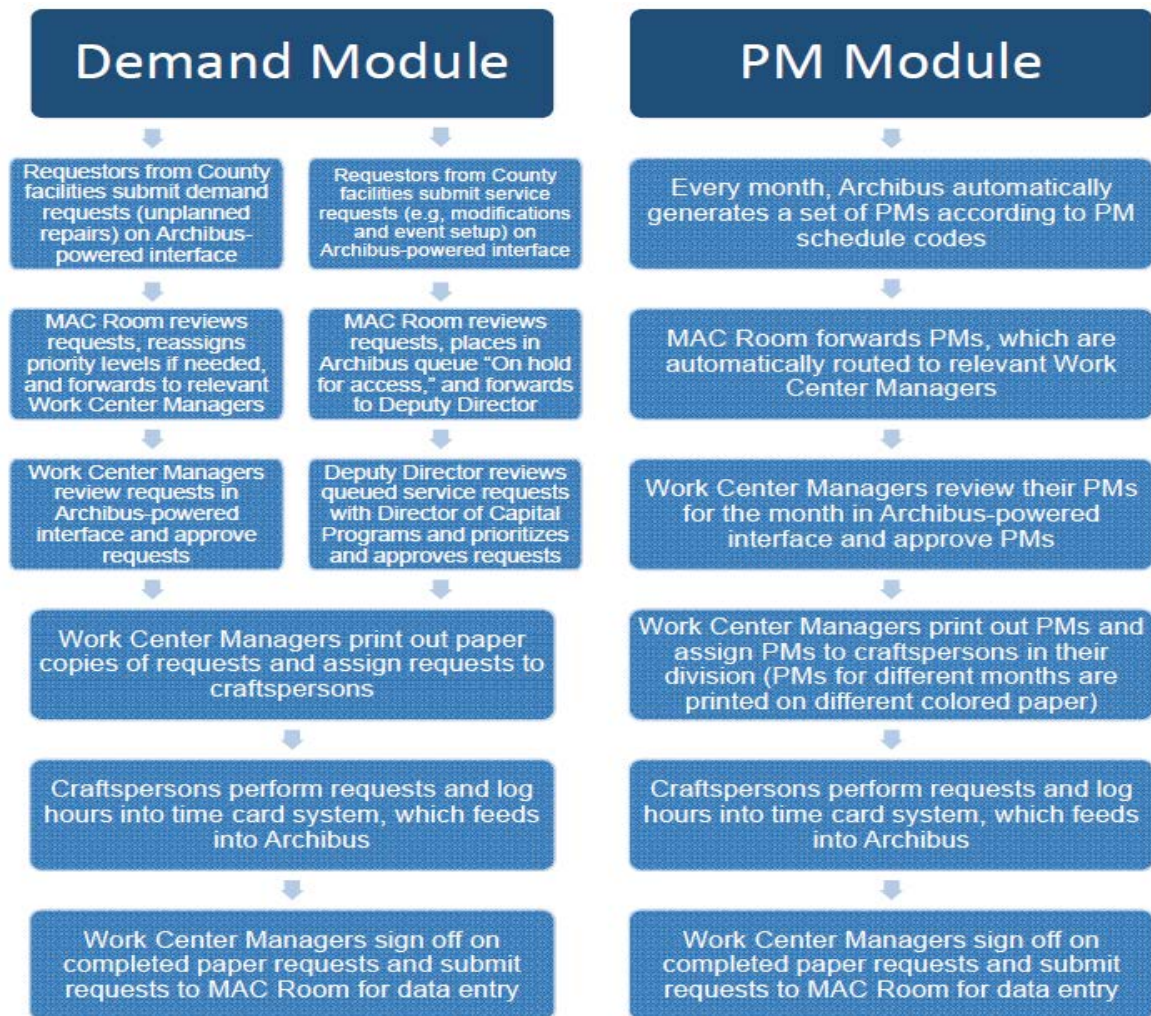
Existing Data Demonstrates Backlogs and Delays for Work Requests

The Management Audit Division analyzed Building Operations' work request records, and found service levels that appeared below reasonable expectations. The available Archibus data demonstrated a clear backlog for both demand requests and PMs. While Building Operations completed the majority of work requests during Fiscal Year 2016-17, as of August 2017, there were 2,424 outstanding demand requests and 2,376 PMs from this period (see Table 2.3).[3]

Table 2.3
FY 2016-17 Assigned and Incomplete Work as of August 2017

| Service Type	Total Assigned	Incomplete	Percent Incomplete
Demand Work Orders	22,157	2,424	10.9%
Preventive Maintenance	17,014	2,376	14.0%
Total	**39,171**	**4,800**	**12.3%**

In addition to these outstanding work requests, we also found delays associated with completed demand requests.[4] Due to unreliable completion dates in the electronic records (described in further detail later in this section), we reviewed a random sample of 141 paper-copy demand requests. Within the sample, the average time to complete a demand request was 28.6 days, and 64.5 percent exceeded the MAC Room's goals for completion. Although the majority of requests (58.2 percent) were completed within two weeks, the average completion time is skewed upward by the ten percent of work requests that took more than three months to complete.

Of note, even four "Priority 1" requests, which are urgent issues that require a near-immediate response, took over two weeks to complete.

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[3] Division provided demand data as of August 2, and PM data as of August 8. Despite the small discrepancy, we believe the two datasets are comparable as no additional requests were added during this period, and a non-material number of requests were marked as completed between PM data as of August 2, and PM data as of August 8.

[4] We did not perform the same review for PMs due to the wide range of PM schedules, which would skew the data upwards. For example, there are PMs that are completed annually, every two years, and every five years. As such, a high average completion date would not necessarily be indicative of delays, given the different PM schedule categories. Because of the way paper records were kept, we were unable to pull random samples by PM schedule type, in order to identify delays within PM categories.

Graph 2.4
Distribution of Completion Times within Sample
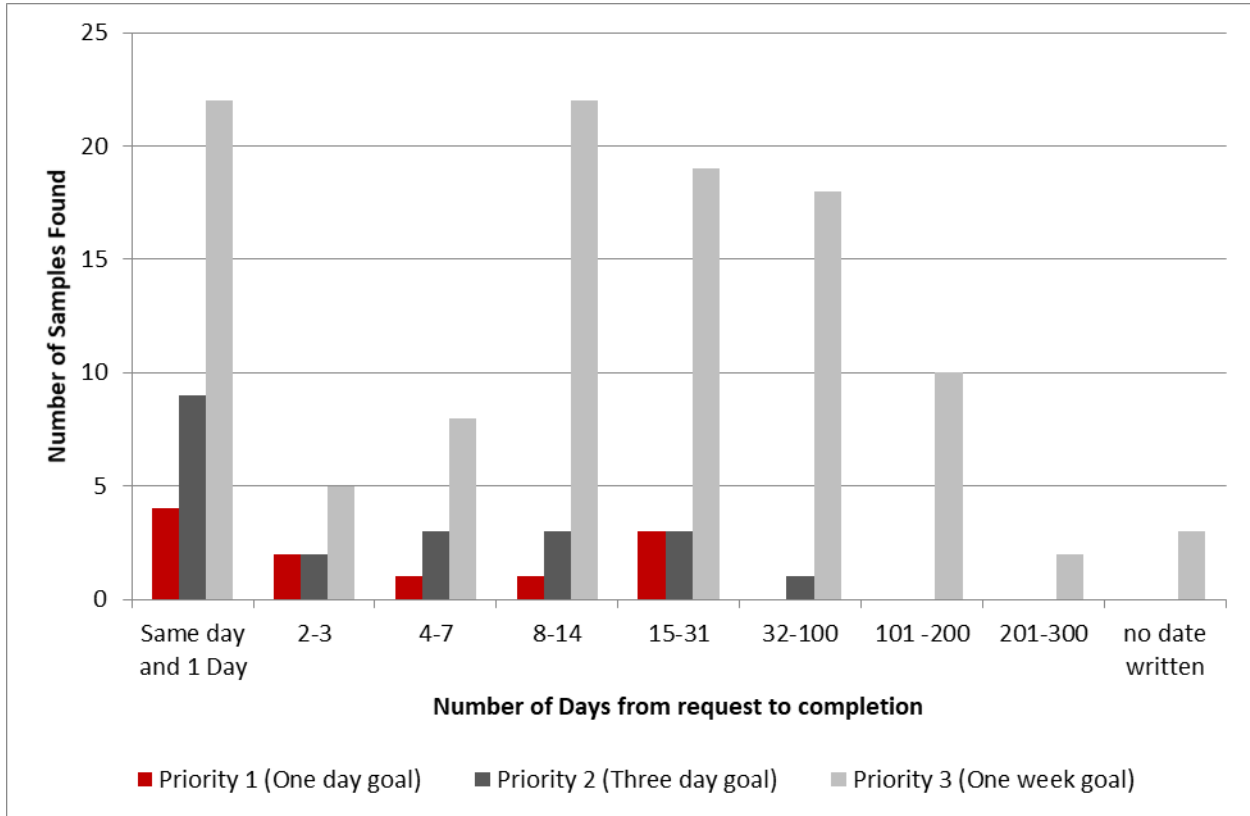
If our sample is extrapolated to all demand requests that occurred throughout Fiscal Year 2016-17, the majority of demand work requests were addressed within a month's time. However, based on the MAC Room's assignment, all requests sampled were priorities 1, 2 or 3 and should have been completed within a day, 3 days, or a week, respectively. Furthermore, if the paper sample is extrapolated to the full population of demand requests, approximately 4,871 requests, or 22.0 percent, took over a month to complete. Archibus records show that only 4 of the total 22,157 demand requests over this period had a priority designation above 3, indicating that 64.5 percent of demand requests were completed late relative to the Division's own priority assignment.

The conclusions of this analysis were corroborated by interviews with some work order requestors from County departments, who asserted that times for non-priority 1 requests are excessive.

The Division does not have Written Standards Surrounding the Quality and Timeliness of Completing Work Orders

While the service levels we identified seem unsatisfactory, Building Operations does not have any written standards by which Work Center Managers can definitively assess

performance. The Division holds no SLAs with County departments designating expected service levels for maintenance and criteria for the quality of work completed. Further, Building Operations has no set deadlines around work request completion. Thus, although the Division's records show 4,800 total outstanding work requests from Fiscal Year 2016-17, and significant delays in the completion of demand requests, Work Center Managers do not have any formal basis for evaluating these service levels and creating targets for improvement. To compare, Los Angeles County has developed a "Scope of Services" document for facilities maintenance that outlines the services to be provided by trade and response/after-hour response times for requests.

Although Archibus has SLAs defining timelines according to priority, these timelines are not incorporated into any written Building Operations policy on demand requests. PMs have even fewer guidelines, given that all PMs are assigned a priority 1 designation. Generally, Work Center Managers reported that weekly and monthly PMs should be completed by the end of the month for which they are generated. However, stated deadlines for the completion of longer-term PMs were varied, with the only consensus being that these PMs should be completed before the next occurrences in their PM schedules.

Prioritization of PMs, given the current backlog of these requests, was also inconsistent across different Work Centers. One Work Center Manager stated that longer-term PMs such as annual requests were more critical; another Manager gave higher priority to procedures that had been missed during the prior cycle; and a third Work Center Manager stated they had not implemented any sort of prioritization system. Routine PM procedures are critical for maintaining the integrity of County facilities and equipment, and the Division's lack of robust deadlines and priority systems around PMs may increase the risk of failing systems and premature asset deterioration.

The Division's Electronic Data is often Incomplete or Inaccurate, Making it Difficult to Reliably Track Performance, Costs, and Needs
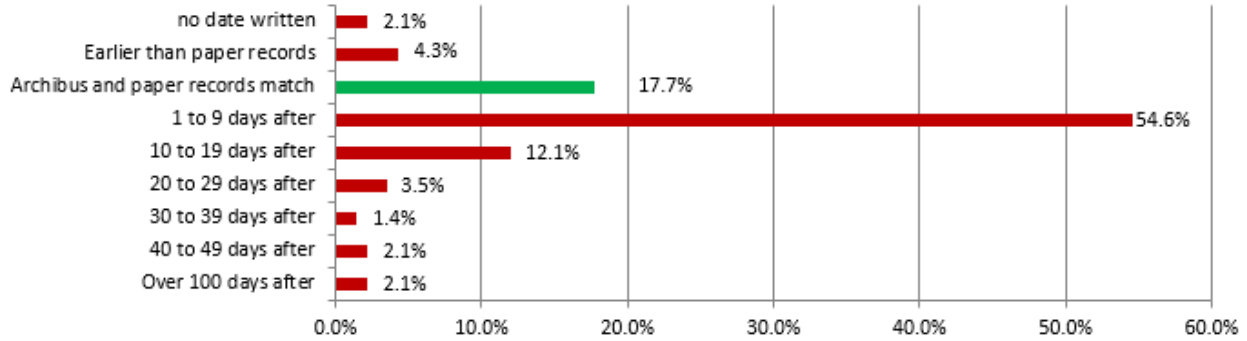
Archibus houses a significant amount of work request data, ranging from requested/completed dates to procedure descriptions to labor hours. However, many of these records are inaccurate or incomplete, rendering the vast majority of this data unusable for analysis.

Incorrect Completion Dates

There were large discrepancies between the completed dates tracked in the Archibus system and those we reviewed in the paper demand request records (see Graph 2.5 below). As discussed in the introduction, the Management Audit Division received Archibus records from Fiscal Year 2016-17. The "Completed" date entries for these records were only accurate 17.7 percent of the time, and often showed dates that were later than the dates recorded on the hard-copy demand requests. To illustrate this further, the average demand completion time we calculated from the entire Archibus

dataset was 142.7 days, as compared to the 28.6 days we calculated from our sample paper records.

Graph 2.5
Comparison of Archibus Completion Dates with Paper Records
(Percentage of Sampled Records)

Category	Percentage
no date written	2.1%
Earlier than paper records	4.3%
Archibus and paper records match	17.7%
1 to 9 days after	54.6%
10 to 19 days after	12.1%
20 to 29 days after	3.5%
30 to 39 days after	1.4%
40 to 49 days after	2.1%
Over 100 days after	2.1%

The inaccuracy of these electronic records is primarily driven by the Archibus system's auto-population of dates. When MAC Room staff receive completed and signed work requests, they change the status of the work requests to "Completed" in Archibus. The system then auto-populates the "Date Completed" field with the date on which the status was changed. However, because not all paper work requests are submitted to the MAC Room in a timely fashion, the dates on which the MAC Room processes these requests do not always match the handwritten completion dates. When the MAC Room does not manually override these auto-populated dates, the "Date Completed" field erroneously shows the date of the status change, as opposed to the date that the Work Center Manager signed the completed work request form.

Another potential issue contributing to inflated completion times is the explanation by management that maintenance staff will sometimes wait until they have a stack of completed work requests before submitting the forms to their Work Center Managers. The consequence of this practice could be even the handwritten dates on the paper requests do not always reflect the actual completion dates of the requests. Ultimately, the Division's lack of protocols around hard-copy work order submission and electronic entry of completion dates results in unreliable data. Current entries in the "Date Completed" field obscure the actual amount of time it took to complete these work requests.

Zero-Hour Completed Entries

Building Operations' Archibus records contained 2,196 demand requests and 2,244 PMs with a "Completed" status that had zero hours logged in the "Actual Labor Hours" field. The "Actual Labor Hours" field in Archibus feeds directly from the Division's timecard system, in which maintenance staff enter their labor hours by work request

code. As such, if all staff properly log their hours in the timecard system, a completed work request should never show zero labor hours in Archibus.

Building Operations offered the following explanations for these zero-hour entries:

1. These records may represent work performed by contractors, who do not input time into the Division's timecard system. Consequently, Archibus displays these completed requests as having zero logged hours.

2. Building Operations completed and closed out a large number of work requests during the Division's restructuring in July, regardless of whether or not maintenance staff had entered their hours in the timecard system yet.

3. Sometimes the work contained in a PM or demand request is encompassed by another work request. When this occurs, the maintenance staff will enter the total hours into the larger request, and zero hours for the smaller request(s).

4. When a work request takes a smaller amount of time than the minimum entry requirement in the timecard system, some maintenance staff will simply not enter time for that request.

5. For PMs, some Work Center Managers will enter older, incomplete PMs in the schedule as completed if a new occurrence of the PM will be generated soon (e.g., a monthly procedure). In other words, if the most recent maintenance was "missed," it may be manually recorded as completed but with zero hours.

Although the aforementioned reasons shed light on the nature of these zero-hour request, these explanations are being tracked inadequately and inconsistently–both in the Archibus system and on the hard-copy work requests. While Archibus contained some contractor information for these zero-hour requests, 1,086 PMs and 950 demand requests had no additional comments or notes, leaving the reasons for these zero-hour requests unknown. A sample of hard-copy zero-hour requests followed a similar pattern: several forms described contractor information, and other forms contained nothing.

Even the Archibus entries with recorded contractor information did not follow a set format: some simply listed "completed by contractor" as an additional comment; some included the name of the specific contractor and an invoice number; and others included the term "JOC" (Job Order Contract) in one of the work description fields. The existing state of the data therefore makes it impossible to readily identify which zero-hour requests are tied to contractors.

The incomplete, non-uniform tracking of explanations for zero-hour requests hinders the ability of a reviewer to discern how many real labor hours were associated with a work request. While a zero-hour entry could be the result of one of the explanations listed above, there is no way to confirm this through the data. One consequence of this is potential underreporting of labor hours.

According to Archibus, Building Operations logged 158,972.5 work request hours during Fiscal Year 2016-17 among 172 maintenance staff. This averages to 924.3 labor hours per year for each staff, or 77.0 hours per month. This equates to roughly 58 percent of one full-time-equivalent (FTE) position.[5] The limited number of reported hours, combined with the number of incomplete work requests, indicate possible worker inefficiencies. However, the zero-hour entries may be artificially deflating the total labor hours, and the lack of tracking procedures around these entries severely weaken the potential for conclusions around labor productivity.

Further, a recurring complaint from interviews with departmental work order requestors was that work requests are closed out before Building Operations fulfills the request. Without adequate tracking, it is impossible to distinguish these cases from all other zero-hour requests.

NULL Records

Multiple Archibus fields contained entries populated with "NULL." For example, within PMs, there were 44 requests with this designation in the "Primary Trade Required" field, and 934 requests that listed "NULL" as their PM schedule type. While these "NULL" entries may not impact the Division operationally, these entries disrupt a reviewer's ability to accurately calculate metrics of interest such as workload levels and staffing deficiencies by trade.

Archibus' rich data storage capabilities make it a strong tool for performance management. However, the frequency of "NULL" and unexplained zero-hour records, along with inaccurate date information, and the lack of any standards for time tracking severely weakens the potential for management or auditors to use the system to track performance, costs, and needs.

Inadequate Tracking of General Fund Subsidization of Non-General Fund Departments

The Facilities and Fleet Department's (FAF) Fiscal Division settles work requests either internally or externally. Generally, Building Operations' services to General Fund departments settle internally, meaning that the cost of services are incurred and paid by Building Operations, and other departments are not charged.[6] Conversely, services to non-General Fund departments are settled externally. These services are charged directly to the departments' cost centers, and the departments issue reimbursements into Object 7 general ledger accounts.

In theory, Building Operations should be reimbursed for all services provided to non-General Fund departments. However, the Fiscal Division reported instances of Building

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[5] Maintenance worker data was extracted from an Archibus Labor Productivity Report sent on August 25, 2017.

[6] As exception to this rule are repairs and services resulting from user-created issues (e.g., vandalism or an employee causing a piece of equipment to malfunction).

Operations performing critical services for non-General Fund departments, despite several departments' inability to finance these repairs. When non-General Fund departments do not fully reimburse Building Operations for its services, the Division essentially subsidizes these work requests out of its own funds.

To verify these claims and quantify the degree of subsidization, the Management Audit Division requested documentation of cases in which Building Operations had covered service charges for non-General Fund departments. However, the Fiscal Division responded that they do not track these cases on an ongoing basis, nor are they able to retroactively identify instances in which subsidization occurred. We thus do not have evidence to support FAF's theory that it sometimes subsidizes non-General Fund departments. Further, if Building Operations' finances are being negatively impacted by this subsidization, poor tracking of these cases has made it impossible to calculate the extent of this impact.

In addition, non-necessary services and upgrades (e.g., painting the walls a different color or adding privacy screens) for General Fund departments should be directly charged to these departments' corresponding cost centers. If the Fiscal Division is informed by the MAC Room that a work order is for a nonessential service, the Division can resettle this work order as external as opposed to the standard internal settlement for General Fund departments. However, if trades personnel do not inform the MAC Room of the nonessential nature of a service, and the MAC Room, in turn, does not inform the Fiscal Division, the work request remains an internal settlement. There is no formal feedback loop within Building Operations to prevent these erroneous internal settlements from occurring.

Managerial Review of Work Requests is Inconsistent across the Division, and Electronic Reporting Systems are Under-utilized

Building Operations does not have policies around Work Center Manager review of requests, and each Work Center Manager has different approaches to performance management. While several Work Center Managers check their requests and maintenance staff hours each month, others do not do so on a consistent basis. Without regular review, Work Center Managers are unable to do the following:

1. Check the status of work requests and reassign personnel when necessary to ensure requests are completed

2. Review labor productivity and highlight problematic areas

3. Identify outlier labor hours for work requests

4. Create goals for improved performance

To date, inconsistent monitoring of work requests and labor hours have lent themselves to questionable practices within the Division. For example, we identified two instances

of maintenance staff entering labor hours into completed work orders. In total, these two PMs accrued 1,349.2 labor hours and $111,972.18 in labor costs. When we reviewed hard copies of these requests, their completion dates were both August 12, 2016. However, an Archibus report showed that the two PMs had maintenance hours assigned to them up until July of 2017, and $98,704.15 of the total labor costs had occurred after the handwritten completion date. More stringent review procedures may have helped identify these anomalous PMs, and allowed a supervisor to better understand and rectify the situation.

Further, the Division underutilizes Archibus capabilities that may greatly aid with this performance management. One Work Center Manager stated that they would like to receive reports surrounding their pending work requests, the maintenance staff assigned to these requests, and logged hours. Archibus has the capacity to create these kinds of reports, but system users seem unaware of Archibus' full range of functions. As another example, the system is able to generate a "Labor Productivity Report" that shows the average amount of time it takes each staff to complete a work request. However, according to discussions with the Information Services Department (ISD) liaison for Archibus, it is likely that this report is not being used.

Part of Archibus's underutilization may be due, in part, to how this system was introduced within the Division. Building Operations reported that the existing version of the software was an off-the-shelf solution that was originally implemented with the intent of mimicking the old work order system, Maximo, as closely as possible. Consequently, Archibus's more sophisticated reporting capabilities were not explored in-depth because the goal was simply to replace the old work order system with one that was comparable. The Division's planned April 2018 upgrade to a new version, Archibus v.23, presents Building Operations with an opportunity to begin implementing more robust reporting around work orders and staff performance.

CONCLUSION

The Division's work request system exhibits backlogs and delays that indicate unsatisfactory service levels. However, the lack of standards around the quality and timeliness of completing work orders makes it impossible for Building Operations supervisors to effectively assess and improve performance. Further, the Division's poor tracking and data entry procedures have rendered much of its extensive electronic records unusable. It is thus impossible to determine whether reduced service is a result of staff vacancies or productivity issues. The Division as a whole also does not have policies or procedures for proactive performance management, nor have its staff had adequate Archibus training that may improve the efficiency of this review. To better understand its current performance and make targeted improvements, Building Operations should implement as many of the recommended practices as possible.

RECOMMENDATIONS

It is recommended that Building Operations:

2.1   Implement a six-month data collection program after implementing the following:
  a. Standards around expected service levels, including criteria around the quality and timeliness of completing work orders.
  b. A revised priority system for PMs
  c. Guidelines around the submission and entry of information from paper requests
  d. Consistent tracking of zero-hour entries and their explanations, and cleanup of NULL records for substantive fields
  e. Division-wide policies and procedures for robust performance management
  f. Archibus training for all users
  g. Tracking of all instances in which the Division covers services performed for non-General Fund departments out of Object 2 funds
  h. Procedures establishing a feedback loop that allows trades personnel, the MAC Room, and the Fiscal Division to communicate about work requests for nonessential services (Priority 1)

  For accurate recordkeeping, these measures should be put in place after the implementation of Archibus v.23, which has additional functionalities and modifies several workflows of the previous version. The projected go-live date for v.23 is April of 2018. Building Operations should begin collecting its six months of data beginning 60 days after the implementation of v.23.

2.2   Submit the six-months of data to the Management Audit Division to examine the Division's changes under the new collection program and evaluate the state of its data; and, if possible, analyze staffing and productivity impacts using the six-months of data (Priority 1).

SAVINGS AND BENEFITS

It is currently impossible to make any decisions around performance levels, staffing, and possible improvements given the Division's lack of existing standards and reliable information about staff work time and assignments. Further, Building Operations is paying for an electronic work request management that it is not effectively using for tracking and performance management. Once Building Operations implements the proposed pilot, the Management Audit Division will be able to better assess the Division's service levels and create additional recommendations around costs and needs.

Section 3.   Use and Monitoring of Trade Contracts

Background

The Building Operations Division supplements its trades staff with contracts awarded to firms in each of the trades (carpentry, painting, electrical, etc.). State law allows informal bidding procedures for these contracts, so long as they do not exceed $175,000 per project. Per State law, work exceeding that amount must be bid through formal, competitive procedures and the proposed work must be performed by contractors in accordance with submitted plans. In contrast, under informal procedures, the County's contractors provide the cost estimates for the projects.

Problem and Adverse Effect

Review of contracts and related files found that despite the $175,000 limit, informally bid contracts in some trades categories were issued as often as every ten weeks. In addition to raising statutory compliance concerns, this creates extra work for staff in conducting these frequent solicitations, and increases the cost to taxpayers. In one instance, the same firm won a $175,000 contract and a $1 million contract for the same type of work at about the same time. The firm's hourly rates on the competitively bid larger contract were 28.6 percent lower than its informal bid on the smaller contract. Additionally, we reviewed a sample of 113 work orders by existing contractors. For smaller volume contracts, all work orders were reviewed, while for larger ones, half the work orders were reviewed. In only 38 cases (33.6 percent) did contractors provide the detailed basis for cost estimates, such as costs of materials, hours of labor required, or a unit cost for the work. Without this detail, there is no way to know if the price being charged is fair, or what the County is paying for materials and labor costs. Requiring this detail would also permit comparison of the initial estimate with similar detail in contractor invoices, so that the reason for significant cost overruns could be determined.

Recommendations

The Division should develop procedures for determining when the volume of work in a particular trade merits awarding a larger-dollar volume contract, which requires approval by the Board of Supervisors. We suggest using a Board-approved contract for any trade that is currently bid more than twice a year using the $175,000 limit. In addition, the Division and County Counsel should revise the current model contract for these functions to require more detail in the work order quotations submitted by contractors, requiring the cost of materials and the hours of labor for each contract to be estimated. These estimates should be compared to invoices when a contract is completed, with the reasons for cost overruns exceeding 10 percent evaluated. The Division should also expand the use of standardized unit costs for specific types of work within each of the crafts contracts. These steps would clarify what the County is paying these contractors to do, and allow contractor cost performance to be more easily monitored.

BACKGROUND

The Building Operations Division supplements its trades staff by using contracts with firms in specific trades areas, such as carpentry, plumbing, electrical, painting, etc. These contracts are awarded by the Division pursuant to the California Public Contracts Code, through two different methods. First, Section 22034 of the Code permits the Division, under an Ordinance adopted by the Board of Supervisors, to award contracts not exceeding $175,000 under "informal" procedures. The relevant local authority is provided by Ordinance Code Section A34-81.

Under these procedures, the Division, using an Internet-based system called BidSync, informs firms that have registered via the site of the availability of contracts, and can also e-mail firms of which it is aware, in the various trades fields, inviting them to bid. Sealed, written bids are obtained from interested bidders, and then are opened at a schedule time and place by Division staff, with bidders permitted to be present for the bid opening. The contract is awarded to the lowest responsive responsible bidder. Bids are compared by adding together all the rates each firm has bid for categories of work provided in the bid solicitation. The winning bidder is then offered a model contract developed by County Counsel in conjunction with Building Operations staff.

Public Contact Code Section 22033 expressly prohibits dividing amounts to evade competitive bidding requirements.

The County may award contracts exceeding $175,000 of this type under Public Contracts Code Section 20128.5, which permits the Board of Supervisors to "award individual annual contracts, none of which shall exceed three million dollars ($3,000,000) . . . for repair, remodeling or other repetitive work to be done according to unit prices. . . . The contracts shall be awarded to the lowest responsible bidder and shall be based on plans and specifications for typical work."

Until the current fiscal year, the contracts were overseen by project managers in the Capital Projects Division, even though the projects were generated via Building Operations work orders. However, in Fiscal Year 2017-18, Building Operations created a group of five Project Control Specialists to oversee the contractors.

MANAGING THE FREQUENCY OF CONTRACT SOLICITATIONS

To review the use and monitoring of informal bids, Management Audit Division staff interviewed staff responsible for conducting contract solicitations, and also reviewed current and past contracts for these trades functions, contract solicitation files and work order and invoice information on the County's accounting system associated with these contracts. We also obtained from the Division a list of all solicitations conducted in Fiscal Years 2015-16, 2016-17 and 2017-18 through approximately mid-September. For FY 15-16, we also received information on the solicitation for whatever contract was in effect for a trade during the fiscal year.

As noted earlier, one type of contract used for trades functions is a contract with a maximum value of $175,000, awarded using an informal bidding process permitted by State law, with sealed bids conducted by Building Operations staff without requiring Board of Supervisors approval. Our review of contract solicitation files showed that when expenditures reached the $175,000 cap, the Division often re-bid informally again for another $175,000, and when that expenditure cap was reached, the work was informally bid again and so on. As spending limits were reached, the Division issued new bids to generate a new $175,000 limit.

As shown in Table 3.1, between August 2015 and April 2017, the Division exhausted the statutory spending limit of $175,000 for informally bid electrical work on average every 74 days. The $175,000 limit was then "re-set" six times using six new informal bids for $175,000. In this manner, the Division obtained expenditure authority for $1.2 million of electrical work in $175,000 increments. The Division saved the time and effort that would have been required to bid a single larger contract, but this practice raises concerns regarding statutory compliance. In addition, incremental bidding also increases the "unit cost" of the work.

Table 3.1
Frequency of Bidding for Trades Contracts
By Trade Category, Ranked Least to Most Frequent

Trade Category	Earliest Solicitation	Last Solicitation	Total Number of Solicitations	Days Between Solicitations
Roofs	10/9/15	8/22/17	2	350
Cabling	8/26/15	1/31/17	2	262
Plumbing	8/19/15	6/27/17	3	226
Concrete	9/17/15	9/6/17	5	180
Interior Painting	7/28/15	8/30/17	5	153
Flooring	12/3/15	8/3/17	4	152
Exterior Painting	6/2/15	5/17/17	5	143
Fence Repair	10/22/15	9/15/17	5	139
Pumps	4/22/16	5/4/17	3	126
HVAC	9/18/15	8/17/17	6	117
Carpentry	6/27/16	8/1/17	4	97
Electrical	8/24/15	4/21/17	7	74

In addition to raising statutory compliance concerns, bidding the same project in increments creates extra work for Building Operations staff in arranging the solicitations, contacting potential bidders, receiving bids and reviewing them. It also creates additional work for bidders. The staff in charge of this function noted that when the same service was bid only a few weeks after a previous bid, some potential bidders were confused, asking if the previous bid winner had been disqualified for some reason.

This could potentially reduce the number of bidders because of the extra work, resulting in less competition and increases over time in the cost of the services.

In one instance, the cost of the incremental bidding process was made clear. After repeatedly bidding the electrical contract as shown above, Building Operations in May 2017 decided to formally bid a $1 million contract for these services, which required Board approval. However, to maintain services while the larger contract was bid and taken to the Board for approval, the department also used informal procedures to award another $175,000 contract, to make sure there was no gap in service. Both contracts conducted solicitations and bid openings in approximately the same time period, and both were won by the same firm. The rate bid by the firm on the formally bid contract was 28.6 percent below its rate on informal solicitation, even though the services requested in the two solicitations were identical. When Building Operations staff overseeing contract solicitations were asked if they noticed this difference, they said they did not.

Since use of informal bidding for a project in excess of $175,000 raises statutory compliance concerns, is inefficient and demonstrably increases project costs, we recommend that the Building Operations Division ensure compliance with State law and use formal bidding for projects exceeding $175,000.

Currently, only the electrical contract and the cabling contract, from the table above, have been formally bid and approved by the Board. At least the concrete, carpentry, HVAC, pump repair, fence repair, interior and exterior painting and flooring contracts should be formally bid, with contracts approved by the Board of Supervisors.

This would permit more efficient contracting by the division, and probably lower prices due to the increased competition and controls through the formal bid process and due to the increase in the volume of the work for formally bid projects, Specifically, the contract categories reported in Table 3.1 above included 44 solicitations for the nine categories that were bid on average twice per year or more frequently over the period reviewed, which included FY 2015-16, FY 2016-17 and the first quarter of FY 2017-18. If those categories had been bid once a year with Board approval, only 27 solicitations would have been required over the three-years, one per year per category, a reduction of 17 solicitations relative to the informal bids.

DOCUMENTING CONTRACT WORK ORDER COST ESTIMATES

As described earlier in this section, the amounts authorized under contracts with the different trades contractors are typically expended on specific work orders for specific repairs or projects, which are assigned to the contract firms in order to free up County trades staff to perform preventative maintenance work.

The trades contracts require contractors to provide quotations for work orders that exceed $6,000 each. In practice, however, contractors provided price quotes for all work orders assigned to them, based on a review of work orders by Management Audit staff.

However, the contracts do not specify what information needs to be provided in these price quotes.

To assess what information was provided, Management Audit staff reviewed work order information obtained from the County accounting system, which included copies of the written quotes provided by the contractors. Some work orders for all 10 current trades contractors were reviewed, and work orders for 18 different contracts were reviewed, since some contractors had multiple contracts over the period reviewed. For contractors that had previous contracts, some work orders on those contracts were reviewed as well. For selected contracts that had 10 or fewer work orders, all work orders were examined, while for selected contracts with larger work volumes, half of the work orders were reviewed. The purpose of the review was to determine what if any documentation was provided in the work quotes, and the magnitude of any problems identified.

In all, Management Audit staff examined 113 work orders on 18 contracts. These work orders were not drawn randomly, and our results do not necessarily represent the general state of Building Operations' contract work orders.

All the work orders reviewed included a narrative description of the work that was to be done, both by Building Operations staff requesting a contractor to do the work, and by the contractor in their written cost quotation. Most also included a copy of the original work order reported by the end user identifying a needed repair or project.

Of the 113 work orders examined, only 38, 33.6 percent, included details showing the basis for the cost. Most often, this occurred for contracts, such as the painting contract, the cabling contract, or the floor coverings contract, where the payment is not based on labor hours plus materials, but as rates for specific job types, such as carpet installation. An example of such a quotation, for installing 1,152 square feet of carpet, and other associated repairs, is attached to this section (Attachment 3.1).

Where a contract was paid based on the hourly cost of labor, plus the cost of materials, the level of detail provided appeared to be related to who managed the contract, with some project managers more focused on this point that others. Several work orders we reviewed from one project manager all had this level of detail, including one instance where the manager, not receiving a detailed estimate of hours required from the contractor, attempted to estimate that information on their own, by assuming 60 percent of the quote was accounted for by labor costs. We have provided this quotation, with the project manager's annotations, as Attachment 3.2.

In addition to the 38 work orders that had detailed cost estimates, another 18 work orders, 15.9 percent, had informal estimates of the labor required for the work order, such as stating the work order would take "one to two days." Our estimate, assuming one journeyman working eight hours a day, for the maximum number of days estimated, at the standard weekday rate in the contract, amounted to as little as 20 percent of the total estimated cost for a work order, to in some cases exceeding the total work order cost. This indicates that such informal estimates are unreliable.

Beyond the 38 work orders with detailed estimates, and the 18 with more informal estimates, the remaining 57 work orders, about half of those reviewed, had no detail for the basis of the cost estimated by the contractor, only the total figure for what was expected to be charged. It should be noted that we also examined, where available, contractor invoices for the work orders (for recent work orders, invoices are still pending), and found only a few instances where the invoices included details of the labor hours actually expended, and details of the materials purchased for the work order. These included work orders worth tens of thousands of dollars, an example of which is provided as Attachment 3.3.

Insufficient documentation for contractor work order cost estimates prevents the County from knowing what it is paying for, in terms of materials and in particular the labor hours required by a contractor to complete a particular work order. Not having a detailed cost estimate also prevents the County from effectively monitoring the work, to see if the hours actually required to complete a particular work order is similar to what was estimated.

To address this concern, we recommend that the Building Operations Division, working with the Office of County Counsel, revise the current model contract for trades contractors to specify what should be included in price quotations, to require an estimate of the hours required for the Work Order, and the cost of the materials to be used. In turn, informational on the actual hours required and materials used should be provided with the invoices submitted by contractors to be paid for these work orders, as now occurs in limited cases. The invoices and initial estimates should be compared. Because the estimates are just that, some discrepancies would be expected. However, we also recommend that variances where the actual cost exceeded the estimate by 10 percent or more should be further investigated by Building Operations staff, inquiring of the contractor what circumstances required the additional cost.

Alternatively, the Building Operations Division could continue the approach it has used for certain contracts, such as the flooring contract, the concrete repair contract and the cabling contract, to shift from paying based on time-and-materials used by the contractor, to paying fixed rates for specific types of services, on a unit cost basis, so that carpeting is charged a specific rate per square foot, and cabling is charged on a per-linear-foot basis. This system would make it easy to determine the estimated cost of service, based on the volume of work required, and would give contractors to do these jobs as efficiently as possible in terms of time, since spending additional time would not increase their compensation for the work.

These recommendations would make it clearer what the County is paying for when it uses these contractors to complete work orders, and would permit more robust monitoring of contractor expenditures.

CONCLUSION

The Building Operations Division uses trade contractors to supplement its staff by assigning specific work orders to contractors. Most of these contracts are bid informally by the Division, and as a result are capped by State law at $175,000. A review of solicitations during the last three fiscal years found some contracts were bid as often as every 10 weeks. This practice raises statutory compliance concerns, is inefficient for Division staff, and in at least one instance has demonstrably increased costs, based on one contractor who bid on both a capped and a $1 million contract for the same work, and bid a significantly lower rate when the bid was formal. Also, while the contracts are for contractors to provide price quotes for the work orders they are assigned, there is no standard for what these quotes should include. Examination of 113 such quotes found 57 provided only a total price amount, with no detail explaining the materials costs or work hours on which the price was based.

RECOMMENDATIONS

It is recommended that the Building Operations Division:

3.1   Establish and implement policies to ensure compliance with State law for contracts that should be bid formally and with Board of Supervisors approval. This would reduce the frequency of solicitations and reduce costs. (Priority 1)

3.2   Revise, in conjunction with the Office of County Counsel, the standard contract for trades contractors, to specify that work order price quotes should include an estimate of the materials costs and the hours expected to be required to complete a work order, which combined make up the total price of that work order. (Priority 1)

3.3   Require contractor invoices to include information on the actual materials costs and hours required for a work order, for comparison with the price quote required for non-emergency work before it begins. Investigate variances where actual cost exceeds estimated cost by 10 percent or more, including the contractor's explanation of why costs were higher. (Priority 1)

3.4   Expand the current trend of requiring unit-rate pricing by contractors for specific types of job orders, as now occurs for flooring, concrete repairs and cabling, rather than paying on a time-and-materials basis. (Priority 1)

BENEFITS

The recommendations in this section would ensure the Division is in compliance with State law governing public works contracts, and maximize the efficiency of contract staff at Building Operations, and the efficiency of contractors, since repeated solicitations

during the year for the same services require extra work for staff and contractors. Larger, formally competitively bid contracts likely also will result in more bidders and better prices, as potential bidders respond to the larger revenues being made available by the County. Requiring more information about the basis for price quotes by contractors on work orders, or making greater use of unit pricing for specific services, would clarify what the County is paying for on any particular work order, and would permit monitoring actual-versus-estimated costs, ensuring that contractors complete work orders as efficiently as possible.

Section 4. Inventory Control and Warehouse Management

> **Background**
> The Building Operations Division has numerous tools and pieces of equipment. Some 10,596 small tools are engraved with a tracking number and assigned to individual staff members, centrally tracked by Warehouse personnel in a spreadsheet, and typically housed in the assigned employee's work van. All other tools and equipment are stored in 6,440 square feet of central Warehouse facilities for use as-needed by trade workers.
>
> **Problems**
> The Division has no policies or procedures governing operation of its warehouse or inventory systems. Although the Division tracks tools assigned to specific workers in a spreadsheet, based on a sample taken by auditors in September 2017, 7.4 percent of these items were unaccounted for. Although the Division has had an inventory management software system in place since late 2014, most warehoused tools and equipment have not been inventoried. As of September 2017, the Division had recorded only 782 items in the system, a volume that Warehouse staff reported is a fraction of total items in the Warehouse. Of a random sample taken by auditors of the inventoried warehoused tools and equipment, 9.3 percent were unaccounted for in September. Of the items that were located, many were difficult to find, which suggests that they would not be readily available to workers when needed. Auditors observed that some physical controls in the Warehouse facility, such as cameras, and badge systems, were missing, not in use or otherwise ineffective.
>
> **Adverse Effect**
> Due to insufficient internal controls, the Division's assets are at greater risk of theft, loss, abuse or waste, and some items are missing. In addition, the difficulty of locating the relatively small proportion of items that have been inventoried suggests that delays in workflow may occur due to inability to locate the necessary tools on a timely basis.
>
> **Recommendations, Savings and Benefits**
> Building Operations should develop policies and procedures to provide reasonable assurance against waste, theft, and loss of equipment and tools and to provide for improved Warehouse security. The Division should inventory and add to its existing digital system all assets that are required by County policy to be inventoried and ensure that items are accounted for and readily locatable.

BACKGROUND

Building Operations operates two warehouse rooms, called "the warehouse" and "the tool crib," located across the hall from each other in the back of the Division's Berger

Drive facility. The warehouse is 3,560 square feet, and the tool crib is 2,880 square feet. In addition, Building Operations maintains storage sheds for roofers, electricians, painters, and HVAC mechanics behind the facility, as well as a parking lot to store County-owned vans provided to tradespeople.

A total of three personnel are assigned to the Warehouse. They are responsible for ordering and receiving parts, equipment and tools for tradespeople, delivering those items to tradespeople in the field, and monitoring and inventorying existing items in the warehouses. The total value of the assets under their management is undetermined. However, based on estimated values of samples of items that the Warehouse personnel have inventoried, we estimate the value of these known items ranges from less than $400,000 to almost $2 million. Given that many items have not been inventoried, and that these figures exclude the value of parts received and deployed to the field, Warehouse personnel are managing a considerable amount of goods. The Division has no policies or procedures to guide the receipt, storage, inventorying or security of these materials.

As a side note, the Division reports that for security purposes it does track all equipment it brings in and out of all County correctional facilities. The audit team did not evaluate this and the tracking is not used to manage inventory or control costs.

Asset Inventory and Management Systems

The Division uses an electronic inventory tracking system to manage tools that are temporarily assigned to staff and then returned to the warehouse. This system, called CheckMate Inventory Management System, was adopted in 2014. Warehouse staff members tag and barcode items, which are then scanned into the CheckMate system. As of September 2017, a total of 782 inventory assets had been added in CheckMate. Based on a sample of these inventoried items, we estimate the sum of their value to range from $115,107 to $420,474. Per Warehouse staff, most of the items in the warehouse and tool crib have not been labeled and scanned and are not tracked in the inventory system. We estimate that approximately 10 percent of warehouse assets are recorded in Checkmate, leaving and estimated 7,038 items not yet entered. Division staff indicate that the reason for the three-year delay is insufficient staff.

In contrast, tools that are on long-term assignment to staff are tracked in an Excel spreadsheet, known as the engraved list. As of September 2017, 10,596 tools and equipment were tracked in the engraved list. Based on a sample, we estimate the sum of the value of these items to range from $259,202 to $1,556,488.

Additionally, large-value items such as vehicles and heavy equipment valued above $5,000 are tracked in the County's financial system as a fixed asset. Some of these fixed assets overlap with those tracked in Checkmate. Based on a comparison of the lists, there are an additional $587,530.53 worth of assets tracked exclusively in the County's financial system

Lack of Controls Over Warehouse Inventory

For warehouse items tracked in CheckMate, which are "checked out" to staff on a temporary basis, there is no procedure to monitor and collect overdue items. Most items that are managed in Checkmate tend to be lower-value as shown in Chart 4.1 below. The lack of controls results in assets that are unavailable for use and has a cumulative financial impact. The estimated value of inventoried items that were unaccounted for or missing as of September 2017 ranges from $17,381 to $64,491.

Chart 4.1
Estimated Distribution of Value of Inventory in Checkmate
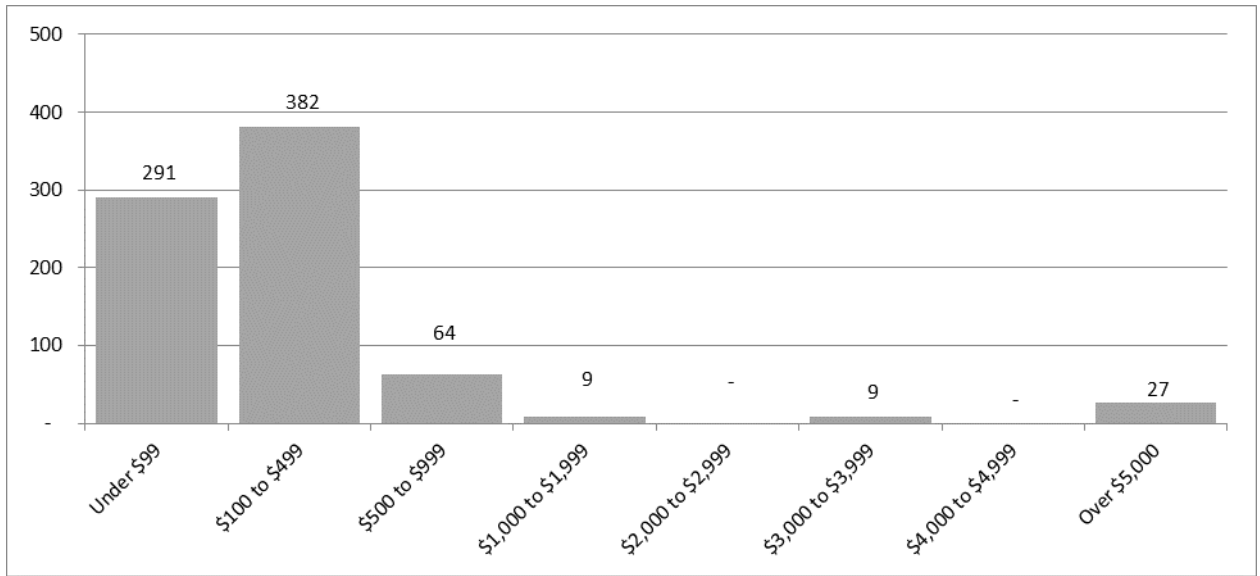
Source: Value estimates derived from auditor's research of retail value of similarly priced items to sample of inventory in Checkmate.

The same items that were randomly selected to estimate value were also reviewed to confirm their whereabouts and status. Table 4.2 on the following page shows the results of this review. These items have been barcoded and are documented to be currently in the system. The results show that eight items, or more than 9.3 percent of all items sampled, were unaccounted for and were not found by staff. Extrapolated to the full population of 782 items, we estimate that nearly 73 items are missing or unaccounted for. We estimate that between $17,399.83 and $63,559.97 worth of assets are missing or unaccounted for.

Table 4.2
Results of Inventory Samples Reviewed by Audit Staff

Location and Status	Random Samples	Percent of Total	If Extrapolated to Entire Population	Low Value Estimate of Assets	High Value Estimate of Assets
Accounted For - In Warehouse	60	69.77%	546	$74,953.09	$273,796.80
Accounted For -Checked Out	6	6.98%	55	$8,030.69	$29,335.37
Accounted For Elsewhere	12	13.95%	109	$14,722.93	$53,781.51
Missing or Unaccounted For - Confirmed	8	9.30%	73	$17,399.83	$63,559.97
TOTAL	86[1]	100.00%	782	$115,106.54	$420,473.66

Source: 86 Samples, CheckMate Inventory System Data

Another 12 items were marked in Checkmate as being located in and available in the warehouse but were eventually located and identified in other locations. This represents poor or inadequate controls regarding the management of assets in the warehouses.

Separate from the sample and estimated missing items, Checkmate produces a report of overdue items. As of August 15, 2017, there were 64 overdue items in Checkmate, or 8.2 percent of all items in the system, that were an average of 249 days overdue. These items may not be missing and may be in use by staff in the field. However, they illustrate the lack of control and procedures. The report is not regularly reviewed, items needed by staff past their due-date do not request extensions and there are no consequences for overdue items.

Assigned Tools Lack Controls

For engraved items tracked in a spreadsheet, which are on long-term assignment to staff, there is no procedure to monitor the list for missing items. Most items that are managed in the spreadsheet tend to be lower-value, as shown in Figure 4.3 on the following page. The lack of controls resulted in tools that are unavailable for use and the loss of some tools. We estimate from $5,455 to $32,754 worth of tools on the list are missing, and an additional $16,339 to $98,116 of estimated value could not be confirmed due to tradespeople who were sick or on vacation during the testing period.

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[1] The sample size of 86 provides a confidence level of 95% with a confidence internal of +/- 10%. Sampled inventory and used web-based search to identify current retail value of similar items.

Figure 4.3
Estimated Distribution of Value of Inventory in Engraved List
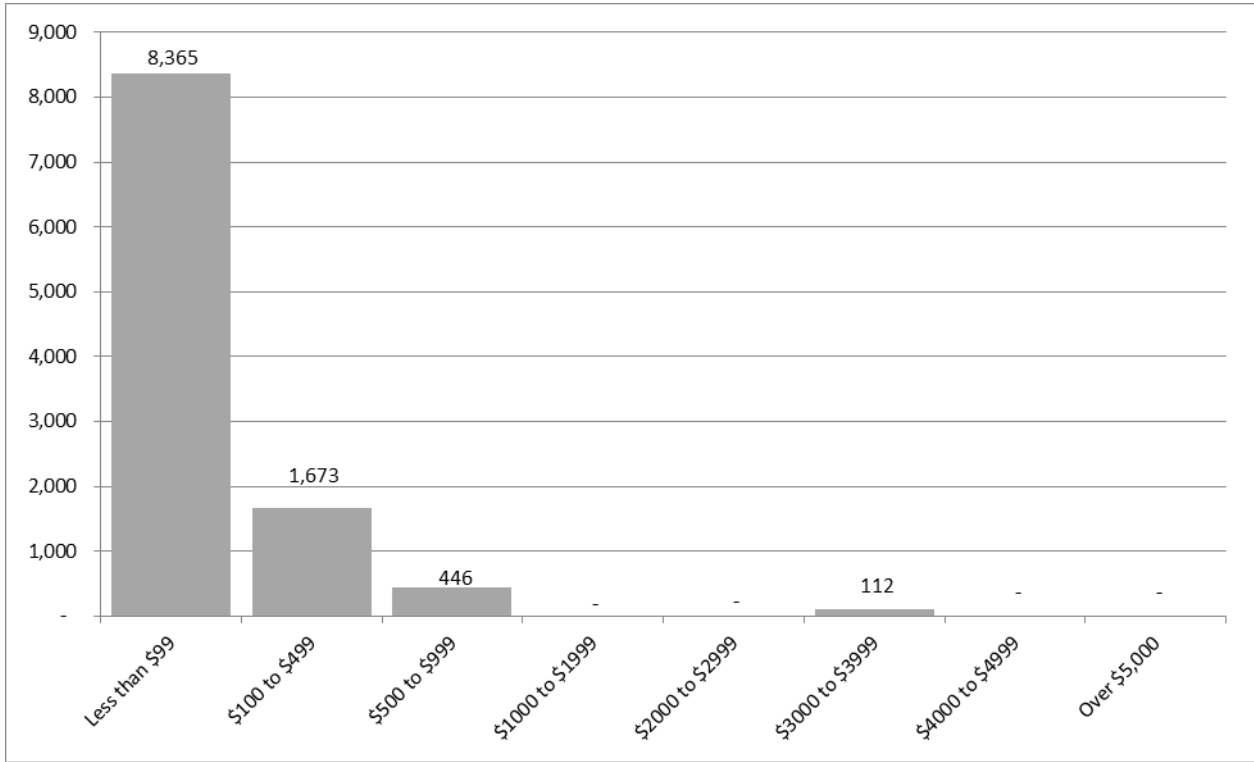
Source: Estimates derived from auditor's research of retail value of items similar to those in inventory in Checkmate.

In Table 4.4 on the following page, 95 items were randomly sampled – with either physical verification by auditors for higher-value items or with pictures of items provided by matching items with their engraved barcode for lower-value items. From the samples, two items were confirmed to be missing and another five were unaccounted for because of vacations or sickness on the part of staff when the audit was conducted. Overall, 92.64 percent of all sampled items were accounted for.

Table 4.4
Results of Assigned Tool Inventory Samples

Location and Status	Random Samples	Percent of Total	If Extrapolated to Entire Population	Low Value Estimate of Assets		High Value Estimate of Assets	
Accounted For – In Vans	15	15.79%	1,674	$	40,946	$	245,877
Accounted For – In Storage	11	11.58%	1,229	$	30,061	$	180,516
Accounted For – In Field (Pictures Taken/Items Confirmed)	62	65.26%	6,915	$	166,401	$	999,225
Unconfirmed Due to Tradespeople Sick or On Vacation	5	5.26%	557	$	16,339	$	98,116
Missing Items - Confirmed	2	2.11%	223	$	5,455	$	32,754
TOTAL	**95[2]**	**100.00%**	**10,596**	$	**259,178**	$	**1,556,340**

Source: 95 Samples, End User Warehouse Engraved List Data

Required Management of Low Value Assets

The Division is not fully complying with the Controller-Treasurer Department's Fixed Assets Administrative Guide. The guide requires that low-value expense items (LVEI) valued between $1,000 and $4,999 are to be tracked and managed the same as fixed assets, but not capitalized. These assets should be tracked in "SAP fixed asset sub-ledger for control purposes due to their sensitive and theft-prone nature."

Based on our analysis of assets recorded in Checkmate and on the Engraved list, there are an estimated 130 assets that meet the value criteria. However, there are only 29 LVEI assets recorded in SAP for cost centers associated with Building Operations. Further, some of the 29 assets that are recorded have likely been decommissioned, such as a Laptop with a 386 processor that was purchased in January 1993.

The Controller-Treasurer may provide an exemption to use an alternative tracking system if using SAP is not feasible. The existing Checkmate system could fit the requirement of an exemption, but the value of the estimated 130 assets are not currently tracked. To be compliant with the Controller-Treasurer's requirements, the Division should record and maintain all LVEI in SAP, or seek and exemption and update its records in Checkmate to comply with the requirements.

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[2] The sample size of 86 provides a confidence level of 95% with a confidence interval of +/- 10%.

Warehouse Security Cameras Are Obsolete

FAF, like all departments, has a "Surveillance Use Policy for Security Cameras." In Sec. 1 of the policy, the stated purpose of security cameras is to create a "safer environment for those who visit and work at its facilities" and to act as a "deterrence to malicious intent" such as vandalism.

Placement of video cameras in and around the warehouse is insufficient to meet the Policy's stated purpose to create a "safer environment" for staff. There are two cameras in the warehouse and two cameras in the tool crib. Another two cameras are installed outside of the warehouse. Auditors observed that no camera monitors one of the doors used to load and off-load equipment in the tool crib. Staff described this door as "high traffic."

The cameras are outdated and they produce blurry images with little to no useful information regarding incidents. Staff members stated the cameras cannot swivel on their own and must be moved physically to face a particular direction. Additionally, the cameras do not have motion sensors to record or pick up activity when motion is detected.

Additionally, a new regulatory framework on surveillance was passed by the Board of Supervisors in June 2016 which directed County departments to better assess how surveillance systems currently in place are collecting information. Currently, security cameras record hours of footage that must be sorted through by investigators to locate specific incidents in time, wasting valuable time and resources.

A system of new security cameras that incorporates motion capture technology could limit the need to retain hours of footage. Doing so could meet two goals: to meet the County's new surveillance policy to limit over-collection of data and to more efficiently collect data that would be useful for investigators looking into incidents at the warehouse. A basic system that would meet these needs is estimated to cost $13,350.

The Warehouse Lacks Controls for Entry by Tradespeople and Others

Staff stated that more than 100 tradespeople have access to the warehouse. This means they have keys to access cages for the various trades, and they have permission from management to enter the warehouse as needed. The logs of the ingress and egress of tradespeople are limited or nonexistent. A physical paper log exists on a computer stand where a stand-alone computer is used for CheckMate data entry. Auditors did not observe anyone signing in on either paper or computer-based log during visits to the warehouse. Moreover, the only method to confirm if somebody has been in or out of the warehouse is to monitor security cameras or to search for tools that are checked out in the CheckMate system. However, the CheckMate system lacks password protection so any tradesperson could potentially check out tools under someone else's name, or even tamper with records to hide the theft of assets.

Warehouse Lacks Written Procedures

There are no written policies or procedures to guide the warehouse's operations. This is a control weakness that if fixed, could help solve some of the other observed problems. For example, procedures instructing warehouse staff to apply continent access controls for tradespeople, and requirements to barcode and scan all new assets would reduce future inventory control problems.

CONCLUSION

To reduce the risk of loss and comply with County policy, Building Operations should develop policies and procedures to maintain warehouse security. Additionally, they should inventory into a digital system all assets that are required by County policy and adopt controls and monitoring policies and practices to ensure assets are accounted for, properly managed and available.

RECOMMENDATIONS

To reduce the risk of loss and inefficiencies associated with difficulty locating tools and comply with County policies, the Building Operations Division of the Facilities and Fleet Department should:

4.1   Develop policies and procedures in accordance with the federal Government Accountability Office's (GAO) Executive Guidance on Inventory Best Practices or other appropriate industry standards for warehouse and inventory management. These policies should include periodic inventory of tools, including those assigned to individuals, and procedures for physical controls, such as closing badge-access doors, locking up keys to tool cages, aiming security cameras at high-risk locations, and logging of items checked out and checked in. (Priority 1)

4.2   Tag and scan into the CheckMate inventory system all items stored in the warehoused and on long-term assignment to staff with a value of $1,000 or more or for which there is a need to track the item for location purposes. (Priority 2)

4.3   Hire a temporary staff person for 12 weeks to tag and scan into the CheckMate inventory system all items stored in the warehoused and on long-term assignment to staff with a value below $1,000. (Priority 2)

4.4   Implement a procedure to run the "Past Due" report in CheckMate every month and collect checked out tools no longer needed by the borrower. (Priority 2)

4.5   Replace the six security cameras with a modern system, preferably one that records upon activation by motion to minimize the amount of recorded footage. (Priority 2)

4.6   Configure password protection on the CheckMate system to limit access to warehouse staff only or configure unique password-protected logins for tradespeople. (Priority 3)

The combined recommendations will improve the Division's controls of its assets within the warehouse and on long-term assignment to staff. This will have two primary benefits. First, assets that are monitored and maintained will be more available for immediate location and use by tradespeople. This will support the Division's ability to provide responsive service. Second, the improved controls reduce the risk of loss, theft, and abuse of County-owned assets, which will have a financial benefit by reducing the missing and unaccounted assets that are estimated between $39,193.83 and $161,675.97 for the Division.

Recommendations 4.1, 4.4, and 4.6 can be performed by existing staff and management with existing tools at no additional cost. Further, 4.3 can be performed by existing staff as it only encompasses an estimated 112 non-inventoried items, many of which are assigned to long-term staff and tracked on the engraved list. However, recommendation 4.3 will be more time consuming to inventory the estimated 7,038 items not already inventoried. We estimate it will take 12 weeks to perform this task and we recommend hiring a temporary Office Specialist for three months.

Finally, Recommendation 4.5, the updated camera system, is estimated to cost $13,350 to purchase and install. This cost estimate is based on a September 2016 report to the Board of Supervisors from FAF regarding similar video surveillance system costs for the County's correctional facilities.

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Section 5.   Customer Service

> ### *Background*
> **The Building Operations Division gets a significant portion of its workload from other County departments requesting maintenance and repairs or upgrades to their facilities. We surveyed 14 County departments who are Building Operations Division customers to assess their perceptions of customer service.**
>
> ### *Problems*
> **Ten of 14 departments reported that when they submit a work order for a repair or facility improvement project, communication from the Division, other than acknowledging receipt of the order, is minimal, so that the customer department is not told when the work might be done, if the work has been done, if the work has been delayed and why, or any other status reporting on the order. Second, two departments that have 24-hour operations and/or mission critical systems that operate at all times, asserted that not staffing the Building Operations MAC Room at all times, has resulted in missing notifications of system failures, resulting in damage to facilities and potentially severe operational problems due to system failures that were not timely reported.**
>
> ### *Adverse Effect*
> **Poor communication with customer departments is a poor business practice. Customer department staff working with Building Operations are unable to tell their managers when requested repairs or improvements will be completed. Failure to receive and act on system failures in key facilities has resulted in damage to some facilities, requiring repairs that could have been avoided, and also risks severe operational problems.**
>
> ### *Recommendations and Benefits*
> **The Building Operations Division should develop procedures to communicate work order status to customers, either using Archibus or other methods, such as text messaging by MAC Room staff to customers. Other communications improvements would include a website with more information for customers, an annual meeting with customer departments, and development of facility maintenance standards and scope of services agreements with customers. Further, the Division should provide a way for 24-hour facilities or facilities with critical 24-hour systems to monitor those systems themselves. These steps would address the key concerns expressed by customer departments.**

BACKGROUND

The Building Operations Division, based on its responsibility for maintaining and repairing County facilities, gets a substantial portion of its workload via requests from other County departments who are its customers. As described by Division staff and customer

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departments, customers request repairs or facilities improvements via the Monitoring Automation Center (MAC Room) operated by Building Operations. Requests are made by telephone or via an on-line form in Building Operations' Archibus work order system. MAC Room staff then receive and evaluate the request, and forward it to the proper craft unit (plumbing, carpentry, electrical, etc.) to be distributed either to County crafts workers, or a crafts contactor hired by Building Operations.

Customer Comments Regarding Building Operations

To assess customer satisfaction with Building Operations, we conducted interviews with departments that are its customers. We interviewed representatives of 14 departments or functions, including the Clerk of Board, District Attorney, Crime Lab, Department of Correction, Information Services Department, Registrar of Voters, Probation, Social Services Agency, County Counsel, Public Defender, Department of Communication, Sheriff's Department (custody facilities), Behavioral Health and Valley Medical Center (non-VMC-campus clinics.)

A common theme through the interviews with most departments was the lack of communication by the Building Operations Division once the customer department had submitted a request for repairs or improvements, and the request had been acknowledged by Building Operations, and a work order number issued in the Archibus system. Departments all said they made requests by telephone or using the Archibus on-line request form. Of the 14 departments interviewed, 10 mentioned poor communications regarding the status of work orders as a problem. Examples of their comments or typical problems follow below:

- "I sent those in, got a work order, then there's no follow-up, saying 'It's been assigned, here's the technician, reach out to them, here's a proposed scheduled, here's the status of the project' nothing."

- Department rarely gets status updates about work requests and thinks that updates would be extremely helpful. Department representative said that there are no updates in Archibus so it requires a call to FAF seeking information.

"We find that unless we follow up with it, we don't get a response right away, and we know FAF is short-staffed, but there are times where we have to make multiple calls and e-mails to follow up on the work order.

One department liaison to Building Operations said he assigned a member of his staff to call Building Operations periodically to check the status of each order to make sure the work got completed. Representatives of several departments stated that in the past, Building Operations' crafts workers had a customer Department representative sign off when the repair was completed, a practice they said was no longer followed.

A liaison from another customer department compared Building Operations' communication regarding the status of work orders unfavorably to a repair firm that has the countywide contract for photocopier/printer repairs. The liaison provided copies of e-mails received from that firm in response to a request for a repair, which included communications stating that a representative would contact her by phone about the request, an e-mail indicating a work order for the repair had been issued, an e-mail indicating by name the technician that had been dispatched to address the problem, and an e-mail reporting that the problem had been corrected.

Failure by Building Operations to communicate with customers on an on-going basis regarding the status of work orders is a poor business practice. Requiring customers to continually make phone calls and e-mails to follow-up on work orders takes customer staff away from other duties, and also makes it difficult for customer staff liaison's to Building Operations to report to their own management, and to staff that have reported problems, when those repairs or improvements would be completed.

In interviews, Building Operations staff said that the Archibus v.23 upgrade, which is expected to be implemented in April 2018, will allow crafts staff to receive and update work orders in the field via County-issued cell phones, rather than the current processes of printing out and distributing work orders as paper documents, and reporting updates to MAC Room staff.

We recommend that MAC Room staff be instructed to provide updated information on work orders to customer departments using electronic mail, cell phone text messaging or telephone calls to landlines if the customer liaison lacks a cell phone. Such messages should be brief, initially indicating when work is expected to begin, and the reason for delays. Additional text messages should be as soon as the MAC Room staff knows work is going to begin, and when the work is completed. This will better inform customers of the status of a work order.

Monitoring 24-Hour Facilities and Systems

In addition to its function of receiving requests for facility repairs and projects, and entering them into the Archibus work order system, the Monitoring Automation Center (MAC Room) is also responsible for monitoring key building systems in various County facilities. As described by MAC Room staff, there are six computer monitors that display alerts regarding problems with systems in the various buildings, including air conditioning, building security, sewer grinders in custody facilities and video surveillance of the Facilities and Fleet Department's own buildings.

However, the MAC Room is not staffed at all times. Current staffing is from 6 a.m. to 9:30 p.m., Monday through Friday.[1] At other times, calls to the MAC Room to report facility problems are reported to 24-hour staff in the Information Services Department, who are supposed to contact designated management staff in Building Operations to report the problem, so that Building Operations can take action. The ISD staff does not itself have any training in building maintenance functions, but simply is supposed to pass on the information it receives to those who do. In addition, some of the systems have the capability of reporting problems by e-mail alert to designated Building Operations staff to take action.

During the course of this audit, the Management Audit Division received information about incidents where the absence of MAC Room staffing resulted in system monitoring alerts of problems in 24-hour facilities, or facilities with 24-hour systems, not being promptly responded to, resulting in significant problems. One incident involved sewage flooding a facility, with the flooding causing damage due to failure of Building Operations to respond timely, and a second involving failure of Building Operations to monitor excessive temperatures threatening mission-critical materials.

Management Audit Division staff obtained e-mail exchanges between the one department and Building Operations confirming that one of these problems had been repeatedly discussed in 2015 and 2016.

To buttress the information provided by these two departments regarding the need for monitoring of systems after hours, we also reviewed information regarding work orders from the Archibus system, to ascertain whether there were calls for service occurring during the period when the MAC Room is not staffed.

However, that information is not available, as the order times reflect when they are entered into the system, which is only when MAC Room staff is there to enter them. Therefore, we instead looked at work orders occurring from 7 a.m. to 10 a.m. over a year, and who accounted for them. We found that the highest percentage of work orders in that time period, 16.1 percent, came from Main Jail north. We further found that of the 15 locations that accounted for the highest percentage of work orders reported during that time period, 11 of them, accounting for 47 percent of the total work orders reported, were locations at either the Main Jail or Elmwood. Since both of the jails are 24-hour facilities, we believe this indicates that there are repair needs, or building monitoring reports, that occur when the MAC Room is not staffed, and would be reported during those hours, if there was someone available to report them to.

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[1] At the exit conference for this audit, FAF management reported that the Department's FY 2018-19 budget request, which is pending approval from the Board of Supervisors, includes funding for additional staff to staff the MAC Room at all times.

If the Board of Supervisors does not approve FAF's FY 2018-19 budget request for funding to staff the MAC Room at all times, we recommend that the Building Operations Division provide a way for customers with 24-hour mission critical systems to monitor important systems themselves. This would be less expensive, because it makes use of existing County staff, than providing additional MAC Room staffing at off-hours.

Other Improvements to the Customer Relationship

In our interviews, Building Operations customers made a variety of other suggestions. These included:

Upgrading the Building Operations Website

The Building Operations web site on the County's Connect intranet site has minimal information. It has a link to the Archibus on-line work order entry interface, but no instructions on how to use that system, or instructions on what level of detail should be provided regarding the nature of repairs, the location, the priority, etc.

Although the website indicates that customers can "check on the status of work or get reports showing the completion of projects," customer representatives asked to respond to that information said in their experience the information available was usually limited to a work order having been issued and in process or completed, with no specific detail about the progress of the work, unless the crafts worker assigned to the work order provided additional detail in the notes section of the work order on the system. They said it would be better to get notifications of work status proactively from Facilities and Fleet, rather than having to pursue it themselves, particularly for departments that have a large number of work orders in progress. They also repeated that sometimes work orders languish for long periods, and only move forward when they follow up by phone with a crafts supervisor. They also said that on some occasions, a work order will show in the system as completed, when in fact it has not been, again requiring phone follow-up to get the work completed.

Furthermore, one customer representative said he was not aware of the existence of the work order system as a place to check work order status. This indicates a need for improved communication with customer Departments.

He said he typically receives two e-mails from Facilities Building Operations in response to work order requests, one provided the work order number when issued, and a second indicating to which unit the work order has been assigned. The second e-mail, a copy of which he provided, includes the name of the supervisor in charge of the unit, and a phone number and e-mail contact for additional questions. It did not refer to the Archibus system as a source of status information. This customer representative agreed that more frequent communication from Building Operations is needed about the status of work orders, either

by e-mail or text messages, regarding when work will start, whether a meeting is needed to review the project, or when a project is completed or is delayed.

The web site also lists contact information for work centers, but it was not current, as of September 29, 2017, when Management Audit staff reviewed it. The contact information does not reflect the Division's reorganization into work centers for the different crafts (carpentry, plumbing, electrical, etc.) rather than geographic work centers. The manager listed for the Elmwood work center, which still exists, had moved to another County department, and his replacement was not listed.

The web site should be upgraded with additional information on how customer departments request Building Operations services, and who they should contact for follow-up information on the status of a particular request.

Conduct Regular Meetings With Customers

Several customers reported that Building Operations used to hold an annual workshop to which it invited all the liaisons in the various customer departments, to discuss ongoing maintenance issues, report on new initiatives and otherwise provide information on maintenance services. According to the customers who reported this, such a session has not been held for at least 10 years.

We note that other County departments have this sort of formal session regularly to update customers and colleagues on issues that may affect them. The Auditor-Controller's Office, for example, has quarterly meetings with departmental fiscal officers and accountants that work in departments, to inform them of new County financial policies and issues that may affect them, and to solicit feedback on departmental concerns. We recommend that the Building Operations Division start an annual meeting for liaisons in its customer departments. Such a meeting would be particularly appropriate as the Division implements the recommendations in this audit, and implements such projects as the shift to transmission of work orders to trades staff in the field via cell phones.

Formalize the Commitment to Customers

During the course of this audit, nearly all the information we obtained describing Building Operations functions came via interviews, because the Division has no written policies or procedures describing its work. This includes information such as how calls for service are prioritized, how quickly a call should be responded to, based on its priority, when departments are charged for repairs, how often preventive maintenance tasks occur, and other key aspects of Division operations.

By contrast, peer building maintenance functions in other jurisdictions have provided this information more formally. Service Level Agreements between maintenance departments

and their customer departments are used, based on our research, in Toronto, Canada, the United States Department of Veterans Affairs, the University of California at Riverside, the University of Michigan and the Boulder Valley School in Colorado. The most relevant example of such an agreement to the County of Santa Clara are the Facilities Maintenance Standards adopted by the County of Los Angeles in 2016. The cover page and the table of contents for these Standards is provided as an example (see Attachment 5.1).

These Standards provide detailed information on how Los Angeles County's Asset Management Branch will carry out its facility maintenance functions. This includes lists of maintenance and monitoring activities that will be carried out weekly, monthly, quarterly, semi-annually and annually on key building systems, how frequently various types of custodial, parking lot maintenance and landscaping maintenance functions will be carried out, and how the Branch will respond to emergencies.

At the customer department level, the Facilities Operations Service of the Los Angeles County's Internal Services Department has created a Scope of Services Statement for each customer department, listing the items that will be carried out by the Department for that customer department. Representatives of both the customer department and the Internal Services Department sign the Statement, which includes information on how quickly calls of various priorities will be responded to.

We recommend that as a long-term goal, the Building Operations Division develop a similar set of Facility Maintenance Standards and Scope of Service Statements with its customers, so customers know the levels of service to which the Building Operations Division is committing. This needs to be done once staffing and workflow analysis issues addressed in other sections of this report are addressed, so that Building Operations is able to meet the service level standards that it is committing to in agreements with customer departments.

CONCLUSION

Interviews with 14 customer departments found two key concerns. First, 10 of the 14 reported very limited communication with Building Operations staff once a work order has been received, so that the customer was contact Building Operations themselves to learn the status of the work order, which is inefficient and makes it difficult for customer representatives to inform their own management and staff of the status of repairs. We also discovered incidents in two departments with 24-hour operations or 24-hour critical systems where Building Operations' decision to eliminate 24-hour staffing of the MAC Room has resulted in alerts regarding system failures not being reported timely, causing potential or actual damage and operational problems once the system failures occurred. Information on work orders reported from 7 to 10 a.m., nearly half of which came from jail facilities, supported these concerns.

RECOMMENDATIONS

It is recommended that the Building Operations Division:

5.1   Provide a means to communicate the ongoing status of work orders to customers. This should be done as part of implementing cell phone receipt of work orders by County crafts staff, either using customer communication functions available in the Archibus work order system, by using e-mail from the new phones, or by having MAC Room staff send text messages to customers regarding the status of work orders they are responsible for. (Priority 2)

5.2   Provide all 24-hour County facilities or departments with 24-hour critical systems, the ability to monitor those systems themselves when the MAC Room is not staffed. (Priority 1)

5.3   Improve the Building Operations web site to provide more information and current information for customers, such as how to complete on line work order requests, what information the requests should include, and who to contact for the status of work orders. (Priority 2)

5.4   Conduct an annual meeting with customer representatives to discuss new maintenance initiatives and respond to customer concerns, similar to the quarterly meeting held by the Controller's Office with departmental fiscal officers. (Priority 2)

5.5   Develop and publish facility maintenance standards for the County, modeled on those developed by the County of Los Angeles, and implement them via Scope of Services agreements with customer departments. (Priority 3)

SAVINGS AND BENEFITS

Implementing the recommendations in this section will provide more information to customer departments, which will improve Building Operations' relationship with them, and be more efficient for the customer. There should be limited if any cost of providing the additional information to customers by trades staff, since they are already receiving cell phones for the purpose of getting work orders in the field. Providing the ability for customers to monitor key systems themselves also should have limited cost, since the customer departments already have staff available to do so. The other initiatives recommended should also have minimal cost, and should be assigned to Building Operations management staff.

Section 6.   Strengthening the Grounds Unit

> ### *Background*
> **The Grounds unit lies within the Building Operations' sub-division called Building Operations Support. It manages approximately 27 acres of landscapes (lawns, plants, trees, etc.) around County-owned or leased facilities. It also manages the landscapes on the Santa Clara Valley Health and Hospital System campus.**
>
> ### *Problem and Adverse Effect*
> **Generally speaking, all the County's landscapes are in poor condition, as evidenced by the photographs in this report. There are multiple causes, including but not limited to an insufficient number of Gardeners to maintain all County facilities on a routine basis; a Grounds unit with no clear lines of authority and no level of management between the head of Building Operations Support and the Gardeners; and, a supervisory span of control at the highest management level that is too wide to be effective. As a result, only 16 percent of County facility landscapes are routinely maintained.**
>
> ### *Recommendations, Savings and Benefits*
> **FAF should transfer the Grounds unit from Building Operations Support to another section within Building Operations whose manager has fewer direct reports, and designate a second Lead Gardener, for a total of two Lead Gardeners. The Employee Services Agency should also create a new Supervising Gardener position with authority to manage the other Gardeners.**

BACKGROUND

The County of Santa Clara currently owns or leases 239 facilities Countywide.[1] These include offices and municipal buildings, medical clinics, jails and warehouses. It is the responsibility of the Grounds unit within the Building Operations Support subdivision to maintain the landscapes (lawns, plants, trees, etc.) around all of these facilities. The Grounds unit is also responsible for maintaining landscapes on the Santa Clara Valley Health and Hospital System (SCVHHS) campus.

The Grounds unit currently consists of 11 Full-Time Equivalent (FTE) Gardener positions, including one Lead Gardener position. The annual cost of these 11 Gardener positions is $1,140,785, which represents about 4 percent of Building Operations' total personnel expenses for FY 2017-18.

Given the fact that most County facilities have landscapes, and the Grounds unit is small in staff, not all County facilities receive routine (weekly) maintenance. The Grounds unit maintains only 37 of the County's 239 facilities on a routine basis. This is

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[1] List of operating and disabled County facilities, as provided by FAF fiscal staff to the Management Audit Division on August 10, 2017.

about 16 percent. The remaining 84 percent of facilities are maintained on an *as-needed basis*.

We note that Building Operations does not track information on the size of the landscapes maintained (routinely or otherwise) by the Grounds unit.

For this analysis, we asked Building Operations Support for an estimate of the size of these landscapes. It returned with an estimate of the landscapes around the 37 routinely-maintained County facilities. They encompass approximately 1.2 million square feet (or 27 acres), according to Building Operations Support. However, no similar estimate was provided of the landscapes surrounding the majority of County facilities maintained on *an as-needed basis*.

Grounds-keeping Operations

The Grounds unit is divided into two teams of gardeners (Team 1 and 2). Every Monday, both teams service the areas surrounding the County Government Center and Main Jail on West Hedding Avenue. Every Tuesday, Team 1 services facilities in Gilroy, Morgan Hill and San Martin, while Team 2 services the County Center at Charcot Avenue and other facilities. Every Wednesday, both teams work on the SCVHHS campus on South Bascom Avenue. Every Thursday, Team 1 services the medical clinics in Milpitas, Palo Alto, San Jose and Sunnyvale, while Team 2 services County Communications and other facilities in San Jose. Every Friday, both teams return to work on facilities previously covered during the week but that require additional attention. They may also service facilities that are not routinely serviced.

What we looked at and found

We systematically surveyed landscapes around County facilities for deterioration, erosion, safety and security problems. We looked at the general condition of County lawns, trees and plants. For lawns, we looked for bare spots, drainage problems, and any need for trash or debris removal. For trees and plants, we looked for the shape and structure of growth, disease and insect infestation, and any maintenance required such as pruning, trimming or removal.

We surveyed the following facilities/areas.
- County Center at Charcot
- County Government Center on West Hedding Avenue
- Crime Lab
- Facilities and Fleet
- Juvenile Hall
- Main Jail and related facilities
- Valley Health Center East Valley

Generally speaking, the surveyed landscapes were in poor condition despite the fact that all receive weekly maintenance. We found some lawns that were wilting or turning brown. Other lawns and grass areas needed mowing. We found trees that were

overgrown with suckers (branches growing from the base of the tree). We found shrubs with dead, damaged or diseased leaves. We found weeds throughout County properties. The photographs below were taken on August 31, 2017 and show some of these problems around the County Government Center.

Source: Management Audit Division.

We also surveyed County facilities that are maintained on an *as-needed basis*. These areas were also in poor condition. For example, on September 1, 2017, we found an unauthorized campground on the County property at 2500 Senter Road (as shown in

the photographs below). At the exit conference for this audit, Building Operations management explained that there has been a proliferation of unauthorized campgrounds on County properties in recent years, and that the FY 2018-19 Recommended Budget for FAF includes a request for the funding of a contract with a vendor that would clean up this and other unauthorized campgrounds on an as needed basis.

Source: Management Audit Division

Causes of Poor Landscaping Maintenance at Routinely-Maintained Sites

The poor conditions of routinely-maintained County landscapes are attributable to several factors, including, but not limited to: 1) the Lead Gardener does not have the authority to hold other Gardeners accountable for poor performance; and, 2) the head of Building Operations Support who has that authority also has a supervisory span of control that is too wide to be effective.

Intrinsically, the Lead Gardener does not have the authority to manage the other Gardeners. He receives differential pay of 5 percent above his regular pay for performing supervisory but non-managerial duties, in accordance with the Gardener's labor agreement with the County.[2] For instance, he must *"[r]esolve work-related problems within guidelines set by the supervisors, including written counseling."*[3] The agreement specifically states that *"[t]he Lead will not issue personnel actions…"* related to employee probationary periods, unfavorable reports on performance or conduct, and recommended and final disciplinary actions.[4] The provisions of this agreement are reflected in the Grounds unit's flat organizational structure, with no level of management between the head of Building Operations Support and the Gardeners, as illustrated in Chart 6.1 below.

Chart 6.1
Current Organization Chart

Source: Facilities and Fleet Department.

It was the general opinion of the Gardeners interviewed for this report that *"no one [within the Grounds unit] can tell anyone else how to do their job."* Indeed the authority to manage the Gardeners lies with the head of Building Operations Support who is also responsible for managing 48 Janitors, including three Janitor Supervisors, 16 General Maintenance Mechanics, six Electronic Repair Technicians, and five Utility Workers. All but the line-level Janitors report directly to the head of Building Operations Support. This supervisory span of control is too wide to be effective given the nature of grounds maintenance which requires much task direction, support and supervision. By comparison, the head of Building Operations Trades has six high-level managers between himself and line staff. We recommend that FAF 1) transfer responsibility for managing the Gardeners to another Building Operations manager with fewer direct reports, and 2) designate a second Lead Gardener, for a total of two Lead Gardeners. We also recommend that ESA create a new Supervising Gardener position with the authority to manage the other Gardeners. All line Gardeners should report to the two Lead Gardeners who should report to the Supervising Gardener who should report to a Building Operations manager, as illustrated in Chart 6.2 below.

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[2] Agreement between County of Santa Clara and Local 521 affiliated with Service Employees International Union (SEIU), June 22, 2015 through June 16, 2019.
[3] Section 20.3(b), County/SEIU Agreement.
[4] Section 20.3(j), County/SEIU Agreement.

Chart 6.2
Proposed Organizational Chart

Source: Management Audit Division.

No to Little Maintenance of Other County Properties

As previously mentioned, the 11 Gardeners of the Grounds unit maintain about 27 acres on a routine (weekly) basis. This equates to about 2.5 acres (or 108,900 square feet) per Gardener. The Gardeners interviewed for this audit reported that the Grounds unit is currently working at or near its total capacity, and that FAF would need additional Gardeners if the Grounds unit were to be tasked with maintaining all County facilities on a routine basis. We could not estimate how many additional Gardeners FAF would need since information on the number of acres surrounding all County facilities is not available. We recommend that FAF compile that information and ascertain (based on the current 2.5 acres per Gardener average) how many additional Gardeners would be needed.

Another option is to use private contractors, provided they are not used for any regular maintenance, but for peak and unusual work, as requested by the Gardeners' labor union during recent meet-and-confer meetings with FAF. After these meetings, in January 2018, FAF management requested that the County's Procurement Department issue a solicitation for peak and unusual workload. FAF management reported that it could also use its contract with the California Conservation Corps (CCC), despite its high costs. This contract is also restricted for peak and unusual work, however. Lastly,

FAF management reported that it could use the Sheriff Custody Bureau's Weekend Work Program (WWP) and Public Service Program (PSP) to supplement the work of the 11 Gardeners, subject to the availability of WWP/PSP workers, and provided that it is for peak and unusual work only. FAF management has used each of these groups to some extent in the past, and has the ability to do so again in the future.

How the County's Integrated Pest Management (IPM) program impacts the Grounds unit

According to Gardeners interviewed for this report, their ability to effectively control weeds on County properties is hampered by the County Integrated Pest Management (IPM) program which seeks "to eliminate or reduce pesticide (chemical) applications on County property." They reported that they do not currently have the staff resources or time to manually pull weeds. Consequently, they use weed trimmers to cut weeds. This does not remove roots, however. And it is only a matter of time before weeds grow back. We shared this information with the IPM Manager who explained that he maintains an Approved List of Pesticides from which FAF (and any other County department) may choose provided that pesticides are used as a last resort and are approved for use through the IPM's pesticide exemption use process. We recommend that the IPM Manager work with the Grounds unit to identify one or more non-chemical pesticides for use by the Gardeners on an ongoing basis. This would save the Gardeners from having to apply and re-apply for exemptions to the County's IPM Ordinance.

Other Issue to Consider

FAF management advised us that the IPM Manager is spear heading a long-term effort to assess the status of all the County's landscapes (lawns, plants, trees, etc.). The outcome of this assessment is not expected for another one to two years.

CONCLUSION

The County's landscapes are currently in poor condition, as evidenced by the photographs in this report. However, the good news is that they can be rehabilitated and restored if the FAF takes action as soon as possible.

RECOMMENDATIONS

The Facilities and Fleet Department should:

6.1   Transfer the Grounds unit from Building Operations Support whose manager is overloaded with direct reports to another section within Building Operations whose manager has fewer direct reports. (Priority 1)

6.2   Designate a second Lead Gardener from among current line-level Gardeners. (Priority 1)

6.3   Compile information on the number of acres around each County facility, and use the current acres per Gardener average to ascertain how many additional Gardeners are needed to maintain all County facilities on a routine basis. (Priority 2)

The Employee Services Agency should:

6.4   Create a new Supervising Gardener position with authority to manage the other Gardeners. (Priority 1)

The County Integrated Pest Management (IPM) program should:

6.5   Work with the Grounds unit to identify a non-chemical pesticide for use by the Gardeners in the future. (Priority 1)

COSTS, SAVINGS AND BENEFITS

Implementation of Recommendations 6.1, 6.3 and 6.5 would not have any fiscal impact upon the County's General Fund. Implementation of Recommendations 6.2 and 6.4 would have fiscal impact on the General Fund. We estimate the cost of the second Lead Gardener position would be approximately $3,000 per year, while the cost of the new Supervising Gardener position would be about 5 percent above Lead pay or $3,100 per year but that cost would have to be determined by the Employee Services Agency. That cost would be minimized if the existing Lead Gardener is promoted to Supervising Gardener with a corresponding pay increase.

Section 7. Improving Human Resources Management

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Background

The Building Operations Division of the Facilities and Fleet Department (FAF) is responsible for performing all maintenance services for County facilities. To perform these services, the Division employs a variety of staff including but not limited to heating, ventilation, and air conditioning/refrigeration (HVAC/R) mechanics, plumbers, electricians, janitors, general maintenance mechanics, and gardeners.

Problem and Adverse Effect

The Building Operations Division has an overall vacancy rate of approximately 25 percent. Its vacancies are particularly concentrated in the trades (carpentry, HVAC/R, etc.). For instance, as of August 2017, the vacancy rates for carpenters, plumbers and HVAC/R mechanics were 50 percent, 33 percent, and 31 percent, respectively. These high vacancy rates are attributable to multiple factors, including but not limited to pay differentials with market competitors and prevailing wages in the region, fewer applicants who meet the basic employment standards, and lack of effective recruiting strategies and tactics.

Recommendations, Savings and Benefits

FAF should work with the Employee Services Agency (ESA) to establish an apprenticeship program to train individuals in the trades since large percentages of applicants are being removed from employment consideration because they lack the requisite apprenticeships. FAF and ESA should also develop and implement an overall strategic recruitment plan, including specific recruiting strategies, tactics and deadlines. ESA should conduct a salary review to determine if wage increases for the trades are warranted, and recommend such wage increases to the Board of Supervisors.

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BACKGROUND

The Building Operations Division of the Facilities and Fleet Department (FAF) is facing a shortage of staff, particularly skilled trade workers. These include but are not limited to carpenters, electricians, heating, ventilation, and air conditioning (HVAC) mechanics, painters, and plumbers. There are several reasons for this shortage. At the most basic level, Building Operations does not operate or sponsor an apprenticeship program for the trades. Apprenticeships are a proven approach for preparing workers for jobs, while meeting the needs of the employer.[1] Equally important is the fact that FAF does not have a strategic recruitment plan containing clear marketing goals and outreach goals with measurable outputs and outcomes to determine success. FAF must also ensure

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[1] See https://www.dol.gov/apprenticeship/. The United States Department of Labor.

that pay for its skilled trade workers is continually aligned with the pay of market competitors and prevailing wages in the region.

FAF management needs to take action in each of these areas if it is to effectively address its high vacancy rates in the trades.

Vacancy rates among the trades are high

The Building Operations Division has an overall vacancy rate of about 25 percent, based on payroll data as of August 28, 2017. Its vacancies are particularly concentrated in the trades (carpentry, HVAC/R, etc.). For example, among trades with two or more authorized positions in FY 2017-18, the vacancy rates for carpenters, plumbers and HVAC/R mechanics were 50 percent, 33 percent, and 31 percent, respectively, as shown in Table 7.1 below.

Table 7.1
Trades Vacancy Rates: August 2017

POSITION TITLE	Authorized	Vacant	% Vacant
CARPENTER	14	7	50%
ELEVATOR MECHANIC	2	1	50%
PAINTER	6	3	50%
LOCKSMITH	3	1	33%
PLUMBER	12	4	33%
HVAC/R MECHANIC	16	5	31%
GENERAL MAINT MECHANIC II	15	4	27%
ROOFER	5	1	20%
GARDENER	11	2	18%
ELECTRONIC REPAIR TECHNICIAN	6	1	17%
GENERAL MAINT MECHANIC III	6	1	17%
ELECTRICIAN	13	2	15%
TOTAL	**109**	**32**	**29%**

Source: County payroll records furnished by the Employee Services Agency.

Current approach to recruiting and hiring

Responsibility for recruiting and hiring staff for Building Operations is split between FAF and the Employee Services Agency (ESA). ESA is responsible for posting job announcements, reviewing applications, determining whether applicants meet employment standards as specified in the job specifications, administering written exams, proctoring practical tests, and referring eligible applicants to FAF. Note that employment standards are recommended by ESA, with input from the hiring department, posted to the relevant labor unions for concurrence, and ultimately presented to the Board of Supervisors for approval. FAF is responsible for submitting

requisitions to ESA to fill vacancies, interviewing candidates, proctoring additional practical assessments (if desired), and selecting candidates to hire.

Based on data from recruitments in 2016 and 2017 obtained from ESA, large percentages of applicants for the trades were determined to not meet employment standards and therefore, were removed from job consideration. As illustrated in Table 7.2 on the following page, 65 percent of applicants for carpenter, 83 percent of applicants for HVAC/R mechanic, and 95 percent of applicants for plumber were determined to not meet employment standards. Due in part to these percentages ESA referred only five eligible applicants to FAF for HVAC/R mechanic, three for carpenter and two for plumber. Not surprisingly, of these referrals, FAF hired only one carpenter and one plumber, but no HVAC/R mechanics.[2] The written exam for carpenter was another factor in the small number of eligible applicants referred to FAF. ESA reported that it is currently reviewing the exam for clarity and content of questions asked, and will make changes as necessary.

Table 7.2
Applicant Flow for Selected Trades

RECRUITMENT PROCESS	Carpenter[1]	%	Plumber[2]	%	HVAC/R Mechanic[3]	%
1. Application Received	83		42		30	
2. Legal Right to Work	82		39		29	
3. Training and Experience						
Met Employment Standards	29	*35%*	2	*5%*	5	*17%*
Did Not Meet Employment Standards	53	*65%*	37	*95%*	24	*83%*
4. Written Exam						
Passed	3		*n/a*		*n/a*	
Failed	14		*n/a*		*n/a*	
No show	12		*n/a*		*n/a*	
Eligibles Referred	**3**		**2**		**5**	
Referred Hired	**1**		**1**		**0**	

Source: NeoGov.

Notes: 1. Exam #: 17-51-A.
2. Exam #: 16-M75-A.
3. Exam #: 17-M81-A.

We noted that since this analysis was completed ESA has conducted new recruitments (Exam #s 17-M51-B and 17-M75-A) for carpenter and plumber, respectively, with better results. Two additional carpenters and one additional plumber were hired.

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[2] ESA reported that of three applicants not hired by Facilities and Fleet, one was hired by Santa Clara Valley Medical Center.

Why Employment Standards Are Not Being Met

We obtained from ESA the reasons why applicants for carpenter, plumber and HVAC/R mechanic did not meet employment standards. That information shows the majority of applicants were determined by ESA to lack the requisite apprenticeship (or equivalent training) specified in the job descriptions. For example, of 53 carpenter applicants who did not meet the standards, 45 (or 85 percent) had not completed *"a recognized apprenticeship program for carpenters or equivalent training,"* as shown in Table 7.3 on the following page.

Similarly, of 37 plumber applicants who did not meet the standards, 21 (or 57 percent) had not completed a recognized five-year apprenticeship as a plumber (or five years of equivalent training and possession of a Plumbers Journeyman card issued by the labor-management cooperation organization *Piping Industry Progress & Education Fund* (P.I.P.E. for short). Another seven applicants (or 19 percent) reported they had completed the apprenticeship but did not provide proof of such completion.

Lastly, of 24 HVAC/R mechanics who did not meet the standards, 11 (or 46 percent) had not completed a recognized four-year apprenticeship as an HVAC/R mechanic. Another seven applicants reported they completed the apprenticeship but did not provide proof of completion.

Table 7.3
Failure to Meet Employment Standards for Selected Trades

Carpenter - 53 Applicants Did Not Meet Employment Standards	Applicants	*%*
1. Lacked required apprenticeship OR Equivalent training	45	*85%*
2. Did not demonstrate required knowledge of construction of wooden structures	6	*11%*
3. Responses to supplemental questionnaire were inconsistent with reported job history	1	*2%*
4. Incomplete application/ missing information	1	*2%*
	53	**100%**

HVAC/R Mechanic - 24 Applicants Did Not Meet Employment Standards	Applicants	*%*
1. Lacked required four-year apprenticeship	11	*46%*
2. Reported required apprenticeship But did not provide proof of such apprenticeship	7	*29%*
3. Lacked required two-years of hands-on experience on commerical building systems	4	*17%*
4. Incomplete application/ missing information	2	*8%*
	24	**100%**

Plumber - 37 Applicants Did Not Meet Employment Standards	Applicants	*%*
1. Lacked required five-year apprenticeship OR Equivalent training AND Plumbers Journeyman card	21	*57%*
2. Reported required apprenticeship But did not provide proof of such apprenticeship	7	*19%*
3. Reported equivalent training AND Plumbers card But did not provide proof of such training or Plumbers card	2	*5%*
4. Incomplete application/ missing Information	7	*19%*
	37	**100%**

Source: Employee Services Agency.

We noted that ESA has apprentice classifications for carpenter, electrician, painter and plumber (2nd, 3rd and 4th Year), although no staff are currently employed as apprentices. Interestingly, we did not find any 1st Year apprentices in the County's database of job specifications.

County wages versus prevailing wages for public works projects

It was the general feeling and opinion of many Building Operations staff interviewed for this audit that the County of Santa Clara pays its skilled trade workers less than market competitors in the region. While a detailed comparison of compensation packages in the region was beyond the scope of this analysis, we investigated this matter further by comparing the County's hourly rates for a select group of trades to the prevailing wages set by the Department of Industrial Relations (DIR) of the State of California for public

works projects.[3] Based on this comparison alone, we found the County's *base hourly rates* for carpenters, plumbers and HVAC/R mechanics are currently between nine and 21 percent lower than generally prevailing wages for those trades in the region, and its *total hourly rates* for the same three trades are currently between nine and 28 percent lower than prevailing wages in the region, as shown in Table 7.4 on the following page.

Table 7.4
Base Hourly and Total Hourly Pay for Selected Trades

Position	SCC Base Hourly Salary	DIR Base Hourly Salary	Base Hourly Difference	%
Carpenter	$ 42.76	$ 46.50	$ 3.74	*9%*
Plumber	$ 50.21	$ 60.91	$ 10.70	*21%*
HVAC/R Mechanic	$ 50.21	$ 60.91	$ 10.70	*21%*

Position	Total Hourly Salary	Total Hourly Salary	Total Hourly Difference	%
Carpenter	$ 69.06	$ 75.30	$ 6.24	*9%*
Plumber	$ 78.88	$ 101.34	$ 22.46	*28%*
HVAC/R Mechanic	$ 78.88	$ 101.34	$ 22.46	*28%*

Source: 1. FY 2017-18 Position Detail Report, County of Santa Clara.
2. 2017 Prevailing Wages, Santa Clara County, DIR.

The County's base (hourly) and total hourly rates (including benefits) for its skilled trade workers are based on rates specified in the Summary of Changes to the 2014-2015 Memorandum of Agreement (MOA) between the County of Santa Clara and the Santa Clara & San Benito Counties Building and Construction Trades Council (BTC). A new MOA between the County and BTC, including the Summary of Changes, effective April 25, 2016 through November 1, 2020, is pending approval from the Board of Supervisors. Both agreements between the County and BTC contain a provision that *"the parties agree that the rates of pay specified in the agreement[s] are commensurate with those prevailing throughout the County"* for comparable work as required by the State Labor Code and the County Charter for public works projects. If the County wishes to truly align its salaries and benefits for its skilled trade workers with market

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[3] California Labor Code, Article 2. Wages [1700-1784]. All workers employed on public works projects must be paid the general prevailing wage determined by the Director of DIR, according to the type of work and location of the project.

competitors and prevailing wages in the region, ESA management reported that they could conduct a salary review to determine if wage increases are in fact warranted, and recommend such wage increases to the Board, without revising the labor contract.

FAF needs a strategic recruitment plan for Building Operations

The County owns approximately 240 facilities, and leases an additional five. These include but are not limited to office and municipal buildings, medical clinics, jails and warehouses. Excluding leased and Santa Clara Valley Health and Hospital System facilities, Building Operations is responsible for performing all maintenance services for all facilities. Therefore, it is essential for FAF to keep its positions filled. To fill its vacancies, FAF relies (primarily) on web-based marketing. Its job announcements are posted on ESA's NeoGov website (listing all other County jobs) and others such as Monster, LinkedIn and Indeed. However, they are not posted directly on FAF's website. This marketing approach appears to be inadequate for an organization as big and complex as Building Operations which employs a variety of staff including but not limited to skilled trade workers, general maintenance mechanics, janitors and gardeners. FAF needs to develop and implement a strategic recruitment plan for Building Operations. The purpose of such a plan is to build a pipeline of qualified candidates, both in the short- and long-term. The plan should include a number of recruitment strategies, not only web-based marketing, but also high school, college and union hall recruiting, job fairs, targeted recruitment (employees with specific language skills or specialized certificates), internships and apprenticeships. It should also include specific tactics such as sending a team of ESA representative and experienced employees to classrooms and fairs for students and jobseekers to ask them specific questions. The plan should describe the specific individuals responsible for each strategy. It should set deadlines and provide for measurable outputs and outcomes to determine success.

CONCLUSION

FAF's Building Operations has an excessive number of vacancies, particularly in its skilled trade jobs. As of August 2017, its vacancy rates for carpenters, plumbers and HVAC mechanics were 50 percent, 33 percent, and 31 percent, respectively. It is our conclusion that FAF, along with the Employee Services Agency, needs to establish an apprenticeship program for the trades, realign its salaries and benefits with market competitors and prevailing wages in the region, and deploy an overall strategic recruitment plan if it is to effectively address its high vacancy rates.

RECOMMENDATIONS

It is recommended that the Facilities and Fleet Department:

7.1 Work with the Employee Services Agency to establish an apprenticeship program for the trades to ensure that it prepares workers for jobs while meeting its needs for a skilled workforce in the future. (Priority 1)

7.2 Work with the Employee Services Agency to develop and implement an overall strategic recruitment plan, including specific recruiting strategies, tactics and deadlines. (Priority 1)

It is recommended that the Employee Services Agency:

7.3 Conduct a salary review to determine if wage increases for the trades are warranted, and recommend such wage increases to the Board of Supervisors. (Priority 1)

COSTS, SAVINGS AND BENEFITS

Implementation of Recommendation 7.1 would have a fiscal impact upon the County's General Fund. The size of that impact depends largely on whether FAF administers the program or contracts it out, as well as on the number of apprentices hired. That impact is likely to be offset by increased production within FAF. By way of example, a joint project team of the Case Western Reserve University and the United States Department of Commerce published a study in November 2016 that noted:[4]

- Dartmouth-Hitchcock (a nonprofit medical center) in Lebanon, New Hampshire, found that apprenticeship was essential to a major expansion and re-organization of its provision of medical services. The apprenticeship program cost $59,700 per medical assistant apprentice was offset by a $48,000 per-apprentice reduction in overtime costs and $7,000 per apprentice in increased revenue from medical appointment bookings.

- Siemens USA (a private corporation) obtains at least a 50 percent rate of return on its apprenticeship program, compared to hiring machinists off the street.

Implementation of Recommendation 7.3 would also have a fiscal impact upon the County's General Fund. The cost of realigning the County's wages with prevailing wages in the region would depend on the specific jobs selected for realignment.

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[4] Helper, Susan, et al. *The Benefits and Costs of Apprenticeships: A Business Perspective.* November 2016.

Implementation of Recommendation 7.2 would have <u>no</u> fiscal impact on the County's General Fund since FAF management has existing staff to develop and implement a strategic recruitment plan.

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County of Santa Clara

Facilities and Fleet Department

County Center at Charcot
2310 North First Street, Suite 200
San Jose, California 95131-1011
(408) 993-4600

May 15, 2018

To:	Cheryl Solov, Contract Management Audit Manager Santa Clara County Board of Supervisors, Management Audit Division
From:	Jeff Draper, Director, Facilities and Fleet Department
CC:	Sylvia Gallegos, Deputy County Executive Gabe Cabrera, Contract Management Audit Project Manager
Subject:	Management Audit of the Building Operations Division of the Facilities and Fleet Department- Departmental Response

The Facilities ad Fleet Department (FAF) reviewed the final draft report of the Management Audit of the Building Operations Division of the Facilities and Fleet Department that was received on April 24, 2018. FAF concurs with the Auditor recommendations (see attached Audit Matrix). We appreciate the Management Auditor's willingness to consider our feedback and the professionalism of the staff.

As noted in the report, the Building Operations Division addresses complex challenges to keep facilities up and running in support of the delivery of services to the County residents and visitors. Through the County Executive, the Board of Supervisors recognizes the importance of investment in our assets to address deferred maintenance and respond to the ever-growing needs of the portfolio. FAF has begun to work on several recommendations to improve our services and protect the County's investment. Most importantly, FAF is making changes to improve communications to our clients and customers.

The report makes valid findings and recommendations for improving efficiency, security of facilities and inventory, customer service, improvement of the Grounds Unit, and the human resource management challenge. The recommendations will be implemented, and we look forward to reporting back on progress.

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Ken Yeager, S. Joseph Simitian
County Executive: Jeffrey V. Smith

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
Section 1: Facility Access and Badging				
1.1	The Building Operations Division should generate and distribute periodic reports showing active badges and active badges not recently used to all County departments. (Priority 1)	**FAF:** Agree. Monthly reports can be generated and distributed to Agency/Departments.		
1.2	The Building Operations Division should create and maintain a centralized tracking system of all separated employees, extra help, and contractors from FAF. (Priority 1)	**FAF:** Agree. FAF Administration will utilize the report from Recommendation 1.1 to track.		
1.3	The Board of Supervisors should adopt a policy governing badge deactivation and destruction (including automatic deactivation after a certain period of inactivity), as well as new protocols for verifying the proper deactivation and destruction badges belonging to separated County workers. These protocols may include the development of tracking systems similar to the one described in Recommendation 1.2. In concert with the new policy, the Board should designate an existing County department or agency, or create a temporary task force or working group to develop and execute any new centralized processes defined in this policy. (Priority 1)	**FAF:** Agree.		
1.4	The Information Services Department should Continue with the implementation of its planned hardware asset management system, and track physical badges as a hardware asset. The hardware asset management system should be governed by and included in the Board's policy on verifying the proper deactivation and destruction of badges. (Priority 1)	**FAF:** Agree.		

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
Section 2: Efficiency of Maintenance and Repair Services				
2.1	It is recommended that Building Operations implement a six-month data collection program after implementing the following: a. Standards around expected service levels, including criteria around the quality and timeliness of completing work orders. b. A revised priority system for PMs c. Guidelines around the submission and entry of information from paper requests d. Consistent tracking of zero-hour entries and their explanations, and cleanup of NULL records for substantive fields e. Division-wide policies and procedures for robust performance management f. Archibus training for all users g. Tracking of all instances in which the Division covers services performed for non-General Fund departments out of Object 2 funds h. Procedures establishing a feedback loop that allows trades personnel, the MAC Room, and the Fiscal Division to communicate about work requests for nonessential services. For accurate recordkeeping, these measures should be put in place after the implementation of Archibus v.23, which has additional functionalities and modifies several workflows of the previous version. The projected go-live date for v.23 is April of 2018. Building Operations should begin collecting its six months of data 60 days after the implementation of v.23.(Priority 1)	**FAF:** Agree. FAF is working with ISD to coordinate the v.23 Archibus upgrade. This will provide greater functionality and will improve workflow processes. The FAF Management Analysts assigned to Building Operations are documenting all processes and procedures related to the Work Order management system. These analysts are also developing training documentation as part of this process.		
2.2	It is recommended that Building Operations submit the six-months of data to the Management Audit Division to examine the Division's changes under the new collection program and evaluate the state of its data; and, if possible, analyze staffing and productivity impacts using the six months of data (Priority 1).	**FAF:** Agree.		

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
Section 3: Use and Monitoring of Trade Contracts				
3.1	It is recommended that the Building Operations Division establish and implement policies to ensure compliance with State law for contracts that should be bid formally and with Board of Supervisors approval. This would reduce the frequency of solicitations and reduce costs. (Priority 1)	**FAF:** Agree. FAF will continue to develop Board contracts whenever possible, and will provide written policies.		
3.2	It is recommended that the Building Operations Division revise, in conjunction with the Office of County Counsel, the standard contract for trades contractors, to specify that work order price quotes should include an estimate of the materials costs and the hours expected to be required to complete a work order, which combined make up the total price of that work order. (Priority 1)	**FAF:** Agree. When responding to emergencies this may not always be possible. Public Works allows for lumpsum cost estimating, but whenever feasible FAF will work to include this as a requirement.		
3.3	It is recommended that the Building Operations Division require contractor invoices to include information on the actual materials costs and hours required for a work order, for comparison with the price quote required for non-emergency work before it begins. Investigate variances where actual cost exceeds estimated cost by 10 percent or more, including the contractor's explanation of why costs were higher. (Priority 1)	**FAF:** Agree. See FAF response for Recommendation 3.2.		
3.4	It is recommended that the Building Operations Division expand the current trend of requiring unit-rate pricing by contractors for specific types of job orders, as now occurs for flooring, concrete repairs and cabling, rather than paying on a time-and-materials basis. (Priority 1)	**FAF:** Agree. See FAF response for Recommendation 3.2.		

Section 4: Inventory Control and Warehouse Management

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
4.1	To reduce the risk of loss and inefficiencies associated with difficulty locating tools and comply with County policies, the Building Operations Division of the Facilities and Fleet Department should develop policies and procedures in accordance with the federal Government Accountability Office's (GAO) Executive Guidance on Inventory Best Practices or other appropriate industry standards for warehouse and inventory management. These policies should include periodic inventory of tools, including those assigned to individuals, and procedures for physical controls, such as closing badge-access doors, locking up keys to tool cages, aiming security cameras at high-risk locations, and logging of items checked out and checked in. (Priority 1)	**FAF:** Agree. FAF is working to hire a consultant to help assess the Building Operations Division warehouse and storage areas, and to develop related policies and procedures for inventory control.		
4.2	To reduce the risk of loss and inefficiencies associated with difficulty locating tools and comply with County policies, the Building Operations Division of the Facilities and Fleet Department should tag and scan into the CheckMate inventory system all items stored in the warehoused and on long-term assignment to staff with a value of $1,000 or more or for which there is a need to track the item for location purposes. (Priority 2)	**FAF:** Agree. See FAF response for Recommendation 4.1.		
4.3	To reduce the risk of loss and inefficiencies associated with difficulty locating tools and comply with County policies, the Building Operations Division of the Facilities and Fleet Department should hire a temporary staff person for 12 weeks to tag and scan into the CheckMate inventory system all items stored in the warehoused and on long-term assignment to staff with a value below $1,000. (Priority 2)	**FAF:** Agree. See FAF response for Recommendation 4.1.		
4.4	To reduce the risk of loss and inefficiencies associated with difficulty locating tools and comply with County policies, the Building Operations Division of the Facilities and Fleet Department should implement a procedure to run the "Past Due" report in CheckMate every month and collect checked out tools no longer needed by the borrower. (Priority 2)	**FAF:** Agree. See FAF response for Recommendation 4.1.		
4.5	To reduce the risk of loss and inefficiencies associated with difficulty locating tools and comply with County policies, the Building Operations Division of the Facilities and Fleet Department should replace the six security cameras with a modern system, preferably one that records upon activation by motion to minimize the amount of recorded footage. (Priority 2)	**FAF:** Agree. See FAF response for Recommendation 4.1. The number of cameras would be determined by the consultant. Acquisition and the use of the cameras would need to be approved by the Board of Supervisors pursuant to County Ordinance Code Division A40 (Surveillance-Technology and Community-Safety), including Board approval of the acquisition of security cameras; and Board approval of an applicable Surveillance Use Policy, following review by the County Chief Privacy Officer, and review and approval by County Counsel as to form and legality.		

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
4.6	To reduce the risk of loss and inefficiencies associated with difficulty locating tools and comply with County policies, the Building Operations Division of the Facilities and Fleet Department should configure password protection on the CheckMate system to limit access to warehouse staff only or configure unique password-protected logins for tradespeople. (Priority 3)	**FAF:** Agree. See FAF response for Recommendation 4.1.		

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
Section 5: Customer Service				
5.1	It is recommended that the Building Operations Division provide a means to communicate the ongoing status of work orders to customers. This should be done as part of implementing cell phone receipt of work orders by County crafts staff, either using customer communication functions available in the Archibus work order system, by using e-mail from the new phones, or by having MAC Room staff send text messages to customers regarding the status of work orders they are responsible for. (Priority 2)	FAF: Agree. FAF is working with ISD to coordinate the v.23 Archibus upgrade. This will provide greater functionality and will improve workflow processes. The upgrade will allow for mobile work order management. FAF will still utilize the MAC Room for central communication. Also, v.23 Archibus will provide greater access for clients to log in to check status.		
5.2	It is recommended that the Building Operations Division provide 24-hour County facilities or departments with 24-hour critical systems, the ability to monitor those systems themselves when the MAC Room is not staffed. (Priority 1)	FAF: Agree. FAF currently provides self-monitoring for alarms and notifications to client departments on request. FAF will continue to work with 24/7 facility managers for additional self-monitoring access.		
5.3	It is recommended that the Building Operations Division improve the Building Operations web site to provide more information and current information for customers, such as how to complete on line work order requests, what information the requests should include, and who to contact for the status of work orders. (Priority 2)	FAF: Agree. FAF staff will work with ISD to make the changes.		
5.4	It is recommended that the Building Operations Division conduct an annual meeting with customer representatives to discuss new maintenance initiatives and respond to customer concerns, similar to the quarterly meeting held by the Controller's Office with departmental fiscal officers. (Priority 2)	FAF: Agree.		
5.5	It is recommended that the Building Operations Division develop and publish facility maintenance standards for the County, modeled on those developed by the County of Los Angeles, and implement them via Scope of Services agreements with customer departments. (Priority 3)	FAF: Agree.		
Section 6: Strengthening the Grounds Unit				
6.1	The Facilities and Fleet Department should transfer the Grounds unit from Building Operations Support whose manager is overloaded with direct reports to another section within Building Operations whose manager has fewer direct reports. (Priority 1)	FAF: Agree. On October 3, 2017, Item No. 56, the Board of Supervisors approved the addition of a Program Manager II- Sustainable Landscaping position. The recruitment is currently underway. FAF intends this position to oversee the Gardeners.		

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
6.2	The Facilities and Fleet Department should designate a second Lead Gardener from among current line-level Gardeners (Priority 1)	**FAF:** Agree. This would provide greater oversight and coordination of work across multiple campuses.		
6.3	The Facilities and Fleet Department should compile information on the number of acres around each County facility, and use the current acres per Gardener average to ascertain how many additional Gardeners are needed to maintain all County facilities on a routine basis. (Priority 2)	**FAF:** Agree. On February 27, 2018, Item No. 85, the Board of Supervisors approved the Landscape Inventory and Operational Needs Assessment project.		
6.4	The Employee Services Agency should create a new Supervising Gardener position with authority to manage the other Gardeners. (Priority 1)	**FAF:** Agree.		
6.5	The County Integrated Pest Management (IPM) program should Work with the Grounds unit to identify a non-chemical pesticide for use by the Gardeners in the future. (Priority 1)	**FAF:** Agree. Hand-pulling weeds is not a practical solution.		

SECTION	AUDIT RECOMMENDATION	STAFF RESPONSE	COMMITTEE ACTION	SIX MONTH STAFF REPORT BACK
Section 7: Improving Human Resource Management				
7.1	It is recommended that the Facilities and Fleet Department work with the Employee Services Agency to establish an apprenticeship program for the trades to ensure that it prepares workers for jobs while meeting its needs for a skilled workforce in the future. (Priority 1)	FAF: Agree. FAF will need ESA's support to negotiate an agreement between BTC and the County to provide classroom learning and program monitoring services. Job specifications would also need to be revised.		
7.2	It is recommended that the Facilities and Fleet Department work with the Employee Services Agency to develop and implement an overall strategic recruitment plan, including specific strategies, tactics and deadlines. (Priority 1)	FAF: Agree.		
7.3	It is recommended that the Employee Services Agency conduct a salary review to determine if wage increases for the trades are warranted, and recommend such wage increases to the Board of Supervisors. (Priority 1)	FAF: Agree.		

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County of Santa Clara

Employee Services Agency

County Government Center, East Wing
70 West Hedding Street, 8ᵗʰ Floor
San Jose, California 95110
(408) 299-5830 FAX (408) 295-3012

DATE: May 7, 2018

TO: Board of Supervisors' Management Audit Division

FROM: John P. Mills, Deputy County Executive and Director, Employee Services Agency

SUBJECT: **Management Audit of Facilities and Fleet**

This memo is in response to the management audit report from the Board of Supervisors' Management Audit Division. The Employee Services Agency (ESA) appreciates the opportunity to provide a response on the management audit report. We commend the thorough and thoughtful manner in which the Board of Supervisors' Management Audit Division has performed their work and the care taken to understand our various processes and constraints.

Section 6. Strengthen the Grounds Unit

6.2   Designate a second Lead Gardener from among current line-level Gardeners.

ESA Response: Agree

ESA agrees to work with the department to evaluate the necessity of assigning an additional lead differential. The Master Salary Ordinance and the Memorandum of Agreement (MOA) between the County and the Service Employees International Union, Local 521 (SEIU) govern the number of lead assignments allowed. Currently, section D.7 (g) of the MOA only allows for one (1) Gardener to be assigned lead differential.

The addition of a lead differential for a second Gardener would require ESA to complete a classification study, seek approval from the department, the union, and request that the Board of Supervisor's review and approve an amendment to the Master Salary Ordinance.

6.4   Create a new Supervising Gardener position with authority to manage the other Gardeners.

ESA Response: Agree

ESA works closely with departments to forecast classification needs. ESA recently released the Executive Management Initiated Classification Study Policy to guide departments through the process to request classification studies, and the factors considered for such requests. When unmet needs are identified, ESA works with the department to prioritize classification work.

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Ken Yeager, S. Joseph Simitian
County Executive: Jeffrey V. Smith

ESA agrees to work with FAF to determine unmet supervising needs and evaluate the request to create the classification of Supervising Gardener. If such a classification is created, the study would recommend the addition of a position.

Currently, ESA and FAF are actively updating the job specifications of Carpenter/Senior Carpenter, Building Inspector, Electrician/Senior Electrician, Elevator Mechanic, Painter/Senior Painter, Roofer, Plumber/Senior Plumber, Locksmith, Work Center Manager, Senior HVAC/R Mechanic, Assistant Real Estate Agent, and Utility Worker. ESA is also conducting salary review for Elevator Mechanic. The request to create a Supervising Gardener would need to be factored into the current workload.

Section 7. Improving Human Resources Management

7.1   Work with the Employee Services Agency to establish an apprenticeship program for the trades to ensure that it prepares workers for jobs while meeting its needs for a skilled workforce in the future.

ESA Response: Agree

FAF and ESA have had various discussions on the merits of an apprenticeship program for trade positions including Electrician, Plumber, and HVAC/R Mechanic. There are current Carpenter, Electrician, Painter, and Plumber apprentice classifications for this type of program. The department has also reached out to a local union to discuss various partnership opportunities. An apprenticeship program would require significant department resources in order to provide the leadership, training, and expertise to supervise and manage apprentices. There are a limited number of master trades incumbents who may supervise an apprentice.

Additionally, the department would not realize the outcome of any apprentice program for at least five years (the typical duration of an apprenticeship program). During that time, the department would be allocating resources to oversee a program that may or may not result in journey-level trades employees.

7.2   Work with the Employee Services Agency to develop and implement an overall strategic recruitment plan, including specific recruiting strategies, tactics and deadlines.

ESA Response: Agree

As ESA ramps up internal staffing to support departments, a goal has been to schedule regular meetings with departments to create and implement recruitment and classification priorities, allocate subject matters experts, and calendar recruitment timelines to capture qualified candidates (i.e., around graduation dates, peak seasons, etc.).

ESA is actively updating job specifications for the trades with an eye toward clarifying employment standards and expanding the qualified applicant pool. The HVAC/R Mechanic was updated in April 2010, April 2011, March 2016, April 2017, and is again under review. Plumber

was updated in 2014 and is again under review. As indicated above, ESA is actively updating the sixteen job specifications in the various trades.

ESA has also advocated changing the examination process for various trades recruitments to eliminate written and performance exams when those ranking processes are not required based on the number of qualified candidates. Merit System Rules allow for application appraisal in situations where there are ten or less qualified candidates.

Additionally, ESA will work with the department to determine if some recruitments should be posted on a continuous basis. A continuous recruitment is used in situations where there are very few qualified candidates in relation to the number of vacancies. The Elevator Mechanic is a continuous recruitment.

7.3   Conduct a salary review to determine if wage increases for the trades are warranted, and recommend such wage increases to the Board of Supervisors.

ESA Response: Agree

ESA regularly conducts salary surveys when the results of recruitments indicate that salary study is warranted. The interview comments from the last three Plumber, HVAC/R Mechanic, and Carpenter referrals did not indicate that salary was a primary elimination factor in the interview process.

However, based on the preliminary information in the audit, ESA will conduct salary surveys for Plumber/Sr. Plumber, HVAC/R Mechanic/Sr. HVAC/R Mechanic, and Carpenter/Sr. Carpenter. This salary study, in conjunction with job specification revisions, will form a complete picture of any classification issues.

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County of Santa Clara

Chief Information Officer
Office of the County Executive

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(408) 918-7001 Fax 918-7100

Your Technology Partner

DEPARTMENT: Information Services Department

RESPONSE: Board of Supervisors Management Audit Division "FACILITY ACCESS
                AND BADGES_ 02.07.2018"

DATE: February 9, 2018

Recommendation (Section 1.4): "The Information Services Department should: Continue with
the implementation of its planned hardware asset management system, and track physical badges
as a hardware asset. The hardware asset management system should be governed by and
included in the Board's policy on verifying the proper deactivation and destruction of badges."

ISD Response: AGREE.

ISD is currently in the implementation phase of a County-wide Hardware Asset Management
system, which will provide enhanced capabilities to track assets, identify unused equipment, and
improve the accuracy of inventory and asset security. In order to effectively respond to the audit
recommendations described, ISD will plan the following actions:

1) Develop an implementation plan and long-term strategy for tracking employee badges in the
Hardware Asset Management system, and developing appropriate communication streams for
notifying FAF of underutilized or inactive badges.

2) ISD will assure compliance of these audit recommendations by developing automated reports
from the Hardware Asset Management System to detail employee onboarding and offboarding
and improve the accuracy of the active badge inventory.

3) ISD will develop formal processes and procedures for managing badges within the Hardware
Asset Management System, including the process for verifying active badges, access rights, and
deactivation triggers.

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County of Santa Clara

Office of the County Executive - Office of Sustainability
2310 North First Street, Suite 106
San Jose, CA 95131

Date:	May 21, 2018
To:	Gabe Cabera, Contract Project Manager, County of Santa Clara Board of Supervisors
From:	Naresh Duggal, Manager Integrated Pest Management (IPM)
Subject:	Response to Audit Report: Section 6. Strengthening the Grounds Unit

Executive Summary

Conventional practices used by the County for recurring maintenance involves significant mowing, blowing, trimming and removal of plant debris. These conventional practices remove food and habitat for birds, insects and beneficial soil organisms. They also mine soils of nutrients, degrade soil health, and strip moisture and mulch, which jeopardizes desired plants and invites weeds that require herbicide or pesticide interventions. However, maintaining a clean landscape – removing trash, weeds, and dead plants – without herbicide interventions is achievable.

Sustainable landscape maintenance and related Integrated Pest Management (IPM) activities requires a "systems-thinking" approach[1] that is far more than simply mowing and blowing. Such a systems-thinking approach was successfully practiced by the gardeners during the 2009-2011 period through judicious interventions based on what the landscape demanded. These interventions differed from one site location to another. Thus, all landscapes were gradually improved and weaned off of conventional practices for recurring maintenance.

Pest management science is progressively changing. New active ingredients and formulations are continually being developed for pesticides and herbicides.[2] Therefore, when interventions are warranted, selecting an "ideal pesticide/herbicide"[3] that can be used in all circumstances is not technically possible,[4] nor recommended. When it is needed, the IPM Ordinance's pesticide use exemption process assists with proper chemical selection. The criteria IPM uses in selecting the chemical is based on type/life stages of weed or pest and the need of the location. The herbicide or pesticide need and type to be selected is also

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[1] **Elements of Systems-Thinking Approach followed by the Gardeners during 2009-2011:** Attachment 4 (Page 1-3)

[2] As used herein, the term "herbicide" will be used to also include "pesticide," and vise versa.

[3] The **"Ideal Herbicide,"** the "ideal" herbicide would acts rapidly on weeds, has systemic and/or total burn-down effect on weeds, yet be completely harmless to people, domestic animals, wildlife, and other aspects of the environment. Residues should only last so long as is necessary to create the desired effect, usually for very short periods. It should also be inexpensive and readily available in necessary quantities, chemically stable (before application), non-flammable, and otherwise safe to use around county facilities and grounds. It should be easily prepared and applied, non-corrosive and non-staining, and have no undesirable odor. Unfortunately, no such herbicide exists.

[4] **Not technically possible?** To understand reasons and more on this subject please see Attachment 3.

evaluated in conjunction with all other alternative management practices (described in Attachment 3), not only with respect to efficacy, cost, and ease of implementation, but also with respect to long-term sustainability goals.

A summary of the key recommendations to strengthen the Facilities and Fleet Department (FAF) - Grounds Unit and manage landscapes sustainably is as follows:

1. **Strengthening Landscaping Procedures:** To maintain landscape sustainably, FAF should follow the County's Sustainable Landscaping Policy[5] and guiding document titled – "Bay-Friendly Landscape Guidelines Sustainable Landscape Practices for the Landscape Professionals."[6]

2. **Strengthening Human Resources:** Consider that each team of five gardeners should be supported by one lead gardener among them, and two lead gardeners should be supported by one Landscaping Supervisor. If there are funds to support a management/supervisory level position, then consider hiring a landscaping supervisor and an additional lead that can better serve the purpose. This may be cost equivalent or little more than hiring only one person at a higher Program Manager level. The Department will thereby acquire two staff for the price of one to execute needed field work activities.

3. **Strengthening Supplemental Labor Resources:** FAF has access to free labor from the Sheriff Custody Bureau's Weekend Work Program (WWP) and Public Service Program (PSP). These resources can be well coordinated in-times of heavy peak demand on the gardeners. Using these labor resources can allow the gardeners to continue to make progress on sustainable activities (weed fabric installation, mulching, pruning, soil improvements-redressing and fertilization, irrigation repairs and seasonal adjustments, tree health-care, tree-well maintenance, field inspections and monitoring) while the maintenance tasks (weeding, cleaning etc.) can be delegated to the supplemental labor resources.

   FAF also has access to California Conservation Corps' landscape management crews, who are trained in basic landscape maintenance (semi-skilled to skilled) including physical and/or mechanical removal of weeds if it is for peak and unusual work only. The cost, about $2200-$2500 per day, includes many landscape workers and an on-site supervisor.

4. **Strengthening Material Resources:** Landscaping materials need to be reviewed each time they are purchased to ensure that the selections are appropriate, adequate, and aligned to support sustainable landscape maintenance according to specific landscape requirements.

5. **Strengthening Technical and Quality Assurance Resources:** Consider direct oversight (advisory and planning) of sustainable landscaping by the Office of Sustainability's (OOS) IPM Program to help provide access to necessary guidance on sustainable practices. While IPM would not actually manage the gardeners, the IPM Program can provide advisory, technical, and training oversight to the Landscaping Supervisor, Leads and Gardening Staff while they continue to conduct operational activities under FAF Administration.

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[5] County of Santa Clara (03/22/2016). Sustainable Landscaping Policy – Board Policy 8.5, *available at* https://www.sccgov.org/sites/slm/about%20us/pages/policies-ordinances.aspx (as of 05/15/2018)
[6] Bayfriendlycoalition.org, "Bay Friendly Landscape Guidelines – Sustainable Landscape Practices for the Landscape Professionals," 04/2013, *available at* https://rescapeca.org/resources/for-community-leaders-landscape-professionals/landscape-standards/ (as of 05/15/2018).

6. **Strengthening Training Resources:** Initial and refresher trainings on sustainable landscaping and IPM practices should be an on-going commitment by FAF management, and an integral component of the gardening management and staff learning and development. Training should be budgeted appropriately. IPM Program staff can help coordinate landscaping staff learning and development if adequate funds are allocated at the Program level for this purpose and management commits to make staff available for regular trainings.

7. **Landscape Need Assessment:** The County has hired two contractors, Davey Resource Group and Firma Design Group, to compile data and provide recommendations relevant to sustainably managing FAF landscapes (for 34 sites). This data is critical to understanding how to approach and conduct landscaping sustainably (design, construction and maintenance). Therefore, any recommendations made in this audit report, especially for labor and resource allocations, should be considered interim until the contractors have completed their report on what is required, where, when and how to manage County landscapes sustainably. Thereafter, the interim recommendations will be reassessed and revised.

Response to Audit Report

The Facilities and Fleet Department (FAF) should:

Audit Report Item 6.1 - Transfer the Grounds unit from Building Operations Support whose manager is overloaded with direct reports to another section within Building Operations whose manager has fewer direct reports. (Priority 1)

Response: This is a good recommendation. Besides restructuring managerial workload as proposed above, please consider direct oversight (advisory and planning) of sustainable landscaping by the OOS IPM Program. Direct oversight by IPM will help with overall County coordination, and IPM can provide the necessary guidance on sustainable actions intended to meet sustainable landscaping goals.

Audit Report Item 6.2 - Designate a second Lead Gardener from among current line-level Gardeners. (Priority 1)

Response: This is a good recommendation.

Suggestion for Staffing Resources: If there are funds to support a management/supervisory level position, please consider hiring a landscaping supervisor and an additional lead. The cost would be equivalent, or little more than, hiring only one Program Manager position, thereby providing two additional staff resources.

Audit Report Item 6.3 - Compile information on the number of acres around each County facility, and use the current acres per Gardener average to ascertain how many additional Gardeners are needed to maintain all County facilities on a routine basis. (Priority 2)

Response: The County has hired two contractor Davey Resource Group (Attachment 1) and Firma Design Group (Attachment 2) to compile data and provide recommendations relevant to sustainably managing FAF landscapes (for 34 sites). Additionally, there is Valley Medical Center (VMC) – Bascom Ave Campus where the majority of Phase 1 data has already been collected and reported.

During my sixteen year tenure with the County, I have not heard that gardeners are, or were, responsible for providing landscaping services to any other sites (239-37=202) as listed in the audit report. If this information is corrected, it may trigger implications for the landscape need assessment labor and materials study. Please verify from FAF the exact number of sites that gardeners are responsible for providing regular and/or as-needed landscaping services. Please also verify from FAF the actual and/or estimated total acreage (excluding building space) for the 34-37 units (including VMC campus at Bascom Ave) listed under the landscape assessment study.

Firma Design Group will provide landscape inventory[7] (base map preparation, recommended plant palette plan, existing irrigation plans, recommended irrigation plans) and operational resource assessment services[8] (material-hardware cost by entire operation, labor cost applied to entire operation, labor cost applied by department, by building, material-consumable by department, by building, plant recommendation by department, by building, plants to remove by department, by building, area by department, by building).

Davey Resource Group[9] will provide tree inventory and provide recommendations for proactive management. Please note that under this agreement FAF can offer sustainable tree management training[10] from Davey Resource Group on a variety of topics.[11] This approach to training is more efficient and economical when coordinated and organized among all three user groups (i.e. FAF, Department of Parks and Recreation (PRK) and Department of Roads and Airports (RDA)).

Landscape inventory data is critical to understanding how the County can approach and conduct landscaping sustainably (design, construction and maintenance). Therefore, any recommendations in this audit report, especially for labor and resource allocations, should be considered interim until the study is completed as to what is required, where, when and how to manage County landscapes sustainably. Thereafter, the interim recommendations will be reassessed and revised.

The Employee Services Agency should:

Audit Report Item 6.4 - Create a new Supervising Gardener position with authority to manage the other Gardeners. (Priority 1)

Response: This is a good recommendation. A team of ten gardeners should have at least two lead gardeners among them and one Landscaping Supervisor overseeing daily sustainable landscaping work, including but not limited to inspecting and monitoring of landscapes, conducting needs assessments, assisting/substituting gardeners where needed, supervising contractors when needed, procuring/repairs and pickup/drop-off materials where needed, making task-oriented decisions, scheduling and labor

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[7] **Landscaping Inventory**: Agreement CW2228060 between the County of Santa Clara and Firma Design Group for Landscaping Inventory and Operational Need Assessment: Exhibit C Scope of Work Section A. Phase 1 A, B, C, D, E (Page 29-32 of 51).

[8] **Landscaping Operational Need Assessment**: Agreement CW2228060 between the County of Santa Clara and Firma Design Group for Landscaping Inventory and Operational Need Assessment: Exhibit C Scope of Work Section A. Phase 1 A, B, C, D, E (Page 33 of 51).

[9] **Tree Inventory**: Agreement CW2225565 between the County of Santa Clara and Davey Resource Group for Consulting Arborist Services: Exhibit C Scope of Work Section II D Tree Inventory (Page 30 of 47).

[10] **Sustainable Tree Management Training**: Agreement CW2225565 between the County of Santa Clara and Davey Resource Group for Consulting Arborist Services: Exhibit C Scope of Work Section II D Sustainable Tree Management Training (Page 29 of 47).

[11] These topics include: sustainable tree management; best management practices; tree identification and basic tree physiology; ANSI A300 pruning, maintenance, and protection standards; ANSI Z133.1 safety requirements; ANSI Z60.1 standards for nursery stock, job site setup, flagging, and safety, First Aid, CPR, OHSA compliance, electrical hazards awareness program, tree worker and arborist training, tree hazard identification, tree valuation, insects and disease diagnosis and management.

allocation based on landscape needs, coordinating WWP, PSP and Conservation Corps. Worker's assignments and follow up with these programs, etc.

The County Integrated Pest Management (IPM) program should:

Audit Report Item 6.5 - Work with the Grounds unit to identify a <u>non-chemical pesticide</u>[12] for use by the Gardeners in the future. (Priority 1)

Response: In practicing IPM, pesticide treatments are not made according to a pre-determined schedule of preventive maintenance. Therefore, selecting a pesticide choice for all conditions, as proposed here, is not warranted, possible, nor recommended. When required, the pesticide choice should be a target-specific, low-impact chemical application. Through the IPM Ordinance exemption process, the IPM Coordinator can assist users with selecting what pesticide to use.

Chemical management science is progressively changing. New active ingredients and formulations are continually being developed for pesticides and herbicides. Products which at one time were considered to be safe in the urban environment are now banned or have become controversial as harmful effects are identified. For example, glyphosate, a systemic non-selective herbicide that kills all vegetation, primarily used by many landscapers, is no longer an option to use on the County's landscapes. On March 28, 2017, the Office of Environmental Health Hazard Assessment (OEHHA) posted a Notice on its website that glyphosate (CAS No. 1071-83-6) was added to the Proposition 65 list of chemicals known to the state to cause cancer.

There are several low-impact or less toxic organic pesticides available, but none are systemic, meaning that none will kill the entire plant in one or a few shots. Instead, all organic pesticides currently available kill only upon contact. Thus, they have little efficacy on perennial weeds, which regrow after treatment. Additionally, these substances are generally more expensive than other control measures (such as mulches), and their effectiveness varies by weed species. Furthermore, pesticide applications need to be scheduled over the weekend when there is less traffic in County office complexes. This adds to the cost and complexities in applying such pesticides.

The criteria the IPM Program uses in selecting pesticides is based on type/life stages of pest and the need of the location. The need and type to be selected is also evaluated in conjunction with all other alternative management practices (as described in Attachment 3), not only with respect to efficacy, cost, and ease of implementation, but also with respect to long-term sustainability.

FAF management staff must engage IPM staff on a routine/continuous basis and preferably in the early stages of pest control issues. The IPM Program will continue to research, educate and suggest pesticide alternatives as a first choice to resolve pest issues. The use of a pesticide product can be approved when need is determined. However, the landscaping staff must first practice in good faith the suggested sustainable alternatives before requesting pesticide use.

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[12] **Non-Chemical Pesticide**: A pesticide is a chemical designed to kill or repel a pest; Did you mean to state **low-impact or least-toxic pesticide** and/or **organic pesticide**? If so, please consider changing the word accordingly.

The IPM Program will continue to provide support to FAF staff through regular field inspections (in coordination with FAF management and their field staff) and will assess chemical need on case-by-case basis and issue exemptions where justified.

When Pesticide Use Exemption (PUE) requests are made pursuant to the County IPM Ordinance, the FAF must demonstrate through a chronological history that good faith efforts (effective sustainable management techniques coordinated into the execution of landscape maintenance) were exercised prior to requesting a PUE. If necessary, a location-specific PUE may be granted under specific use or emergency use in compliance with the IPM Ordinance. When a PUE is issued, the FAF staff will need to plan pesticide use strategically; when the immediate problem is resolved sustainable activities to manage the landscape should be quickly resumed.

Background and a recommended path to manage landscapes sustainably in support of the above responses:

A. Background

What is Sustainable Landscaping and Related Integrated Approach to Pest Management? The process of sustainable landscaping and related integrated approach to pest management[13] focuses on environmental stewardship and utilizes regular monitoring to determine if, and when, a treatment[14] is needed. Pests[15] are unwanted plants, animals, insects, germs or other organisms that interfere with human activity. They may bite, destroy food crops, damage property, or otherwise make our lives more difficult.

Sustainable landscaping requires a systems-thinking approach, far more than simply mowing and blowing. Keeping a landscape clean can be achieved without pesticide interventions. Various landscape stages from design, construction, and to routine maintenance require an integrated approach employing physical, mechanical, cultural, biological, and education to keep a pest population low enough to prevent intolerable damage or annoyance.

It is a new paradigm, requiring a shift from the County's current landscape maintenance philosophy, which is a conventional calendar-based maintenance schedule that frequently requires significant mowing, blowing, trimming and removal of plant debris. These conventions remove food and habitat for birds, insects and beneficial soil organisms. They also mine soils of nutrients and degrade soil health, stripping away the moisture and mulch. The resulting soil is inhospitable to desired plants and invites weed problems. Often, the result is an increased dependency on pesticides, fertilizers and irrigation, as well as

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[13] **Sustainable Landscaping and Related Integrated Pest Management:** is a holistic approach to controlling insects, plant diseases, weeds, and other pests in landscapes. IPM programs integrate the use of many environmentally-sound sustainable landscaping strategies for managing, but not necessarily eliminating, pests. IPM seeks to prevent pests by fostering a healthy environment in which plants have the strength to resist disease and insect infestations and to out-compete weeds. An IPM approach requires an understanding of the life cycles of pests and beneficial organisms and regular monitoring of their populations. If a pest problem is identified, IPM then considers all viable solutions and uses a variety of techniques to control pests, rather than turning only to pesticides. The least toxic pesticides are used as a last resort only. IPM offers a great opportunity to refine gardening skills to sustainable actions.

[14] A treatment is an integration of non-chemical approaches, and if needed a pesticide intervention as a last resort.

[15] National Pesticide Information Center (2018, May 11). Pest. Retrieved from http://npic.orst.edu/pest/index.html

increased stormwater runoff, erosion, non-target exposure, water pollution, and greenhouse gas emissions. The striking difference between sustainable versus conventional practice is that the former will achieve its goals without using chemicals around office complexes or within sensitive ecosystems.

A conventional landscape maintenance approach is also a significant cost to the County (FAF spends about $1.14 million in labor annually). With a conventional approach, gardening staff are engaged in ineffectual, recurring activity (daily mow and blow and general cleanup), which creates a treadmill effect and no real improvement in soil and landscapes. These valuable labor resources can be better utilized through judicious interventions based on sustainable tasks geared to what the landscape actually needs. Such needs may differ from one site location to another. In this manner, all landscapes are gradually improved, which allows the County to wean off of conventional scheduling.

Sustainable landscaping using a systems-thinking approach was very successful during the 2009-2011 period. During this time FAF gardeners practiced sustainable landscaping and progressively added acreage to improve landscapes gradually without chemical interventions. Gardeners were also able to maintain other landscapes within acceptable aesthetic levels. See attached photographs (Attachment 4.) to view the progress made during this period.

It may be helpful to explore what went right during 2009-2011 period and why these efforts were abandoned. Despite having only six gardeners (sometime with only two working because of absences), there were no chemical interventions but many sustainable accomplishments.[16] The results were apparent and the gardeners received accolades from several facility managers across the County.

From my perspective, the supervising lead gardener had the right skill-set and a team with a *"Yes, We Can Do It!"* attitude. This team promised to the County Board of Supervisors to maintain landscapes sustainably, and show the difference despite having limited staffing and resources and more facilities added into their portfolio.

What is needed now is *"A willingness to accept the change for the good, and just do it!"* The County Board of Supervisors expressed a desire to adopt sustainable principles when they adopted a resolution

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[16] **Sustainable Landscaping Accomplishments by the Gardeners during 2009-2011:** In 2009, the County adopted the "7 Principles" of Bay-Friendly landscaping (BFL) and gardening and joined the Bay-Friendly Coalition to strengthen and promote sustainable landscaping practices. The Coalition works in partnership to reduce waste and pollution including pesticides, conserve natural resources, and create vibrant landscapes and gardens. Initiated in 2009, the FAF gardening staff continued their efforts of transforming landscapes on County properties by using sustainable practices and improving plant health care through use of physical, cultural and mechanical methods. Use of mulch is promoted as an alternative to herbicides to control weeds. In 2011, they added approximately 667 yards of pro-chip mulch cover on an estimated 107,841 square feet (2.48 acres) of urban landscapes. In addition, approximately 250 yards of recycled mulch was also diverted towards weed management efforts. Recycling mulch on-site was also practiced. This practice further helps to reduce wastes and improve soil conditions in favor of the desired plant community, which reduces reliance on chemical inputs for pest management. Besides decreasing or eliminating the cost associated with herbicide applications, adoption of BFL principles reduces weeds, thus significantly reducing maintenance costs. Since adoption of BFL principles and practices in 2009, approximately 7.68 acres of urban landscape around County facilities were mulched by the County gardeners. Installation of weed barrier and mulch on this acreage is projected to save thousands of labor hours annually on recurring weed-removal over using physical/mechanical methods. In addition, an estimated total of 1800 irrigation valves in 2010 and 2011 on these landscapes were shutoff, saving approximately 20 million gallons of irrigation water annually, if these run on regular schedules.

on Bay-Friendly Landscaping Principles (BFL) and Practices in 2009 and, also, passed the Sustainable Landscaping Policy for the County facilities and grounds in 2015.

B. Recommended Path to Manage Landscapes Sustainably

To successfully establish and/or maintain landscapes sustainably and keep them pest free, the management activities – which include improving the skill-sets of workers and effectual scheduling based on the landscape demands – should be thoughtfully crafted into a new paradigm that adopts best management practices and rejects conventional mow and blow maintenance schedules.

1. **Landscaping Principles and Practices to Follow**

   Please refer to these mandates and requirements in the County's Sustainable Landscaping Policy and guiding document titled – "Bay-Friendly Landscape Guidelines Sustainable Landscape Practices for the Landscape Professionals."

2. **Resource Management (Appropriate and Adequate)**
   a) **Human Resources:** Utilize staff resources and supplemental free labor resources to maximize sustainable landscaping activities. Effective coordination and scheduling of staff and supplemental labor resources can offset gardeners' general tasks during peak workload. This approach was one of the reasons that the six gardeners (one of them a lead gardener) in the 2009-2011 period were able to utilize supplemental labor effectually and were able to handle a heavy work load while still practicing sustainable landscaping.

   b) **Material resources:** Review landscaping materials each time they are purchased to ensure that the selections are appropriate, adequate, and aligned to the specific landscape demands.

   c) **Training Resources:** Initial and refresher trainings should be budgeted and be an on-going management commitment. An average cost of Bay Friendly Landscaping Maintenance Professional training is about $500 per person, per year.[17] FAF should leverage shared resources by joining ReScape California,[18] (Also known as the Bay-Friendly Landscaping & Gardening Coalition) a non-profit organization that is an advocate and expert in creating sustainable landscapes for commercial, multi-family, and public spaces as well as single-family residences. If the trainings are customized or organized exclusively for FAF staff, the cost of organizing such events will be significantly higher. ReScape California also offers webinar series[19] geared to professionals and gardeners seeking to develop and maintain sustainable landscapes. These webinars are free online and taught by experts from across the country and cover a wide range of topics relevant to sustainable landscapes.

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[17] These estimates are based on pooled resources among Bay Area public agencies where approximately 25-30 people attend such training events together in local Bay Area Counties.

[18] Rescape California (2018) *available at* https://rescapeca.org/ as of 05/15/2018.

[19] *See* Rescape California, A Focus on Sustainability, *available at* https://rescapeca.org/education/river-friendly-landscaping/educational-webinars-short-videos/ecolandscape-webinars/ as of 05/15/2018.

3. **Where does the IPM Program fit into Sustainable Landscaping?:**

The IPM Program is responsible for administering the County's IPM Ordinance and is an advisor and support to all IPM Ordinance user groups. Sustainable landscaping is intimately related to pest management. Therefore, the IPM Program is involved in sustainable landscaping as an integrated approach to meet current public expectations as described in the County's IPM Ordinance.

Where, when and how the IPM Program engages and assists FAF, and other user groups, is determined by the specific landscapes and gardening activities required. Pest problems must be addressed based on all available and effective management techniques, and in compliance with the IPM Ordinance. Human health, aesthetics, satisfaction, comfort and other subjective factors must also be considered when determining acceptable pest levels.

The IPM Program will continue to provide expertise and information about the scope of sustainable landscaping and related IPM actions, and help the landscaping staff learn new skill-sets to implement sustainable landscape maintenance practices. The IPM Program also can help coordinate employee learning and development on sustainable landscaping, if adequate funding is allocated for this purpose and management commits to making trainings available to staff.

4. **IPM Assistance with Selection and Use of Pesticides and the Process for Pesticide Use Exemptions (PUE):**

Pesticide should not necessarily be the first choice for solving a pest problem. When pesticide is required, a target-specific, low-impact chemical application should be employed and made available through the pesticide use exemption process pursuant to the IPM Ordinance. Because pesticide products continue to change, and older pesticides become banned or controversial, IPM continues to monitor pesticides to determine if some products are no longer suitable for County use.[20] The IPM Program criteria used in selecting pesticides is based on type/life stages of pest and the location's need. The pesticide need and type to be selected is also evaluated by the IPM Program in conjunction with other alternative management practices.

FAF management staff should engage IPM staff on a routine and continuous basis, and preferably in early stages of pest issues. The IPM Program will continue to research, educate and suggest, as a first choice, alternatives to pesticides to resolve pest issues. The IPM Program will continue to provide support to FAF staff with regular field inspections, in coordination with FAF management and their field staff. As required by the County IPM Ordinance,[21] when PUE requests are made the requesting department must demonstrate through a chronological history that good faith efforts using effective sustainable management techniques were exercised prior to

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[20] For example, on March 28, 2017, the Office of Environmental Health Hazard Assessment (OEHHA) posted a Notice on its website that glyphosate (CAS No. 1071-83-6) was added to the Proposition 65 list of chemicals known to the state to cause cancer.

[21] County of Santa Clara IPM Ordinance *available at* https://library.municode.com/ca/santa_clara_county/codes/code_of_ordinances?nodeId=TITBRE_DIVB28INPEMA PEUS

making PUE. The IPM Program will evaluate the PUE request; a location-specific PUE may be granted under **specific use** or **emergency use** in compliance with the IPM Ordinance.

Attachments

1. Agreement CW2228060 between the County of Santa Clara and Firma Design Group for Landscaping Inventory and Operational Need Assessment.
2. Agreement CW2225565 between the County of Santa Clara and Davey Resource Group for Consulting Arborist Services.
3. Sustainable Alternatives: Weed Control in County's Urban Landscapes
4. Photographs of Sustainable Landscaping using a systems-thinking approach for the period 2009-2011

<u>These attachments are on file with the Management Audit Division.</u>