The California State University
OFFICE OF THE CHANCELLOR

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February 1, 2018

Dr. Gayle E. Hutchinson, President
California State University, Chico
400 W. First Street
Chico, CA 95929

Dear Dr. Hutchinson:

Subject: Audit Report 17-09, *Facilities Management*, California State University, Chico

We have completed an audit of *Facilities Management* as part of our 2017 Audit Plan, and the final report is attached for your reference. The audit was conducted in accordance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*.

I have reviewed the management response and have concluded that it appropriately addresses our recommendations. The management response has been incorporated into the final audit report, which has been posted to the Office of Audit and Advisory Services' website. We will follow-up on the implementation of corrective actions outlined in the response and determine whether additional action is required.

Any observations not included in this report were discussed with your staff at the informal exit conference and may be subject to follow-up.

I wish to express my appreciation for the cooperation extended by the campus personnel over the course of this review.

Sincerely,

Larry Mandel
Vice Chancellor and Chief Audit Officer

c: Timothy P. White, Chancellor

CSU Campuses

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FACILITIES MANAGEMENT

California State University, Chico

Audit Report 17-09
January 11, 2018

EXECUTIVE SUMMARY

OBJECTIVE

The objectives of the audit were to ascertain the effectiveness of administrative, operational and financial controls related to facilities operations and to ensure compliance with relevant governmental regulations; Trustee policy; Office of the Chancellor (CO) directives; and campus procedures.

CONCLUSION

We found the control environment for the areas reviewed to be in need of major improvement.

Based upon the results of the work performed within the scope of the audit, the operational, administrative and financial controls for facilities management as of October 13, 2017, were unlikely to provide reasonable assurance that risks were being managed and objectives were met.

Our review indicated that policies and procedures for facilities management needed improvement, as we identified gaps in the areas of work-order creation, updates, and closure and a lack of sufficient monitoring procedures. We noted numerous instances indicating that administration, maintenance, and review of work orders on campus lacked consistency and needed improvement both in manual intervention and system capabilities. We further noted that work-order backlogs and outstanding cost-recovery receivables were not effectively monitored due to inefficiencies in the generation of monitoring reports. In addition, we noted that the campus had not established a formal authorization process for granting, reviewing, and removing user access to the campus computer maintenance management system (CMMS). Also, we noted a lack of consistent maintenance of the area surrounding the creek on campus; a lack of memoranda of understanding (MOU) with university housing and the University Farm outlining the services provided for cost by facilities management and services (FMS); inconsistencies in the database containing the inventory of building keys issued to campus personnel; and lack of formal approval of the campus cost allocation plan for fiscal year 2016/17.

Specific observations, recommendations, and management responses are detailed in the remainder of this report.

OBSERVATIONS, RECOMMENDATIONS, AND RESPONSES

1. POLICIES AND PROCEDURES

OBSERVATION

Facilities maintenance policies and procedures needed improvement.

Although the campus had a number of maintenance procedures in place, we noted gaps that compromised the department's ability to provide accurate and reliable data, mitigate the risk of administrative errors, and promote operational efficiency and effectiveness.

Specifically, we noted there were no policies and procedures addressing:

- Standards for entering required data into WebTMA, the campus CMMS for work order creation, approval, updates, and closure.

- Clearly defined maintenance work-order categories that differentiated tasks into type (routine, scheduled, preventive, or deferred) and demonstrated whether the task fell outside of the responsibilities of FMS and therefore should be charged to the vendor or requesting department.

- Management monitoring procedures, including descriptions of the type, frequency, and purpose of management reports run from the CMMS to monitor work-order activity.

- Documentation to show that trade leads or shop supervisors reviewed work orders and verified that the task was completed to standards.

Executive Order (EO) 847, *Facility Maintenance,* requires the campuses to develop an automated program that provides data for the systematic maintenance of state-supported campus facilities and further specifies that this shall be accomplished through adoption of a CMMS that allows them to track maintenance work and reasonably account for total allocated resources. It further specifies that the campus is accountable for ensuring that the campus general fund or other funding source is reimbursed when services provided by the FMS fall outside of the agreed-upon responsibilities of the department.

Comprehensive policies and procedures for work-order administration help to ensure that assets are well maintained, service levels are enhanced, and resource needs for the maintenance of campus facilities are accurately reported.

RECOMMENDATION

We recommend that the campus establish policies and procedures that address:

a. Standards for entering data in the CMMS for work-order creation, approvals, updates, and closure.

b. Proper categorization of work orders.

c. Management monitoring procedures, including the type, frequency, and purpose of management reports that should be generated from the CMMS.

d. Documentation or CMMS data entry procedures that should be followed to show supervisory review of work-order tasks.

MANAGEMENT RESPONSE

We concur. The campus will establish:

a. Standards for entering data in WebTMA for work-order creation, approvals, updates, and closures.

b. Procedures for proper categorization of work orders.

c. Management monitoring procedures, including the type, frequency, and purpose of management reports that should be generated from WebTMA.

d. Procedures to document supervisory review of work-order tasks.

Completion date: June 30, 2018

2. WORK ORDER ADMINISTRATION

OBSERVATION

Administration, maintenance, and review of work orders lacked consistency and needed improvement both in manual intervention and system capabilities.

We reviewed 40 work orders entered into the CMMS in varying categories between July 2015 and June 2017, and we noted the following:

- Work orders were not always updated to reflect the current status of the maintenance request; two completed work orders still showed a "pending" status, and five cancelled work orders reflected a "completed" status.

- Work orders were not always properly categorized. Six emergency/urgent service requests and two non-emergency service requests were categorized as routine maintenance; one preventive maintenance (PM) work order was categorized as a service request; and one service-request work order was categorized as PM.

- Work orders were not always properly reviewed and approved. One work order for a deferred maintenance task was not approved as required in FMS policy, and none of the completed work orders had documented supervisory review indicating that the completion of the task had been verified and the task had been completed to standards.

- Work orders were not always completed timely. Four of ten PM work orders issued had not been performed, and seven of 30 closed work orders were not completed timely,

based on FMS priority level and related prioritization schedule. In addition, two of ten assets selected for testing were not consistently maintained at their PM schedule. Further, we were unable to determine whether PM tasks on four other assets were regularly performed, due to a lack PM information in CMMS.

- Costs were not always captured in the work order. Two of the 16 closed work orders that incurred labor costs did not have labor hours entered into CMMS.

Our review indicated that these observations were related to weaknesses in the capabilities of the campus CMMS, as well as inconsistencies in manual interventions in the work order administration process.

Proper administration of the work-order process enhances service levels, provides greater assurance that assets will be well-maintained, and allows management to accurately report on state facilities and the resources necessary to maintain them.

RECOMMENDATION

We recommend that the campus:

a. Establish procedures for work-order administration that address work-order creation, approvals, updates, and closure and develop enforcement controls such as management reporting and review.

b. Conduct an assessment of the campus' CMMS tool, WebTMA, to determine whether additional automated controls are available for implementation in the system currently in use at the campus.

MANAGEMENT RESPONSE

We concur. The campus will:

a. Establish procedures for work-order administration that address work-order creation, approvals, updates, and closure and develop enforcement controls such as management reporting and review.

b. Conduct an assessment of WebTMA to determine whether additional automated controls are available for implementation in the system.

Completion date: June 30, 2018

3. OUTSTANDING WORK ORDERS AND BACKLOG REVIEW

OBSERVATION

The campus was not effectively monitoring work-order backlogs and outstanding cost-recovery receivables.

Specifically, we noted that the campus used a work-order backlog report that listed all open work orders and did not differentiate or sort open work orders by aging, task category, billable costs, or any other data indicator that would indicate a higher priority based on risk factors.

In addition, the campus ran a chargeback billing report that did not effectively capture all aged and open chargeback receivables, as it reflected only records that had a completion date in the CMMS. The campus was inconsistent in completing proper work-order status fields, including fields that indicated completion.

RECOMMENDATION

We recommend that the campus:

a. Implement a procedure to track work-order backlog based on risk factors such as age, task category, and billable costs.

b. Implement a process to accurately track all open chargeback receivables.

MANAGEMENT RESPONSE

We concur. The campus will:

a. Implement procedures to track work-order backlog based on risk factors such as age, task category, and billable costs.

b. Implement a process to accurately track all open chargeback receivables.

Completion date: June 30, 2018

4. PHYSICAL AND LOGICAL SECURITY

OBSERVATION

Administration of CMMS access and campus physical security needed improvement.

- The campus had not established a formal authorization process for granting and removing user access to the campus CMMS or formal procedures for periodic review of such access.

- The campus inventory records for building and classroom keys needed improvement. Although we did not review individual custody of keys, we did review the key shop database and found that it lacked sufficient information to allow for relevant periodic review and monitoring by management. We also noted that key status appeared to be out-of-date. For example, the inventory indicated that a number of keys had been outstanding since as far back as 1971, and some records indicated that more than 100 copies of keys for a single door were still in circulation with campus personnel.

Adequate administration of user accounts lowers the risk of inappropriate access and data manipulation, and adequate administration of physical security lowers the risk that keys will be unaccounted for or misused.

RECOMMENDATION

We recommend that the campus:

a. Establish formal policies and procedures for authorizing access to the CMMS and for reviewing access on a periodic basis.

b. Conduct a key inventory, update the key database accordingly, and develop a plan to re-key doors with lost or missing keys.

MANAGEMENT RESPONSE

We concur. The campus will:

a. Establish formal policies and procedures for authorizing access to the CMMS and for reviewing access on a periodic basis.

b. Conduct a key inventory, update the key database accordingly, and develop a plan to re-key doors with lost or missing keys.

Completion date: June 30, 2018

5. RIPARIAN CORRIDOR MAINTENANCE

OBSERVATION

The riparian corridor, or the waterway and shoreline of the creek that runs through the campus, had not been consistently maintained, and in 2014, several trees fell and damaged the campus bridge spanning the creek.

The corridor is owned by the city of Chico but is operated by the campus under a grant of license, which gives responsibility for the corridor's maintenance to the campus. However, with a consultant, campus environmental health and safety (EHS) had identified issues regarding proper permitting and regulations regarding environmental protection issues. At the time of the audit, the campus indicated that it was working with the Department of Fish and Wildlife and other regulatory entities to resolve the issues surrounding maintenance responsibilities, had fulfilled all department requests, and was awaiting word on the final resolution for a maintenance agreement.

Adequate maintenance of grounds helps prevent potential hazards from occurring on campus and reduces the risk of related liability.

RECOMMENDATION

We recommend that the campus obtain appropriate approvals from the Department of Fish and Wildlife to provide for maintenance for the riparian corridor.

MANAGEMENT RESPONSE

We concur. The campus will obtain appropriate approvals from the Department of Fish and Wildlife to provide for maintenance for the riparian corridor.

Estimated completion date: June 30, 2018

6. COST ALLOCATION PLAN

OBSERVATION

The campus cost allocation plan for fiscal year 2016/17 was drafted but had not been formally approved. The draft plan included rates for facilities maintenance tasks.

A formally approved cost allocation plan lowers the risk of non-compliance with relevant requirements, misunderstandings, and miscommunication regarding direct and indirect costs.

RECOMMENDATION

We recommend that the campus obtain proper approval for the fiscal year 2016/17 cost allocation plan and institute a process to obtain proper and timely approvals for fiscal year cost allocation plans.

MANAGEMENT RESPONSE

We concur. The campus will obtain proper approval for the fiscal year 2016/17 cost allocation plan and institute a process to obtain proper and timely approvals for fiscal year cost allocation plans.

Completion date: April 30, 2018

7. MEMORANDUM OF UNDERSTANDING

OBSERVATION

The campus had not established MOUs with university housing and the University Farm, entities that frequently used FMS services.

As a practice, the campus developed MOUs for auxiliary organizations and campus departments that outlined the responsibilities, scope, and cost of billable maintenance services provided by FMS.

Written agreements lower the risk of misunderstandings and miscommunications regarding rights, responsibilities, and payment terms.

RECOMMENDATION

We recommend that the campus develop and implement an MOU with university housing and University Farm to document the responsibilities, scope, and cost of billable maintenance services provided by FMS.

MANAGEMENT RESPONSE

We concur. The campus will develop and implement an MOU with university housing and University Farm to document the responsibilities, scope, and cost of billable maintenance services provided by FMS.

Completion date: May 31, 2018

GENERAL INFORMATION

BACKGROUND

The need to protect the substantial public investment represented by California State University (CSU) facilities and grounds was brought to the forefront in the Legislative Analyst's Report on the 1979/80 state budget. Subsequently, the Legislature directed the CSU to implement a preventive maintenance program. As a result, the CSU has adopted directives, executive orders and technological tools to ensure that facilities-related assets are adequately maintained.

Executive Order (EO) 847, *Facility Maintenance*, refines the standards in which campuses maintain CSU facilities. It provides clear definition of operations and maintenance, deferred maintenance, and capital renewal requirements to assure efficient and effective use of available maintenance funding. It also requires the university president to ensure that appropriate resources are directed toward meeting the requirement of proper operations and maintenance of the campus physical plant.

The Capital Planning, Design and Construction (CPDC) department at the CO maintains a space and facilities database (SFDB), a centralized system that provides information about capacity and facilities at each of the 23 campuses. It also provides details regarding custodial space and farm acreage on the campuses and contains information on each facility, including the condition, construction type, gross square footage, and master plan status. CPDC requires each campus to annually update its facility file in the SFDB; this information provides the basis for the capital outlay program, including funding for any required deferred maintenance, for the immediate and subsequent years. The Chico campus consists of 60 facilities on an open campus of 119 acres bisected by a creek and comprises 2.06 million gross square feet. The average age of facilities is 46 years.

In 2016, CPDC launched a multiyear plan to improve the quality of facilities data in multiple areas of development and operations. The plan included a new energy information system, which streamlined and improved campus monthly utility reporting; refinements in the reporting categories for self-support facilities such as recreation centers, public/private partnerships, and faculty/staff housing; and detailed facility condition assessments (FCA) to update, in a consistent manner, the estimated backlog of renewal needs. CPDC initiated a master enabling agreement with qualified firm to conduct the FCAs. As of October 2017, nine campuses, including the Chico campus, had completed the process, and eight more had committed to conducting the review in 2018. Information from the FCA reports will make campus reporting of facility conditions more uniform and allow CPDC to more accurately determine annual funding priorities to reduce the capital renewal backlog.

In recent years, funding appropriation challenges in the CSU system have affected facilities maintenance. Each year, CPDC must not only determine how much funding is necessary to maintain the 89 million square feet of facilities systemwide, but also identify, prioritize, and find funds for the backlog of deferred maintenance projects. The CSU 2014/15 Capital Renewal Annual Report indicated that the CSU had an estimated cost of $2.67 billion in total backlog of academic and critical infrastructure needs. The 2017 FCA for California State University, Chico (CSU Chico) estimates that the campus will need $290 million in facility

renewal costs over the next ten years, and that costs for immediate and critical needs are in excess of $6 million.

CSU Chico consists of 119 acres of main campus, 800 acres of University Farm, and 2,330 acres of ecological reserves. The campus FMS maintains more than 2.06 million gross square feet of state buildings, 60 non-state buildings, more than 115 vehicles, and emergency generators. Its span of responsibility includes operating, cleaning, and maintaining all state-funded buildings, facilities, and grounds to support normal campus operations, as well as providing services to non-state entities on a chargeback basis. It also maintains all state vehicles and provides all utilities including heat, cooling, water, gas, air, and electricity on campus. FMS reports to the vice president for business and finance. The management team consists of one director, one assistant director, four managers, one supervisor, and one human resources liaison.

SCOPE

We visited the CSU Chico campus from September 11, 2017, through October 13, 2017. Our audit and evaluation included the audit tests we considered necessary in determining whether administrative and operational controls are in place and operative. The audit focused on procedures in effect from July 1, 2015, through October 13, 2017.

Specifically, we reviewed and tested:

- Facilities management administration and organization, to determine whether it includes clear lines of organizational authority and responsibility, and current and comprehensive policies and procedures.

- The comprehensive planned/programmed maintenance schedule, to ensure that it captures all categories of maintenance, including routine, preventive, and deferred.

- The process by which the campus identified facility conditions, including deferred maintenance and capital renewal needs, and annually reported the information to the CO.

- Campus implementation of an effective CMMS to ensure proper administration of maintenance tasks, including scheduling, cost management reporting, and productivity tools to account for resource utilization.

- Campus implemention of effective and efficient custodial and groundskeeping programs that include productivity and performance standards to ensure the work is performed in an effective and efficient manner.

- The campus process to ensure proper capture, tracking, and collection of costs for non-maintenance and auxiliary-related work orders.

- Campus implementation of an effective utilities tracking system to capture and report information pertinent to CSU goals for sustainability and energy conservation.

As a result of changing conditions and the degree of compliance with procedures, the effectiveness of controls changes over time. Specific limitations that may hinder the effectiveness of an otherwise adequate system of controls include, but are not limited to, resource constraints, faulty judgments, unintentional errors, circumvention by collusion, and

management overrides. Establishing controls that would prevent all these limitations would not be cost-effective; moreover, an audit may not always detect these limitations.

Our testing and methodology, which was designed to provide a review of key administrative and operational controls, included interviews, walkthroughs, and detailed testing on certain aspects of the campus facilities operations. Our review was limited to gaining reasonable assurance that controls were in place to identify and address facility maintenance needs, but did not assess the quality of any repair or maintenance tasks.

CRITERIA

Our audit was based upon standards as set forth in federal and state regulations and guidance; CSU Board of Trustee policies; Office of the Chancellor policies, letters, and directives; campus procedures; and other sound administrative practices. This audit was conducted in conformance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*.

This review emphasized, but was not limited to, compliance with:

- EO 649, *Safeguarding State Property*
- EO 847, *Policy Statement on Facility Maintenance*
- EO 987, *Policy Statement on Energy Conservation, Sustainable Building Practices, and Physical Plant Management for the California State University*
- EO 1000, *Delegation of Fiscal Authority and Responsibility*
- Integrated California State University Administrative Manual (ICSUAM) §9047.01, *Space Facilities Database*
- ICSUAM §9170, *Energy Conservation and Utilities Management*
- Government Code §13402 and §13403
- CSU Chico *FMS Service Prioritization Schedule*
- CSU Chico *FMS Procurement Procedures & Approval Process*
- CSU Chico *FMS Chargeback & PEWAF Process*
- CSU Chico *FMS CAF, Credit Cards, and Office Support Processes*

AUDIT TEAM

Assistant Vice Chancellor and Deputy Chief Audit Officer: Janice Mirza
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