



Contents

APPA: The Association of Higher Education Facilities Officers is an international association dedicated to the development of leadership and professional management applicable to the planning, design, construction, maintenance, and operation of the facilities required for quality teaching, research, and public service.

APPA: The Association of Higher Education Facilities Officers
1643 Prince Street
Alexandria, Virginia 22314-2818

Copyright ©2006 by APPA.

Printed in the United States of America. All rights reserved.

Introduction
Executive Summary
Evaluation Report and Recommendations
Leadership
Strategic and Operational Planning
Customer Focus
Information and Analysis
Development and Management of
Human Resources
Process Management
Performance Results
Other Considerations
Conclusion

The approval of the institution is made in relationship to the criteria and guidelines of APPA's Facilities Management Evaluation Program. The evaluation report comments on the strengths of the institution and, when appropriate, offers suggestions and recommendations for improvement of performance. The report constitutes no endorsement, or denial of endorsement, of the institution by APPA or by the members of the evaluation team. This document was created for the exclusive use of the institution named. All contents are confidential.



Introduction

In times of challenge, achieving organizational success involves leadership, vision, strong core values and ethical practices, agility, customer focus and service quality. Over the years, the criteria for the Facilities Management Evaluation Program has evolved toward a comprehensive coverage of strategy driven performance and alignment of the facilities services to address the ever-changing conditions which higher education institutions face.

This report is an evaluation of the office of Facilities and Grounds of the University of Hawaii at Manoa (UHfM). The observations and recommendations are those of a team of senior facilities management professionals who visited the campus February 5-10, 2006.

The review was conducted at the request of W. H. Raymond Yeh, FAIA, dean, School of Architecture, who serves as chair of the Ad Hoc Committee on Facilities Management, appointed by the University of Hawaii at Manoa chancellor's office as follow up to a 2004 recommendation of a UHM Faculty Senate Committee to engage APPA in a review, evaluation, and recommendations for improvement in UHM facility services. The review was structured in accordance with the Facilities Management Evaluation Program (FMEP) of APPA: Serving Educational Facilities Professionals. Facilities professionals, with specific expertise, were selected for the evaluation team. Selections were based on their experience in the management and leadership of comparable facilities organizations relevant to those of the University of Hawaii at Manoa.

Members of the review team included the following:

Jack Hugg, Team Leader
Assistant Vice Chancellor, Facilities—Retired
University of California, San Diego
APPA Past President

Paul Tabolt
Vice Chancellor for Administration
University of Colorado at Boulder

Marc Fisher
Associate Vice Chancellor, Facilities, Operations
and Maintenance
University of California, Santa Barbara

Peter van der Have
Assistant Vice President, Facilities
University of Utah

Maurice Hollman
Associate Vice Chancellor
University of California, Davis

The APPA team interviewed staff within the Facilities and Grounds organization and also interviewed numerous principal campus administrators, primary customers, and key constituents external to the Facilities and Grounds. The names of those interviewed external to the Facilities Division and the various committees whose members participated are listed below.

Denise Eby Konan, Interim Chancellor
Kathy Cutshaw, Interim Vice Chancellor for Administration, Finance, and Operations
Wayne Iwaoka, Interim Vice Chancellor for Students
Neal Smetreski, Vice Chancellor for Academic Affairs
Vassilis Symros, Assistant Vice Chancellor for Research and Graduate Education
Robert Bley-Vroman, Faculty Senate Chair
Bruce Miller, Director, Office of Sustainability
Jim Mauke, Director of Communications
Tom Schroeder, Chair, Campus Safety and Security Committee and Emergency Preparedness Committee
Kevin Nakata, HGEA Representative
Robert Nagao, Director, Manoa Budget Office, Office of VC for Administration, Finance, and Operations

Roy Takekawa, Director, Environmental Health and Safety Office
Donald Dawson, Acting Chief, Campus Security
Eric Yamashita, Campus Space Manager, Office of the VC for Administration, Finance, and Operations
Jack Sidener, Campus Planner, Office of the VC Administration, Finance, and Operations
Janice Nakashima, Physical Plant Officer, Student Housing
Jan Javina, Director, Co-curricular Activities, Programs, and Services
Francis Blanco, Director, Facilities, John A. Burns School of Medicine
Kyle Tengan, Lower Campus Supervisor
Glen Nakaya, Manager, Rainbow Stadium
Rich Sheriff, Manager, Stan Sheriff Arena
Judy Rubano, Acting Director, Administration, SOEST
Klaus Keil, Dean, SOEST
Carrie Matsuzaki, Assistant Specialist, College of Engineering
Andrew Hashimoto, Dean and Director, College of Tropical Agriculture and Human Resources
Jon Matsuoka, Dean, School of Social Work
Ray Yeh, Dean, School of Architecture
Lorenz Maggaard, Director, International Center for Climate Society
Frank Beaver, Interim Associate Dean, College of Arts and Humanities
Edgar Porter, Interim Dean, School of Hawaiian, Asian, and Pacific Studies
Sheyla Tashina, Administrative Officer, College of Education
Carolyn Okinaga, Interim Associate Dean, Outreach College
William Chismar, Associate Dean, College of Business Administration
Erika Lacrow, Interim Assistant Dean, School of Travel Industry
Carol Lee, Associate Dean, William S. Richardson School of Law
Diane Perushek, University Librarian
Andrew Rossiter, Director, Waikiki Aquarium
Clifford Morden, Interim Director, Lyon Arboretum
David Hafner, Director of Administration, Institute of Astronomy
Mary Donohue, Associate Director, Sea Grant College

Andrew Fagan, Administrator, University Health Services
Brent Watanabe, Administrator, East-West Center
Teri Wilhelm Chang, Assistant Athletic Director for
Facilities and Events

Sam Callejo, UH System Vice President for Administration
Jan Yokota, UH System Director, Office of Capital
Improvements

Brenna Hashimoto, UH System Associate Director, Office
of Human Resources

Mia Noguchi, UH System Director, Media Relations,
External Affairs, and University Relations

Duff Zwald, UH System Director, Office of Procurement
and Real Property

Scott Oshiro, UH System Procurement Officer (Facilities
Contracting)

David Lassner, UH System Chief Information Officer,
Information Technology Services

In addition to the above interviews, the review team also
met with representatives of the following groups of custom-
ers and committees:

Recent customers of remodel/alteration projects
Building facility managers and coordinators and large
department representatives

Committee on Administration and Budget
Landscape Advisory Committee
Building Services Advisory Committee

ACKNOWLEDGMENTS

The review team acknowledges, with deep appreciation,
the help and support of the members of the Ad Hoc Com-
mittee on Facilities Management: Ray Yeh, Gordon Grau,
Stephen Meder, Mel Won, John Carey, and Ivo Martinac.
This group's participation and willingness to share informa-
tion and supporting documents and materials were insight-
ful and essential ingredients for this evaluation. Addition-
ally, the team wishes to acknowledge the wholehearted
support, cooperation, and assistance of many members of
the university's administration.

The review team especially thanks the members of Faci-
lities and Grounds. Their willingness to share their time,

provide information, and offer their opinion and percep-
tions to the review team contributed many useful insights
to this report. This willingness on the part of Facilities and
Grounds staff to share information was especially impor-
tant since a departmental self-evaluation was not available
for the review team in advance of the site visit.

Special recognition is given to Mel Won, who did a stellar
job in preparing interview schedules and providing support
logistical support to the review team. His flexibility, pa-
tience, and efficient response to our many additional
requests for information and changes in schedule were
truly remarkable. Also, Ruth Goldstein filled an essential
role and did an excellent job of assisting the review team
members each day with meeting room arrangements,
meeting materials, refreshments, and lunch arrangements.

The participation in interviews and events by Kathy
Cutshaw, interim vice chancellor for Administration,
Finance, and Operations, was a clear demonstration of her
interest in this review and we are most appreciative of her
time. In addition, Interim Chancellor Denise Eby Konan
was most generous in sharing her time and important
insights with the review team.

The names of Facilities and Grounds staff who participated
in individual interviews are as follows:

Kalvin Kashimoto, Director, Facilities and Grounds
Nick Metivier, Procurement and Physical Plant Manager
Farouk Wang, Director, Buildings and Grounds
Carol Yoshida, Administrative Officer, Budget and Fiscal
Management

Roxanne Adams, Grounds Manager

Derek Seu, Building Services Manager

Carlton Ho, Assistant Building Services Manager

Ronald Lau, Registered Architect, Architectural Design

Dennis Kamite, Registered Engineer, Electrical Engineering
Thomas Katsuyoshi, Registered Architect, Project
Management

Blake Araki, Registered Engineer, Mechanical Engineering

Rae Miyashiro, Supervisor, Facilities Customer Service
Center

Hongly Khuy, Facilities IT Specialist

Brenda Shin, Facilities Personnel Officer

Other meetings were held with staff within Facilities and Grounds and included meetings with:

- Shop supervisors: carpentry shop, electric shop, paint shop, plumbing shop, trucking, air conditioning repair and maintenance, and AC maintenance unit
- Janitorial Supervisors: crews 1, 2, and 3, carpet cleaner supervisor
- Landscape supervisor
- Grounds maintenance supervisor
- Makai grounds crew

Separate group meetings were also held with 29 Facilities and Grounds front-line maintenance workers including: trade shops, building services, grounds and landscape services, logistical services, architects, and engineers.

In addition to a scheduled general campus tour for all of the review team members, special tours were held of the following areas:

Facilities and Grounds offices and shops including a review of shop equipment and fleet equipment

Selected buildings for maintenance and condition review including classroom spaces, auditoriums, wet labs, dry labs, research facilities, Sinclair Library, historic buildings, and electrical sub-stations

CAMPUS HISTORY

The University of Hawaii at Manoa (UHM) is a premier research university of international standing. Manoa is the flagship of the University of Hawaii system, the state's sole public university system governed by a 12-member Board of Regents. A land-grant, sea grant, and space-grant institution, Manoa creates, refines, disseminates, and perpetuates human knowledge; offers a comprehensive array of undergraduate, graduate, and professional degrees through the doctoral level; carries out advanced research; and extends services to the community.

Located in Manoa Valley on the island of Oahu, the university was founded in 1907 under the auspices of the Morrill Act as a land-grant college of agriculture and mechanic arts. With the addition of a College of Arts and Sciences in 1920, the college became the University of Hawaii (UH).

and in 1972, it became the University of Hawaii at Manoa to distinguish it from the other units in the growing UH system.

Today, more than 20,000 students are enrolled in Manoa courses, on campus or via distance delivery. Classified as a Carnegie Doctoral/Research University-Extensive institution, Manoa offers 87 bachelor's degrees, 87 master's degrees, and 53 doctorates. The university offers professional degrees in law, medicine, and architecture. Approximately 65 percent of Manoa students are undergraduates; 57 percent are of Asian or Pacific Islander ancestry; and 56 percent are women.

Manoa's special distinction is found in its Hawaiian, Asian, and Pacific orientation and its unique location. Together, these foster advantages in tropical agriculture, tropical medicine, oceanography, astronomy, electrical engineering, volcanology, evolutionary biology, comparative philosophy, urban planning, and international trade. Manoa also offers instruction in more Asia-Pacific languages than any other U.S. institution of higher learning. As a result, students are provided special opportunities for research, service learning, and co-curricular activities in Asian, Pacific, and Hawaiian studies. The beauty of the green Manoa valley provides a backdrop for a unique, yet inviting, campus. Hawaiian, Asian, and Pacific traditions are well represented throughout the campus. There is an authentic Japanese tea house and garden, a replica of a Korean king's throne hall, and a Hawaiian taro patch. Off-campus facilities include the Lyon Arboretum, the Waikiki Aquarium, several marine facilities, and the world famous telescopes atop Mauna Kea.

The University of Hawaii was first accredited by the Western College Association in 1952. The Manoa campus is currently accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges. Twenty-eight professional programs are also accredited by appropriate agencies.

RESEARCH AT THE UNIVERSITY OF HAWAII AT MANOA

In 2003, the top American research universities ranked University of Hawaii at Manoa among the top 50 public universities in federal research funding.

With extramural grants and contracts in excess of \$300 million, Manoa excels in research related to its physical landscape, heritage, and people. The landscape facilitates advances in marine biology, oceanography, underwater robotic technology, astronomy, geology and geophysics, agriculture, aquaculture, and tropical medicine. The heritage, the people, and the close ties to the Asian and Pacific region create a favorable environment for study and research in the arts, genetics, intercultural relations, linguistics, religion, and philosophy.

The School of Ocean and Earth Science and Technology (SOEST) received the largest amount of extramural funding among the Manoa units at \$60 million. SOEST was followed by the John A. Burns School of Medicine (JABSONM) at \$41 million, the College of Natural Sciences at \$24 million, the Institute for Astronomy at \$22 million, the Pacific Basin Research Center at \$21 million, the College of Education at \$19 million, and the Cancer Research Center of Hawaii at \$18 million.

Systemwide, the majority of research funding comes from the Department of Defense, the Department of Health and Human Services, the National Science Foundation, the Department of Commerce, and the National Aeronautics Space Administration (NASA). For nonresearch grants, the majority of funding comes from Hawaii government agencies, the Department of Education, the National Science Foundation, Hawaii health organizations, and NASA.

Construction on the new, \$150-million medical complex in the area of Kaka'ako is recently completed. The new facility houses a state-of-the-art biomedical research and education center that will attract significant federal funding and private sector investment in biotechnology research and development.

The University of Hawaii at Manoa is characterized by a wealth and variety of research projects.¹

CAMPUS PHYSICAL PLANT

Facilities and Grounds provides facilities services to the university including operations and maintenance of facilities, grounds and landscape, utility management, oversight for design and construction services for remodeling and alteration projects, and provides campus moving services. The services provided support a physical plant of varying age and condition located at the Manoa campus. The campus physical plant consists of approximately 7,120,185 gross square feet on over 275 acres. Facilities and Grounds employ approximately 350 FTEs for fiscal year 2005-06. The department operating budget for fiscal year 2005-06 is approximately \$28 million. Utilities comprise over \$14 million annually or about 50 percent of the total operating budget. The Capital Improvement Program for Fiscal Biennium 2005-07 is \$41.8 million. Facilities and Grounds have identified a deferred maintenance backlog for the campus totaling \$100 million. The expected allocation for addressing this backlog for fiscal year 2005-06 is \$31.8 million.

The University of Hawaii at Manoa suffered severe flooding on October 30, 2004. At the time of this review, some buildings were still operating without permanent repairs and restoration. The damage caused by the flood totals many millions of dollars and the workload impact on the Facilities and Grounds staff has been stressful and, in cases, overwhelming for them. The event exposed many weaknesses in the campus emergency preparedness and recovery plan and the campus' abilities to respond and mitigate in a time of catastrophic loss. In many cases, in spite of many heroics on the part of numerous Facilities and Grounds staff, it has taken too long to restore many campus buildings and systems for campus users. The lingering effects of the flood are still noticeable as one tours the campus and the facilities that were damaged. Flood recovery expenses, and future flood mitigation planning add to the challenge of addressing campus facility conditions that are already observed to be suffering from countless deficiencies.

¹The above section is adopted from the University of Hawaii at Manoa website.



Executive Summary

Stated shared values of the UH System include aloha, collaboration, respect, intellectual rigor, integrity, service, access, affordability, diversity, fairness, leveraged technology, innovation, accountability, and sustainability. The UH system suggests, "...innovation and empowerment can overcome resource limitation and bureaucratic entanglements." Further, the UH System suggests a shared value for the spirit of service which infuses UH activities. We wish we consistently observed these traits in the Facilities and Grounds leadership and workforce.

The UHM is an inviting setting with the ever so beautiful Manoa Valley as a backdrop—a backdrop of abnormal beauty that has proven it can unleash its fury as evidenced by the October 30, 2004 flood that wreaked millions of dollars in damages to the campus.

An executive summary from a 1999 Western Association of Schools and Colleges (WASC) accreditation visit stated, "The Campus has an urban feel with trees and landscaping creating a pleasant environment." The WASC summary went on to state, "...surprisingly in view of serious budget concerns, and to the credit of the grounds and maintenance crews, by casual inspection the campus appeared to be maintained very well."

As part of the WASC accreditation review, the same executive summary expressed serious concerns about instructional and support needs. The accreditation review team pointed out that,

"There are, however, major concerns about the long-term consequences of decreased maintenance of the entire plant. During the last seven years, major reductions have been made in the repairs and maintenance (R&M) budget line item. These reductions took the ratio of R&M to gross square feet from \$2.16 per square foot in 1992 to \$.35 per square foot in 1997. In fiscal year 1998, \$6.2 million has been added to the capital improvement budget specifically earmarked for re-roofing, mechanical and electrical systems. This area has been designated as a high priority for future budgets and will be protected from major additional cuts. This decision is important as UHM is an aging campus and is very susceptible to minor issues that left unattended will become major problems. The campus has a sizeable work force to take care of minor repairs, custodial activities, landscaping, grounds maintenance, environmental health and safety, and campus security. The autonomy act has been helpful in managing these important functions by providing more flexibility with staffing and procurement."

The same WASC report recognized that equipment and facilities for research present a critical part of graduate education and research. In 1999, that report noted the science faculty reported no apparent adverse effects in facilities and was astute enough to observe that over time the lack of state investment in research facilities will be felt.

Past observations from the WASC predictions are important to set the stage for the observations of the FMEP review team. Equally important is the small level of commitment which Facilities and Grounds organization exercised in preparation for the team's arrival.

A self-study and evaluation of the Facilities and Grounds organization is a prerequisite of a successful FMEP process. APPA FMEP review teams expect to arrive with a clear understanding of the mission and standards of Facilities and Grounds organization. The self-evaluation provides the participating institution with an opportunity to articulate its assessment of its own performance including an inventory of its existing best practices as well as its known deficiencies. The review team expects to arrive with a basic level of understanding of organizational mission, values,

programs, structure, policies, procedures, practices, and programs that are already in place. The absence of a Facilities and Grounds self-evaluation caused the review team to spend a considerable amount of its time seeking information that would normally have been provided in advance.

Facilities and Grounds placed itself at a severe disadvantage in the FMEP process by not evaluating and acknowledging its own assessment of its performance.

First impressions are lasting impressions. The absence of a self-evaluation was the review team's first impression of the Facilities and Grounds organization. The second significant impression of the Team occurred during a tour of the campus on the first day of its schedule. The setting of the campus, while marvelous and in a treasured location, was generally clouded by litter, debris, peeling paint, broken and heaved concrete, tripping hazards, graffiti in restrooms, burned-out light fixtures, and an observed general state of disrepair.

Buildings and campus spaces ranged from those carefully planned to the more eclectic appearance that occurs without careful planning. The review team's search for design standards for the physical plant came up empty. Simple campus standards for repetitive facility components are inherently missing. There does not appear to be a strong relationship between the UH system's planning and capital improvement responsibilities and the operational responsibilities of Facilities and Grounds organization.

The potential for a stellar physical plant has been overshadowed by neglect, deferral, fatigue, budgetary reductions, a lack of responsiveness, and closely held information in a time of desired organizational transparency.

As the review team worked through a comprehensive schedule, the prophetic words of the WASC in 1999 were noted to have, in fact, become a reality. Sinister words of anger, frustration, and despair about the performance of the Facilities and Grounds organization resounded from a large portion of the campus community. The organization appeared tired, worn-down, unappreciated, and beaten, particularly, when so much focus was required to mitigate and recover from the 2004 flood. Certainly, there were

accolades and islands of support, but the vast majority of the community expressed dismay with the overall performance of the Facilities and Grounds organization.

The review team recognizes that the university is not the campus, not the buildings on the campus, not the grounds, but a collection of the faculty and students. The university consists of those who come into and move through the physical plant. The physical plant can influence and impact the ability of the institution to accomplish its teaching, research, and public service mission. The knowledge that is advanced and transferred within the physical plant should occur with the least amount of disruption possible and the most possible support from those in Facilities and Grounds.

Unfortunately, the review team observed physical conditions, maintenance practices, or the absence thereof, and reports from the campus community about service problems that compelled the team to conclude the physical plant is past the early stages of becoming a threat to the institution's ability to accomplish its mission at the same time that the institution is suffering from a rather expansive lack of permanent leadership at multiple levels throughout the UH system and the Manoa campus.

Deeper investigation into the Facilities and Grounds organization made it clear that there was not a unified strategic vision or sense of purpose among the staff. Roles and responsibilities for the campus-built environment were confused with noted disconnects between campus planning, capital improvement projects, and maintenance and operations. An overall sense of responsibility for the general condition and appearance of the total physical plant, including the upper campus, the lower campus, and auxiliary areas, could not be found. Several reported improvements in the upper campus landscape conditions were noted, despite operational roadblocks, including outdated and worn out equipment necessary for an efficient and effective workforce.

Policies were not written or centrally available at both the campus and the Facilities and Grounds level. There is an absence of written information about physical responsibilities leading to confusion about who is responsible for certain physical segments of the campus and who has the financial responsibility for the operation, repair, and in-

provements to certain segments of the campus. Technology and the internet tools are not commonly used by the Facilities and Grounds organization to share information, manage data, or facilitate the management of the plant. The organization is not known for its innovation. Baseline data and metrics to help evaluate performance are noticeably absent. Organizational budgets are not well understood and the department's financial accounting has not kept pace with organizational changes.

An outdated and elementary work order system was in place. Preventive maintenance programs are on someone's wish list rather than an actual institutional practice and computerized monitoring of building conditions does not exist. Equipment replacement programs have been incredibly shortchanged. A detailed inventory of physical conditions to support the institution's deferred maintenance estimate was informal and incomplete. The campus seeks a Facilities and Grounds organization that understands its deferred maintenance needs and that works together to establish priorities for repair and maintenance projects.

Resource limitations and bureaucratic entanglements are common. An understanding of workloads and the flexibility to increase and decrease resources according to workload demands is needed. Procurement practices and limited procurement resources cause noticeable delays that impact the timeliness of the performance of the Facilities and Grounds staff.

Decision making within the Facilities and Grounds organization is centrally controlled. Training and professional development are not an area of focus despite changes in technology. Useful products that can help improve the overall performance of the physical plant are missing. Horizontal and vertical communications need to be improved. Facilities and Grounds employees do not appear to meet the UH System shared value of "empowerment." Needless to say, morale was also found to be low. Recognition for performance would be welcome.



Evaluation Report and Recommendations

1.0 LEADERSHIP

The facilities organization's senior leaders should set direction and establish customer focus, clear and visible values, and high expectations in line with Campus mission, vision, and core values. Leaders inspire the people in the organization and create an environment that stimulates personal growth. They encourage involvement, development and learning, innovation, and creativity.

The quality of leadership, more than any other single factor, determines the success or failure of an organization. In this section of the report, attention is focused on the accomplishment of group purpose and the organizational mission.

1.1 Leadership roles and responsibilities are clearly defined.

Roles and responsibilities for those who have facility responsibility on campus and for those in Facilities and Grounds who occupy management and leadership positions are not clearly defined. Some job position descriptions are outdated and reflect times that have past, or the job descriptions incorporate responsibilities that were appropriate before a number of Facilities and Grounds reorganizations or realignments of responsibilities. Job descriptions, the format for job descriptions, and the documents that describe duties, responsibilities, and job qualifications are typical of those at comparable institutions. There is a need

to update the job description for several of the key positions in the department. More importantly, job and performance expectations have not been stated in a manner that is easily measured. If the job responsibilities that are described in a few of the key management positions were performed as defined, Facilities and Grounds overall performance would likely improve. Individual job descriptions can serve a valuable role in ensuring that the changed roles and responsibilities have been given proper attention and thought and that people know what their job requires.

The review team also observed a substantially fragmented approach to campus facilities management responsibility. Roles and responsibilities for capital projects and processes at both the University of Hawaii System, and campus levels are unclear. There is additional fragmentation of day-to-day facility responsibilities among the various campus auxiliary services departments and other self-supporting departments. Parking, athletics, and student housing have all assumed a number of responsibilities for managing facilities in their respective departments. Particularly concerning is the number of research units that have resorted to a "do-it-yourself" facility services approach. Research department representatives report that they engage in these "work-arounds" because they do not receive the service response and the quality of facility services which they need to support departmental programs and achieve their mission.

The campus does not have an integrated approach for the management of campus facilities. The university does not have a comprehensive facilities management organization that oversees the entire physical plant. The fragmentation of facility responsibilities has created inconsistent service standards for campus maintenance. Noticeable differences in campus appearance are apparent as one moves around the campus.

An excellent example of the fragmentation of facility responsibilities is demonstrated through a newspaper report from a campus walk to observe campus lighting that took place in November, 2005. As reported in the article "Chancellor takes a walk in the dark," the following question was raised: "Who is responsible for maintaining the safety and security of our campus community?" The news article pointed out, "That turns out to be a compli-

cated question that unveils how responsibilities overlap and reason is overlooked. We have independent security officers for upper campus, student housing, parking, and our libraries. Landscaping duties are likewise divided among the grounds management division, student housing, and our athletics department. Those watching over our lights and walkways are similarly under various campus authorities. Our pedestrians also stroll under the jurisdiction of the city and county of Honolulu. How many people does it take to change a light bulb?"

Over the past few years, Facilities and Grounds has undergone a number of changes in its organizational responsibilities. Responsibility for campus facilities planning and space management functions were reassigned from Facilities and Grounds to a new Campus Planner Office. The Environmental, Health, and Safety Office was separated from Facilities and Grounds and is now a stand-alone office. These two offices, Campus Planner and Environmental, Health, and Safety report directly to the office of the vice chancellor for Administration, Finance and Operations. Facilities and Grounds reports to the same vice chancellor.

The responsibility for capital improvement projects was also removed from Facilities and Grounds and assigned to a University of Hawaii System office for Capital Improvement Projects (CIP). The CIP office resides on the Manoa campus, and is supervised at the system level. It is our understanding that the CIP office has assumed many of the functions and responsibilities previously performed by the state of Hawaii Department of Accounting and General Services. (DAGS)

The responsibilities of Facilities and Grounds are largely characterized as the day-to-day operations and maintenance of university facilities, and the management responsibilities for small capital remodel and alteration projects, which include repair and maintenance program projects.

The current responsibility for facilities requires careful coordination of a successful comprehensive facilities management strategy. The coordination task has become more complex with the larger number of departments that are involved in delivery of intertwined facilities services.

The common higher education facility management organization typically has responsibility for a triad of functions. The functions included are campus physical planning, design and construction of capital projects, and operations and maintenance of the physical plant. The functions for planning, design, construction, operations and maintenance are decoupled at the University of Hawaii at Manoa with responsibility for each function distributed among campus departments and University of Hawaii System offices which is a disadvantage.

This decoupled structure may be a reasonable approach for the time being considering the current context of the institution, the magnitude of facility need, and the capabilities of the existing Facilities and Grounds organization. The review team believes that a long-term plan for Facilities and Grounds organization should consider consolidation of common facilities management tasks under a single department head. For today's decoupled arrangement to work well, it will require a concerted effort on the part of system and campus leadership to ensure the distinct organizational entities work together. Collaboration, teamwork, and sharing of information, talent and expertise must become the by-words of the decoupled functional areas. Leaders of all of the departments that have facilities management responsibilities must work together to develop and execute a comprehensive facility strategy for the campus.

Today's absence of a comprehensive plan for managing campus facilities creates noticeable transitional problems as a project moves through planning, design, and construction into maintenance and operation, or as one walks from one segment of the campus to another. At this time, there is a confused sense of ownership and responsibility for the overall campus physical plant. The likelihood of a unified and strategic facilities management direction will diminish if the leaders and employees in the numbers of departments that share in the overall facilities management function do not properly perceive their purpose and their responsibility for the physical plant. A unified and comprehensive facilities management strategy requires discussion and planning with campus senior leaders and employees engaged in departmental activities.

As an example, today's policies and procedures governing the CIP office have not been thoroughly developed or

recorded. For the CIP office to fully integrate with the campus there must be a coordinated understanding of campus master plans. Design guidelines and building standards should be developed in collaboration with the Campus Planner office, the CIP office, and Facilities and Grounds.

Facilities and Grounds should have a key role in improving the built environment, but its limitations for influence, rather than control, of several issues related to the overall plant must be understood.

It should be noted that Facilities and Grounds is severely challenged with a deteriorated and increasingly dysfunctional physical plant. They are overwhelmed by day-to-day and short-term facility issues and find little time to focus on the significant effort required for a comprehensive facilities management strategy.

To be successful, Facilities and Grounds must have the help and cooperation from campus leadership, the Campus Planner office, and the University of Hawaii System CIP office, the athletics department, student housing, parking, and other departments that share in the overall facilities management responsibility.

Additional requirements including financial, human resources and information technology are addressed in other sections of this report.

Recommendation 1A

Effective management and stewardship of campus facilities must be viewed as this triad of responsibilities that must work in an integrated fashion in order for the institution to achieve a comprehensive and strategic approach to facilities management. All three parts of the triad must work hand-in-hand to move the university along a continuum toward facility improvement. It is recommended that the three facility functional areas work together and collaborate on the development of a comprehensive facilities strategic approach. The vice chancellor for Administration, Finance, and Operations must be a prominent player in this conversation.

Campus facilities should be managed as a portfolio of assets. The boundaries between campus entities such as Facilities and Grounds, athletics, housing, and parking

should be seamless and should not be an obstacle to the various departments working together to address the institution's ongoing operation and maintenance needs. Campus leadership can help the campus develop consistent and uniform design standards, building standards, and maintenance standards. A simple example of consistency would include uniform landscape fixtures, benches, trash receptacles, signage, etc. Agreed upon standards could lead to consistent lighting and a priority response to repair and replacement of campus lighting.

Recommendation 1B

A large number of quantitative and qualitative datasets need to be developed and organized into a coherent, comprehensive capital plan for the institution. Included in this should be:

- Construction history (age of facilities), square footage and growth in square footage, replacement value of buildings and infrastructure, and a summary level of the condition of each facility.
- Condition ratings (facility condition index) by age of facilities determined by a comprehensive facility condition audit.
- Condition ratings by space type (e.g., classroom, conference room, laboratory).
- Cost of deficiencies by deficiency type (e.g., electrical, HVAC, roofs).
- Future facility component renewal costs (primary structures, secondary structures, service systems).
- Deferred maintenance (repairs and maintenance funds) levels and funding requirements.
- Graphic and table presentations of backlog projections and funding projections.
- Annual life-cycle requirements.

This list presents some of the information that should be gathered and shared as the institution works towards a well-managed and integrated facilities portfolio program. The collection of this data will require considerable work and focused investment. The information listed above is essential if the facility needs of the institution are to be properly understood by key decision makers. This framework provides a partial roadmap to advance to a more functional, attractive, and sustainable campus facility.

Recommendation 1C

Facilities and Grounds should undergo an organizational and staffing study to ensure that the organizational alignment and organizational capabilities are appropriate and supportive of the new scope of the facility management responsibilities and current requirements. Facilities and Grounds have fallen substantially behind in its performance with nothing and deteriorating plant. The review team believes very strong leadership will be needed to improve on the existing organization's performance.

Job descriptions are an essential element in managing the work of the organization. Job descriptions for the Facilities and Grounds managers and staff should be updated to reflect current job requirements and to focus attention on important outcomes of work. There is a strong need for clarity of purpose throughout Facilities and Grounds.

1.2 The leadership system is understood by and communicated among all levels. The leadership system includes mechanisms for the leaders to conduct self-examination, receive feedback, and make improvements.

Leadership system refers to how leadership is exercised, formally and informally, throughout the organization—it is the basis for and the way that key decisions are made, communicated, and carried out. It includes structures and mechanisms for decision-making; selection, and development of leaders and managers; and reinforcement of values, directions, and performance expectations. An effective leadership system respects the capabilities and requirements of employees. An effective leadership system contains mechanisms for the leader to conduct self-examination, receive feedback and improve.

The review team findings support the notion that the leadership system in Facilities and Grounds is understood by only a few people who serve at the top of the organizational structure. The rationale for key decisions has not been effectively communicated among the various levels of the organization. Recent changes in organizational responsibility have left Facilities and Grounds staff and campus constituents confused about where decisions are made and who is the appropriate responsible administrator for facility decisions.

The leadership system is unclear to many staff within Facilities and Grounds. Few of the staff understand how the organization does business or makes its decisions. Important and critical practices and messages are not clear,

including: the methodology for the selection and development of leaders and managers, the organizational purpose, the mission, vision, values, direction, and performance expectations.

The need for greater professional development, as well as the need for increased organizational capabilities, should be discussed openly. Leaders should be prepared and willing to discuss views on learning and developmental growth for the workforce.

There was no apparent mechanism for leaders to evaluate their performance and receive feedback on their performance from customers on campus and from staff within Facilities and Grounds.

Recommendation 1D

There is a need for proactive and visionary leadership in Facilities and Grounds. The director should ensure that members within the organization understand the purpose and direction of the organization. Recommendations on the development of mission, vision, and values are included in section 1.3 on the next page.

Recommendation 1E

Leadership roles and functional responsibilities should be clearly defined. The position responsibilities within the organization, especially those in managerial and supervisory positions, should be clear to those occupying the positions, and understood by peer positions within the management team and by subordinates. Employees at all levels of the organization should understand Facilities and Grounds functional responsibilities.

Recommendation 1F

The use of feedback mechanisms for leaders and managers are common and customary management tools in use in the facilities management profession today. It is recommended that multi-source feedback tools be incorporated as a regular practice in determining management and employee performance. Customer feedback should be incorporated into performance evaluations throughout the organization. Performance plans and evaluations that focus on customer service should be conducted annually.

1.3 The organization has clearly aligned its mission, vision, and values statements with those of the campus. The organization regularly communicates with employees, customers, suppliers, and other stakeholders.

The director, managers, and supervisors must clearly understand the mission and the values of the institution. All of those operating at a supervisory level or higher should be able to articulate and translate to others a clear and succinct mission to others, a vision for the organization, and core values that guide the behavior of Facilities and Grounds. The mission, vision, and values should be aligned with and support the institutional mission.

The review team believes there is an opportunity for Facilities and Grounds to define a mission statement, a vision for the organization and its core values. Achieving a shared understanding of organizational mission, vision, and core values would be a positive step toward improved performance.

The opportunities for the leadership and management in Facilities and Grounds to improve communication with their staff are considerable. Communication challenges with customers and campus stakeholders are equally pressing. Facilities and Grounds management team recognizes a need to improve communications with customers, but evidence of effective communications was lacking. Front-line staff openly identified a need to communicate with campus constituencies about services offered and about what it takes for them to perform their jobs. The communication challenges require leadership, modeled behavior and intense follow-up and scrutiny of individual and organizational performance.

The organization's current leaders appear hesitant to initiate and adopt change. Their most pressing leadership challenge is to set clear direction, define roles and responsibilities, and hold employees accountable. Leadership must coordinate work and information flow, identify, quantify, and prioritize the campus facilities most critical needs, understand the needs and requirements of campus customers, build effective relationships, communicate effectively both internally and externally, and build trust with Facilities and Grounds staff and key campus stakeholders.

In general there is a need to marshal the organization's resources, focus their attention, and empower and energize the workforce. The right direction ensures the future success, growth, and the viability of the organization.

The organization's leaders have a responsibility to know the capabilities of the workforce; its strengths, its weaknesses, and its opportunities for success. The ultimate challenge of achieving and sustaining high levels of overall plant condition with quality value-added customer service will not be met, unless there is unified leadership, management, and supervision guiding the effort. The organization must be focused and aligned.

Facilities and Grounds should develop its mission, vision and core value statements. To effectively clarify organizational purpose, to set direction, to align the workforce, and to inspire and motivate the workforce to change and improve is no small task but must be done.

Clarity of purpose must be dealt with before any sustainable progress can be achieved toward improving overall department performance. Clarity of organizational purpose can be facilitated by the development of a mission statement. The mission statement in essence answers the question; "What are we here for?" It is the organization's reason for being. The mission statement should be aligned with the institutional mission and, when developed, should be approved by the vice chancellor Administration, Finance, and Operations.

The vision statement should provide a picture of what the organization wants to become. The vision statement should describe a future ideal state to work toward and to help set long-term direction.

Core values should be developed. When it comes to core values, the review team notes that many organizations do not need to create a new list of core values, but needs to engage employees in the practice of capturing its values. The process of capture core values can help identify and reinforce the many existing organizational values that can lead to success. Many organizations focus on values like honesty, transparency, integrity, and respect for the individual. Organizational values can be the foundation for other values that express what it is like to work inside the organization. Adopted values can include such things as: coming to work, coming to work on time, an honest days work for an honest days pay, challenging the status quo, rewards for performance and exceptional service, customer service,

delivering value, continuous improvement, fairness in work assignment and work load, efficiency and effectiveness, investment in training, education and development, professionalism, and trust. Meaningful core values are essential to consistently delivering value to customers and improving organizational performance.

It is recommended that mission, vision, and core value statements be prominently displayed in work areas, on a departmental website, and in other departmental communications. Mission, vision, and values are important and are powerful leadership tools when used properly. The display of mission, vision, and value statements can serve as an additional reminder to the workforce and can reinforce the organization's purpose and direction. Displaying the mission and vision statements doesn't just add voice to these documents; it endorses them as Facilities and Grounds policy.

1.4 Facilities management
leaders spend time on a regular basis with their customers and front-line staff.

Facilities and Grounds leaders should consider spending more time with customers and front-line staff for the purpose of building solid relationships and communication. The building and grounds managers seem to understand the importance of spending time with customers and taking time to ensure that front-line staff benefit from important conversation, communication and understanding about work issues.

The organization faces a significant challenge with internal and external communication. Regular and focused communication is essential for a campus service organization. There is a need for management to develop and implement a uniform understanding of the division's top priorities and to clearly state what values will guide its actions and behaviors.

Section 3.0 of this report covers the customer service topic in more depth.

Recommendation 1H

The criteria for this section of the review are partially intended to examine the leadership involvement in creating and sustaining service quality and customer focus. Leadership's involvement should be demonstrated by clear and visible organizational values that are further supported with quality of work, and customer satisfaction.

The leadership should be absolutely clear about the organization's quality service values and customer focus. The effectiveness of the communication regarding employee and organizational performance will serve as a basis for consistent understanding and communication within the department and with the campus. Communication is a major challenge for Facilities and Grounds and it is recommended that communication with departmental staff and campus constituents be given high priority for improvement.

Facilities and Grounds can enhance communications by hosting staff meetings on a regular basis to keep everyone informed. The department will benefit from a deliberate and disciplined approach to meetings established for the purpose of improving communications. The quality of communication that takes place at these meetings should be reviewed for opportunities to strengthen the management team, and to sharpen the focus on enhancing the performance of the organization. In many cases, the quality of meetings and the meeting time required can be leveraged to provide the department more effective discussion. The department can target items that matter most.

As an example, campus customers openly complain about indoor air quality, Facilities and Grounds response times, and the quality of some work. These are clearly important performance measures in the eyes of campus constituencies, but do not appear to be effectively communicated to employees.

Disciplined and structured meetings can provide opportunities to improve service execution by accelerating decision making and eliminating the need to revisit issues again and again.

To emphasize the difficulty of the organization's communication challenges, consider the number of relationships that must be maintained in order to keep people on the same page. The communication challenges increase dramatically with the number of managers and supervisors in Facilities and Grounds, and the 350 staff under their direction.

Recommendation 11

Communication is not a one-time program and the effort to improve communication should be adopted by management as a continuous effort. Management should adopt a "listening and learning" strategy in its approach to improving communication. Measures of a manager's effectiveness in communicating should become a regular part of a manager's performance evaluation. Openly sharing relevant information, considering views of others, shaping decisions with input from others—these kinds of actions feed the sense of being connected and in touch with what is going on.

1.5 Performance measures at each level of the organization are clearly defined.

Performance measures can be much more clearly defined at all levels of the organization. There are few visible signs of service principles and values, or statements of service expectations. The division has not developed measurable service quality standards, has not developed effective service delivery methods and processes, or defined performance measures at each step of the service process. Strategic goals and objectives for core-processes and critical services are not defined or emphasized in such a manner that performance measures are meaningful to service personnel. An important part of a service organization's fundamental service-value system that clearly defines the organization service performance is missing.

Recommendation 11

The current "performance management" process and procedures should be examined for effectiveness. There is evidence that the existing requirement for annual written performance evaluations is not performed consistently or on a timely basis for management staff and front-line staff.

There is no apparent history of departmental goals and objectives to which performance measures can be linked. Measuring service performance has not been a part of the workforce culture and there is a noticeable lack of understanding what is important for the organization to measure. Goals and objectives are sorely needed.

1.6 Senior leaders establish and reinforce an environment where shared values support self-direction, innovation, and decentralized decision making.

Conventional wisdom asks followers to believe in their leaders; the FMEP criteria highlight a more searching question: whether leaders believe in their followers.

The leadership and management of Facilities and Grounds seem to practice and focus on control rather than innova-

tion, development and learning, and timely decentralized decision making. Communication and understanding on these management topics at all levels of the organization lack structure, regularity, and effectiveness. The attributes of self-direction, innovation, and decision making at the point where work is taking place are not core competencies for the organization. Consequently, the organization is largely reactionary in its approach to problem solving, staff is reluctant to take initiative, and there are many recurring problems that never seem to get fixed.

Recommendation 1K

Establishing a work environment where shared values support self-direction, innovation, and decentralized decision making will enable Facilities and Grounds organization to move in a new direction. A strong management team that can form a coalition to effect change will be needed to move in a new direction. Change efforts are notoriously messy but there is a framework that can help avoid the most common mistakes. The reader of this report is referred to the following publication; Leading Change: Why transformation efforts fail, by John P. Kotter, Harvard Business Review, March-April 1995.

informed of current trends practices in the industry.

The review team saw little evidence of activities and involvement in professional activities that allow staff to keep abreast of current trends within the industry. Additionally, it is apparent that Facilities and Grounds do not routinely look for ways to stay abreast of current trends and practices or to identify the best practice and trends in facilities management. There was little evidence of training initiatives developed to address workforce skills requirements.

The organization is behind in its adoption of information technology, its customer service training, its customer relationship management, its leadership training, its management and supervisory skills training, its communication training, its performance measurement, and its personnel performance management. Additionally, Facilities and Grounds has not kept pace with current industry trends and practices for facility renewal and deferred maintenance practices, preventive maintenance practices, use of equipment, work order management, energy management and conservation practices, and a number of departmental business practices, such as mapping core processes and standardizing procedures. These practices are essential in minimizing the economic and environmental impact on the university.

APPA Facilities Management Evaluation Program

Facilities and Grounds has not made a practice of encouraging and supporting staff participation in professional association activities. Site visits to other facilities both within business and industry or at other universities on the Hawaiian Islands for the purpose of comparison and continuous learning do not appear to have been encouraged.

There is little evidence of organizational leadership recognizing the need for continuous learning and continuous improvement of the workforce. Workforce development has been viewed as an expense rather than a strategic and critical investment.

There is no evidence of a succession plan in place to ensure continuity of the organization's critical positions.

1.8 A succession plan is in place to ensure continuity of leadership.

Recommendation 1L

The review team recognizes that succession planning must be done within the structure of university policy. A succession plan that can give the organization qualified individuals that can assume interim positions, in case management, or in leadership positions while the hiring and selection process takes place, is recommended.

2.0 STRATEGIC AND OPERATIONAL PLANNING

Strategic and operational planning consists of the planning process, the identification of goals and actions necessary to achieve success, and the deployment of actions to align the work of the organization. The facilities organization should anticipate many factors in its strategic planning efforts and should recognize changing customer expectations, business and partnering opportunities, technological developments, evolving regulatory requirements, and societal expectations, to name but a few.

2.1 A strategic plan exists that includes the goals and objectives of the department.

The review team found no evidence of a strategic plan for Facilities and Grounds. The lack of a written plan parallels an inability by department leadership to articulate in words the vision or direction of the department. Along with a lack of a strategic plan, the review team could not find a shared understanding of common goals or the actions necessary to achieve those goals.

It should be noted that the University of Hawaii at Manoa has a strategic plan for the time period of 2002-10. The vision stated in that document is clear and attempts to build upon the strengths of the academic disciplines and the physical setting of the campus. As an imperative, the plan states that the campus will "invest in modern research facilities, infrastructure, administration, and services", that the campus should "create a Hawaiian sense of place on campus through improved landscaping, architectural design, signage, and the creation of gathering spaces", and that the campus should "maintain exceptional campus facilities that service the diverse social needs of students, faculty, families, and persons with disabilities".

Recommendation 2A

Facilities and Grounds should immediately initiate a strategic planning process. The campus strategic plan can provide a solid foundation on which to build this process.

The strategic plan was developed with participation internal and external holders, approved by the administration and effectively communicated.

Recommendation 2B

The administration should consider requiring Facilities and Grounds to initiate a strategic planning process. The strategic planning process should involve an advisory committee with representation from the campus community including faculty, staff, and students as well as from the president of the university.

The review team noted that the following groups expressed a strong interest in Facilities and Grounds that might be tapped as a part of the advisory group: the Academic Senate, the Ad Hoc Committee on Facilities Management, the office of Sustainability, the office of Capital Improvements in the University of Hawaii President's office, the Campus Environment Committee, and the Landscape Advisory Committee.

Recommendation 2C

Facilities and Grounds should commit adequate resources to improve their ability to communicate with the campus community including the immediate implementation of a website.

2.3 Customer needs and expectations serve as major drivers for setting strategic direction.

It was clear to the review team that customer needs and expectations are not being met by Facilities and Grounds. Furthermore, it was clear that there is not an open line of communication for customers to adequately transmit their needs and expectations. If these needs and expectations are to be incorporated into the strategic plan they should first be understood.

Recommendation 2D

Facilities and Grounds should work to establish strong lines of communication with the campus community. Once these lines of communication are established, the information gathered can be utilized to set and maintain strategic direction. Communication should be developed and conducted in an orderly and consistent manner. Communications should include direct contact in meeting settings as well as electronic communication.

Recommendation 2E

Facilities and Grounds should identify and engage key campus players who can best provide timely feedback regarding campus needs and expectations and who can outline whether those needs and expectations are being met. It appears to the review team that there is a fairly well defined group of building/facilities managers or coordinators and large department representatives that could become an important resource for Facilities and Grounds. This group represents various departments with seemingly direct involvement with faculty, staff, and students.

Also see Section 3.0.

2.4 Goals and key performance measures are understood by all and periodically reviewed.

Neither Facilities and Grounds team nor the campus community understood Facilities and Grounds goals or performance measures. It was impossible to fairly assess the level of performance within the organization or its efforts at the campus level without stated goals or priorities. It may be that while the outward appearance of the campus suffers, other less obvious priorities are being adequately met or exceeded.

ommendation 2F

Once goals and key performance measures are determined they should be clearly communicated to Facilities and Grounds team and to the entire campus. These goals and performance measures should be regularly reviewed and assessed by the team, the proposed Facilities and Grounds Advisory Committee, and the campus building representatives with revisions made as the nature of the business and charge evolve.

ommendation 2G

When stated goals or priorities are met, Facilities and Grounds should work to market and share its successes with the campus community. This will provide credit and commendation to those who have contributed to the successes and a means to evaluate performance.

Performance measures at level of the organization used to meet goals.

ommendation 2H

A budget is developed with from staff that reflects expenditures, an analysis of needs, effective use of available resources to support the organization's goals and objectives, and seeks new and alternative measures to use resources.

Recommendation 2I

The budgetary process should involve all of Facilities and Grounds management team. Furthermore, in order to gain credibility, it may need to involve the proposed Facilities and Grounds Advisory Committee and the administration.

2.7 Standards have been defined for overall operational performance, build environment, and landscape.

No campus standards were presented to the review team. In fact, the absence of campus standards is obvious. Standardization that might lead to an easier to operate and maintain physical plant and a more aesthetically pleasing built environment and landscape is missing.

Recommendation 2J

Facilities and Grounds should begin to develop standards for the campus. The standards should evolve from knowledge within the organization regarding best practices and successes. The standards should be developed with input from the campus community and the University of Hawaii System Office. Given the pending capital projects that are in design or planning, this work is critical.

2.8 A campus master plan is in place, current, and utilized for decision-making.

The campus master plan is woefully out of date. The existing planning document dates from the late 1980s with a never adopted revision from the mid-1990s. Several buildings currently in planning or design are inconsistent with the plan.

The review team heard from the campus community that the plan did not meet current aspirations and that a "visioning" process was needed. Master planning work is currently coordinated from the University of Hawaii System Office and more campus initiative and participation is desirable.

Facilities and Grounds seem to have little to do with the campus planning process although they are currently planning small building projects that will significantly impact the campus. It did not appear to the review team that the existing master plan was consulted or revised with these projects. The planning process should be more interactive with other on-going facility functions of the campus.

There is no infrastructure master plan for the campus. Utilities maps are out of date or nonexistent. Decision making that may impact the infrastructure by Facilities and Grounds is based upon inadequate information, leading to a history of costly project overruns.

Recommendation 2K

The university and the campus should engage in a campus master planning process to bring the vision of the physical environment into alignment with the University of Hawaii at Manoa Strategic Plan. Utilities should be included in the master planning process. Facilities and Grounds should be a key stakeholder in the planning process.

Recommendation 2L

The campus should immediately prepare comprehensive documentation and assessment of campus infrastructure in a data base that is readily accessible to Facilities and Grounds and the University of Hawaii System Office responsible for new capital projects.

The operational units participate in the development of the construction program and are active participants in acceptance of completed projects.

The capital construction program is split between the University of Hawaii System Office and Facilities and Grounds on the campus. This is a relatively new operational structure that should benefit the campus as it pulls capital projects away from the state system and back to the university. However, the new structure appears to be poorly defined in terms of level and point of participation in planning, construction, and acceptance of completed projects by the university and the campus. The review team noted that the two groups seemed to be understaffed and, therefore, underprepared to plan or deliver the quantity of construction currently anticipated. The working structure of this team is complicated by the fact that they are distributed across several campus buildings.

It was not clear who would be responsible for project management. It was also not clear that Facilities and Grounds operational units have a process to inform the planning, construction, or post construction acceptance/warranty process.

There is an enormous opportunity to optimize and define this new system. There is also the possibility for sizeable failure without proper planning.

Recommendation 2M

Given the quantity of planned new construction and campus renovation, it is imperative that the structure and roles of the team responsible for this work be defined and understood by the various participants. Independent of who they report to, those involved with new construction and campus renovation should be located in one campus building to enhance communication.

Recommendation 2N

Several areas of interest from within Facilities and Grounds organization must have a key role in the planning and construction of the campus if they are to be held accountable for the successful operations and maintenance of the plant.

2.10 Strategies and processes are in place to ensure continuity of functions in the event of staff turnover or other disruption.

The review team did not see evidence of a succession plan for Facilities and Grounds. Furthermore, there was an obvious lack of continuity of functions in the aftermath of the 2004 campus flood. Facilities and Grounds seemed to be overwhelmed by that event.

Recommendation 2O

A Facilities and Grounds succession plan should be undertaken to ensure continuity of functions in the case of staff turnover.

The campus does provide three on-site housing units for key Facilities and Grounds workers in order to provide off-hours emergency service.

Recommendation 2P

Facilities and Grounds should perform a self-evaluation of the response to the 2004 campus flood to determine how better prepare for a future event of that magnitude.

2.11 Emergency response plans are in place, current, and communicated to facilities employees and the campus community as required.

As long as 20 years ago, most universities did not pay much attention to serious emergency planning. Even after the events of Berkeley, Kent State, and others, university administrators did not see themselves as being in need of effective emergency planning. As earthquakes affected campuses in California, and other campuses across the country were under siege by political, religious, or environmental activists, an awareness of the need for emergency planning was created among numerous institutions. Most recently, the circumstances created by Hurricane Katrina on several well-known campuses in Mississippi and Louisiana helped illustrate the justification for this important aspect of governance on the college campus. Even on the campus of the University of Hawaii at Manoa, the much talked about flood of 2004 should have given birth to serious emergency planning. To the review team, this appears like an opportunity that was missed. Effective emergency planning consists of two significant components: dealing with the emergency as it happens (response and mitigation) and getting back to business after the emergency subsides (recovery). The Federal Emergency Management Administration (FEMA) as well as most states

have come up with models (Incident Command System and National Incident Management System, respectively) that can guide the way for a college campus to deal with emergencies, while also qualifying for certain significant levels of reimbursable expense by the federal government.

During interviews conducted with key players within Facilities and Grounds the review team did not feel confident that effective emergency response planning was adequately taking place on the campus. The staff within Facilities and Grounds seemed uninformed on the subject and historically it has not been their responsibility. For example, campus stakeholders expressed frustration with Facilities and Grounds, along with campus administration to respond effectively with the emergency created by the flood in October 2004.

Anecdotes related to the review team gave the impression of a situation where individuals in key roles did not have a clear understanding of their roles during and after the flood. Now some 18 months after the flood, there is still a concern that individuals in key roles are not properly prepared for a campus emergency, or a major event.

Campus administrators need to acknowledge that emergency events can take all sorts of forms. Emergency preparedness planning activities need to address the possibility of a wide variety of emergencies and disasters, including acts of terrorism as well as medical crises such as pandemics.

Campus administrators also need to clarify roles and relationships between the campus and the surrounding community on the topic of emergency preparedness.

Facilities and Grounds, along with environmental health and safety (EH&S), and security must recognize their role in emergency preparedness, emergency response, and emergency recovery.

FEMA offers educational opportunities for administrators for many levels within an institution. These educational opportunities can help senior administrators formulate an overall plan for the campus, and specific plans for campus service organizations such as Facilities and Grounds, EH&S, security, procurement, payroll, and student services.

Recommendation 2Q

- The university's top administrators must take the lead in articulating an expectation for effective emergency preparedness planning and emergency response. The planning should include prevention, mitigation, and recovery. The role for each individual participating in the emergency operations should be defined.
- A working group of individuals to whom the campus community will look for response and recovery should be assembled in order to define protocols that must be followed during emergency events.
- Campus administrators and staff at various levels should be encouraged to participate in the courses offered by FEMA and other qualified sources. This should be a coordinated program that will enable the university to be better prepared for unforeseen events. We can not predict the future events but we can all be better prepared.
- Relationships with city, county, and state agencies that are relied upon to provide support during emergency events should be as solid as possible. If not done already, clear relationships and expectations for service and assistance should be defined with local health care providers, ambulance services, etc.
- Campus leaders with responsibility for emergency planning and response should take the opportunity to visit and learn from other campuses that are considered to be leaders in this field. Stanford University, University of Minnesota, and the University of North Carolina are some examples.

3.0 CUSTOMER FOCUS

Customer focus is a key component of effective facilities management. Various stakeholders (faculty, students, staff, and other administrative departments) must feel their needs are heard, understood, and acted upon. Various tools must be in place to assure customer communication, assess and assimilate what is said, and implement procedures to act on expressed needs.

Any service organization must have a keen sense of the customer and appropriate formal and informal means and methods to gauge customer perceptions and level of satisfaction/dissatisfaction. Review and analysis of customer feedback leads to the ability to implement tactical (short-term) service delivery adjustments and strategic (long-term) decision making.

Surveys, tools, and other methods are used to identify customer requirements, expectations, and satisfaction levels.

The team found no evidence that any Facilities and Grounds staff initiated formal or informal methods to monitor customer expectations. On work orders, customers have an option to fill out a paper questionnaire for feedback to the director as a measure of customer satisfaction. Positive customer feedback is not recorded and disseminated internally and the review team was told that negative customer feedback is generally ignored.

The roles, responsibilities, and services provided by the Facilities department are well defined, communicated and understood within the department and by all communities served.

Roles, responsibilities, and services provided by Facilities and Grounds are ill-defined, poorly communicated, and little understood within the department. The department itself does not know or understand the breadth of its organizational responsibility and that lack of understanding is evident to the campus constituency.

Recommendation 3A

Facilities and Grounds should develop and disseminate a written "guide to services that includes a summary of services provided, key Facilities and Grounds individuals, contact information, and an outline of service responsibilities, frequencies and response expectations. When and if, basic technology is introduced into the department that "guide to services" should be highlighted for easy access on a Facilities and Grounds web page.

Levels of service are set to meet customer expectation and are defined in terms that are understood by the administration, building users and facilities staff.

Service levels and frequencies have not been defined by the organization and are unknown to administration, building users, and facilities staff. The majority of facilities staff interviewed had their own individual ideas and definitions of service levels.

Recommendation 3B

Facilities and Grounds senior leadership team should schedule regular, ongoing meetings with deans, department heads, and other key campus constituents. The purpose of these meetings is a two-way dialog wherein

Facilities and Grounds senior leadership team can hear of customer service issues and experiences and become aware of particular campus constituent needs, concerns and priorities. This is also a forum in which Facilities and Grounds leadership can share information, discuss operational realities and constraints and inform the campus of plans and strategies issues.

3.4 The communities served know how to obtain, monitor progress, and evaluate the services offered.

Certain campus constituents (those with long tenure) who have developed individual relationships with facilities staff know how to obtain services and monitor response and program status. Facilities and Grounds do not appear to disseminate formal service guidelines to the campus community.

3.5 Customer feedback is used to build positive relationships, drive processes, and effect improvements.

As stated in Section 3.1, there is no formal or informal method for soliciting customer feedback. With the notable exception of the building and grounds, Facilities and Grounds, as a whole, do not appear to have any sense of the importance and strategic value to be derived from customer feedback.

3.6 Campus users have a clear understanding and positive view of the services provided by the facilities organization.

Campus users do not understand the role of Facilities and Grounds or the broad portfolio of organizational responsibilities. Campus users appear, for the most part, to have an overall negative impression of service quality and responsiveness. Many campus users were complimentary and supportive of individual facilities staff and their individual commitment and effort to do a good job. However, Facilities and Grounds as a service organization are viewed in a poor light.

Recommendation 3C

Basic information and performance metrics should be monitored and tracked from the paper-based work request system. Repetitive problems or excessive response times indicate potential dissatisfaction on the part of building occupants. If Facilities and Grounds management cannot fix the problem or reduce the wait time, then they should, at a minimum, be prepared to discuss the issues in a nondefensive manner with campus constituents.

4.0 INFORMATION AND ANALYSIS

Information and analysis is used to evaluate performance and drive future performance improvements. Of interest are the types of tools used (for example, peer comparative data clarified and validated through benchmarking), and how the tools are used to enhance organizational performance. Various aspects of information include facilities inspections, audits, financial expenditure reports, utility data, and other relevant measures and indicators.

Facilities and Grounds personnel operate without access to good data. With the exception of senior leadership, managers and supervisors have no access to data or information described in the preceding paragraph. Although members of the review team requested samples of reports and data, the response, consistently, was that such information did not exist. It thus follows that few, if any, benchmarking processes of even the most basic nature exist. There is no evidence of the existence of any kind of performance evaluation regarding utilities, preventive maintenance, or any other types of relevant measures. There isn't adequate of management information at the highest level in the organization and even less that is shared with mid-line and first-line supervisors.

Although the issuance of work requests is computerized, the system that is utilized is very basic and rudimentary. No attempt appears to have been made to take the opportunity to the obvious next stage of using the work order data to develop a management resource.

Recommendation 4A

Facilities and Grounds should seek the resources required to implement a computerized maintenance management system (CMMS) or a computer aided management system (CAMS). Although this will be a significant financial investment, professionals in the field recognize that there is little hope of progressing beyond the 50-year-old model that Facilities and Grounds has imposed on itself without such an investment. Any such investment should consider acquisition costs as well as implementation and training requirements.

Recommendation 4B

The review team recognizes that there has not been a focused analysis of core processes and work flows within Facilities and Grounds. Further, there is a substantial lack of clarity on procedures among individuals inside and outside of the department. To optimize an investment in a CMMS, it is essential that existing processes and that new improved process be identified and flow-charted. Outside expertise will likely be needed to help chart the existing systems, and to help identify the desired processes and results. The team is concerned that there is no one on staff at this time that can lead or facilitate this process.

4.1 A systematic process is in place for identifying and prioritizing performance indicators, comparative information, and benchmarking studies for the most critical areas.

4.2 Benchmarking results, comparisons, and performance indicators are tracked and used to drive action within the organization.

As indicated in the preceding paragraphs, no evidence supported the existence of this information within the Facilities and Grounds organization.

Action in the organization is primarily driven by the "squeaky wheel." It was frequently reported that response for maintenance needs and small projects was driven by the customers knowing the right people in order to get desired results. The members of the review team believe that the lack of a quality management information system, combined with processes that are inconsistent, poorly understood and poorly communicated, encourage a work environment that has a high dependency on the strength of personal contacts. Decisions could be more systematic and a large segment of the organization is reactionary in nature. Facilities and Grounds does not, as a matter of ordinary business practice, use contemporary facilities management tools and work performance measures to support decisions and to drive actions within the organization.

Recommendation 4C

It is difficult to imagine making any significant progress in this arena until all of the previous recommendations in this section of the report are implemented. Nevertheless, there needs to be an understanding of the importance of using performance measurements to help support decisions affecting the deployment of Facilities and Grounds resources. It is incumbent on the director of the organization to start to utilize service performance

measures. It is also important to convincingly communicate with campus customers and stakeholders that work-planning pertaining to Facilities and Grounds services will be based on sound facilities information. Decisions affecting the deployment of Facilities and Grounds resources should be linked to an overall campus facilities strategic plan and the mission of the department. The university's top leadership has a role in helping Facilities and Grounds make this happen.

The department ensures that data and information are communicated and accessible to appropriate users. The required data and information include all the characteristics users need, such as reliability, accuracy, timeliness, and appropriate levels of security confidentiality.

Recommendation 4D

The team strongly recommends that, as the university invests in IT support for Facilities and Grounds, a web-based system be implemented. If the right system is selected, it will allow stakeholders to access information and communicate effectively regarding activities for which Facilities and Grounds personnel are responsible. Such a system can also guide and track such communications, reducing or eliminating many types of delays and undesirable finger pointing.

An effective facilities inspection or audit program is in place that provides a regular assessment of facilities conditions, identifies maintenance and repair needs, quantifies facilities maintenance resource requirements.

Recommendation 4E

Facilities and Grounds leadership must choose to identify a disciplined maintenance process which will, with a reasonable degree of reliability, identify, quantify, and

prioritize maintenance and repair needs. While this can be accomplished with in-house staff for the small maintenance and repair needs, the review team recommends that an outside firm that specializes in facility condition auditing be retained to lead the effort to conduct a facilities condition audit of the campus facilities.

Facilities and Grounds is painfully out-of-date in the way it conducts its business. As a result, there appears to be a "bailing wire and duct tape" approach to campus maintenance with no centralized effort to steer such activities.

Although preventive maintenance programs are reported to exist, no evidence of such programs was offered to or shared with the team. Trade shop or service unit supervisors are responsible for developing their own preventive maintenance (PM) programs, their own service frequencies, and tracking activities. There appears to be no attempt to monitor these work efforts from a centralized office, or to monitor successes or failures of PM activities. The more significant maintenance and repair work on HVAC systems is performed by outside contractors, leading the team to believe that much of the relevant information regarding performance of equipment, equipment maintenance history, and mechanical and electrical systems performance is not available to the Facilities and Grounds. With the absence of information, there is a definite risk of lack of ownership of building systems performance on the part of staff.

Recommendation 4F

Facilities and Grounds leadership must change its thinking about preventive maintenance responsibilities. It has to be an inherent part of its mission and not just an afterthought. Accordingly, any investment in a computerized maintenance system must include consideration for an effective PM component. Getting the appropriate system is only the first step. Facilities and Grounds must also be willing to invest in a well-trained staff, and equip them with the right tools, in order to implement an effective PM program. A careful evaluation of the pros and cons of a self-operated versus a contract management preventive maintenance service is essential and should be considered very carefully.

5 An expenditure report is available to managers on a regular basis and is used to effectively evaluate and control expenditures in assigned sub-units.

As indicated in previous sections in this report, the review team could not find evidence that information is made available to management on a regular basis. The review team consistently heard reports from managers of various levels, that, if they received any information at all, it was not on a timely basis. In at least one case, it was reported that no budget information was made available for the first six months of the current fiscal year.

Recommendation 4G

An effective management information system that is developed specifically for the higher education facilities management environment and capable of integration with campus IT software should be implemented. Investments for implementation, including qualified personnel and training will be necessary.

Facilities and Grounds should carefully consider the selection process for a new system. Individuals from within Facilities and Grounds, from the university's IT department, from the customer base, the university's or the system's procurement, financial, and audit departments will all have varying degrees of interest in the selection of the IT system and should be included in the selection process. The properly selected system will enable Facilities and Grounds to perform its own work more effectively and will also contribute to the development of positive relationships with other key campus departments.

An effective system of measuring and recording utility data is used to establish costs, minimize costs, promote energy conservation and encourage environmental preservation.

It is the review team's opinion that the system to measure and record utility data is substandard. Little information about utility consumption could be found. Utility metering to properly track consumption is needed at multiple levels throughout the campus. Utility metering investments are needed for the existing plant as well as for all new capital construction projects.

Data received by the campus comes from the utility providers. As a result, few of the widely accepted concepts of energy conservation and energy management including cost control or environmental preservation exist on this campus.

Recommendation 4H

The campus needs to establish a rigorous policy mandating energy conservation and energy management. Facilities and Grounds should assume a lead role in the

conservation and energy management effort. Metering of existing facilities to identify trends and consumption patterns should be given a high priority in annual state requests for maintenance and repair. Reallocation of resources or new investments in personnel to track and monitor utility patterns and conservation efforts should be granted serious consideration. A review of campus utility costs should provide all the incentive required. A building design requirement should be applied to all new facilities and major retrofits of existing facilities, regardless of function, which mandates the installation of utility meters, and appropriate technology in order to provide relevant consumption information.

Recommendation 4I

An energy office, including a manager as well as a technician at a minimum, should be established immediately. The cost for this critical function can easily be recovered from utility cost savings and from utility cost avoidance.

Recommendation 4J

Consideration should also be given to retaining the services of one of the several energy service companies (ESCO) that have specialized in helping other higher education institutions achieve energy conservation and energy management goals. Experts in this field can perform much of the research, offer recommendations for energy conserving projects, and help fund the implementation of the most effective measures. This opportunity can easily include the recommended installation of metering systems for the highest energy consuming buildings on the campus.

4.7 The organization has a process to ensure that hardware and software systems are user-friendly, reliable, up-to-date, and meet the needs of all users.

The members of the review team found that assignment of appropriate hardware and software systems is essentially nonexistent as pertains to staff within the Facilities and Grounds organization. A few desk-top units do exist, but are not effectively networked. Those units dedicated to work order dispatch and inventory control are prime examples of this situation.

The use of e-mail for the maintenance and customer service staff is very limited and thus provides inadequate opportunity for users to communicate in any manner other than the traditional ways of phone, mail, or face-to-face. While such methods of information sharing are certainly effective in certain situations, being restricted to only those methods

limits enthusiastic and motivated employees from being as effective as they might choose to be.

In the absence of an operational network, there is also no "electronic" bridge between Facilities and Grounds staff and the campus community. Consequently there is also an absence of opportunity for employees within the organization to communicate or share essential documents with each other, using all the benefits of web- and Internet-based communications and file transfers. The absence of the application of this technology, limits opportunities for sharing management information, preventive maintenance needs, schedules of critical processes, and projects information. This is important information that staff within Facilities and Grounds could share with each other and also with interested customers and stakeholders elsewhere in the campus community.

Recommendation 4K

Facilities and Grounds needs to catch-up with current technologies. The administration of the University of Hawaii at Manoa must encourage the leadership of Facilities and Grounds to do so by providing the motivation to progress to current standards of technology so commonplace in the facilities business, and by providing resources sufficient to cause that shift to occur. The review team feels confident that, with such technology being made available to a wide range of managers and supervisors, and in some cases to certain front-line employees, the division as a whole can begin to extract itself from the its technologically obsolete approach to facilities management.

A surprising discovery made early in the review process by members of the review team pertains to building automation systems. The team received reports from individuals representing various constituent groups that the campus does not enjoy a single or consistent standard in technology pertaining to building controls and automation. The resultant diversity of building controls and the lack of building automation makes the management of building systems extremely inefficient, non-responsive, and unable to manage energy consumption. The absence of design standards that call for consistent building controls and building automation in new capital construction projects perpetuates a system that is extremely difficult to manage. The provision of an

effective computerized, centralized building management system can further assist in administering consistent standards across the campus, as well as facilitate the creation and operation of a highly effective energy management and preventive maintenance program.

Recommendation 4L

Manufacturers of building automation systems have realized the benefits of providing systems that can communicate with systems produced by other manufacturers. Therefore, there are opportunities available for the campus to specify systems for new buildings that will interact with a central system. The latter can then be monitored by a smaller, centralized crew of specialized technicians, allowing the more effective utilization of labor and other resources. Senior administrators need to collaborate with procurement officials to identify a manner for implementing this type of "open" architecture without violating the intent of procurement regulations.

Recommendation 4M

Appropriate officials need to adjust pertinent design restrictions and requirements in order to encourage the installation of this type of networked building management and operations systems.

Similarly, the campus does not enjoy the benefits of a centralized irrigation control system. The result is that irrigation occurs where and when it should not, and vice versa, unless a number of employees roam across the campus to manually reset the irrigation clocks. This is expensive in terms of labor resources, and wasteful in terms of water resources. An effective system can also allow personnel in grounds to irrigate at hours when there are not as many people on the campus. A central irrigation control system should be considered as part of the annual request to the state for repair and maintenance funds.

Recommendation 4N

Facilities and Grounds needs to investigate and implement state-of-the-art technologies that will allow them to manage the irrigation of the campus in a proactive manner, resulting in the more effective deployment of labor resources while conserving water. Since the campus uses domestic, potable water for irrigation purposes, an attractive payback could likely result from this investment.

5.0 DEVELOPMENT AND MANAGEMENT OF HUMAN RESOURCES

An organization's success depends increasingly on the knowledge, skills, innovative creativity, and motivation of its employees and partners. This criterion addresses the ways in which the facilities organization ensures continuing learning environment through communication, policies, recognition, training, professional development opportunities, and other methods.

If one were to add weight to the seven major criteria utilized in the FMEP, this section on Development and Management of Human Resources would receive the highest weighting. Facilities and Grounds needs in this category are so substantial that we have altered the format in this part of the report. Rather than provide recommendations immediately following each section we have instead provided a number of recommendations at the end of this section.

People are the fundamental assets of any service organization. A competent, highly motivated staff with an understanding of organizational purpose and institutional priorities, inspired by visionary leadership, cannot help but achieve service excellence.

In all of our interviews with front-line staff and supervisors and the majority of managers, it was clear that employees at every level have a sincere desire to do a good job. They are extremely frustrated by the lack of basic tools and supplies and the inability to replace aging or broken equipment. They share, what appears to be, a widespread belief that this is caused by ongoing budget shortfalls.

This is an area of serious concern in that it represents a continuous stream of work issues that is an ongoing daily erosion of management credibility. When custodians are out of toilet paper and paper towels; when custodians have to borrow cleaning supplies from one another or buy their own equipment; when grounds keepers must cannibalize 20-year-old equipment to make one, functioning lawn mower; when the paint shop cannot replace the paint sprayers; when trades staff cannot get their pagers repaired or replaced and resort to carrying their personal cell phones; when a shop supervisor must build his own com-

puter out of campus rejects... what message is the Facilities and Grounds sending to its staff as to how they are valued?

Staff position descriptions and classifications are outdated and in need of review. Since no levels of service have been articulated, it is difficult to assess whether or not staffing is adequate in any specific area. See Section 1.0 for recommendations.

There does not appear to be any systematic investment in training. There are no defined programs for new employee orientation or customer service and a serious deficiency in technical training for front-line employees and supervisors.

Effective communication is badly needed throughout the department. The majority of staff interviewed has either a narrow or nonexistent understanding of their individual role, the role of related areas and the overall department role. There is no sense of organizational unity.

Safety programs appear to be minimal in an organization known for high risk occupations. Written policies and procedures are lacking or inadequate and the team found no indication of a proactive and aggressive approach to safety consciousness. There does not appear to be any management recognition of its responsibility to actively promote safety in the workplace.

Accident records are maintained within the office of the director of Facilities and Grounds, but it does not appear that this information is disseminated to the mid- and front-line supervisor level. Efforts or initiatives to analyze the causes of accidents, discern trends and identify training needs were not apparent.

The organization does not appear to recognize the value and necessity of employee development through ongoing education and training. The custodial and grounds units have devised and implemented some limited training programs and should be recognized for at least attempting to make progress in this important area.

5.1 Staff positions are properly classified and allocated in adequate numbers to meet the standards for the targeted level of service.

5.2 Training programs provide for new employee orientation and technical skills enhancement for all staff.

5.3 An effective communication system exists within the department to ensure that each employee knows his or her role in the department; the role of related areas, and the overall role of the department.

5.4 Safety policies and procedures have been established, written, and communicated to all staff.

5.5 Accident records are maintained and used to reduce accidents and identify needs for special attention.

5.6 The organization promotes employee development and professional development through formal education, training, and on-the-job training such as rotational assignments, internships, or job exchange programs.

5.7 Career development is supported through involvement in job-related and professional organizations, and opportunities to advance within the department.

5.8 Work performance and attendance tracking measures are in place, are understood by staff members, and are used by supervisors to assess performance.

5.9 The organization utilizes both formal and informal assessment methods and measures to determine employee well being, employee satisfaction, and motivation. Assessment findings are linked to performance results to identify priorities for improving the work environment, employee support climate and the supervisor's effectiveness (coaching).

5.10 Employee recognition programs are in place for individuals and groups (may include community service).

5.11 Processes are in place to determine the effectiveness of recruitment and retention programs and to identify areas for improvement.

Recommendation 5A

Facilities and Grounds at the University of Hawaii at Manoa is not recognized as an active participant in professional associations and organizations.

The team found no evidence of effective work performance or attendance tracking measures from a prudent business management perspective. Individual unit and shop supervisors are using a variety of means and methods to monitor performance and track attendance but the process lacks consistency.

It was not apparent that the organization has much, if any, understanding of the importance of employee satisfaction assessments.

Effective employee recognition programs do not exist at an organizational level.

Processes to monitor the effectiveness of recruitment and retention programs are not apparent. Lack of timely and rigorous employee performance management is an organizational deficiency.

The review team did not have time to fully analyze the knowledge, skills, and experiences of the individuals in who were in a number of Facilities and Grounds positions. The review team sensed there were individuals in a few key positions with qualifications that did not correspond to the review team's expectations for such positions based on observations of numerous facilities management organizations. The campus administration

and Facilities and Grounds should focus on employee selection processes that will match prospective employees with the responsibilities of the position. Campus administration and Facilities and Grounds leadership should be sensitive to the prospect that reorganization change may be necessary to address the most pronounced mismatches of employee job duties and responsibilities with employee qualifications and that professional development may be necessary in other cases.

Facilities and Grounds has a human resource specialist who impressively appears to have the background, capability, and understanding of human resource practices. The leadership in Facilities and Grounds with the support of the vice chancellor for Administration, Finance, and Operations should consider elevating the importance of employee selection, employee development, performance planning, performance evaluations, employee recognition, and labor relations (including appropriate handling of corrective and disciplinary actions) on management's agenda.

6.0 PROCESS MANAGEMENT

Effective process management addresses how the facilities organization manages key product and service design and delivery processes. Process management includes various systems such as work management, performance standards, estimating systems, planning and design of new facilities, and other key processes that affect facilities functions.

The review team experienced an environment, particularly in maintenance and operations that has yet to focus on effective process management, performance standards, and standards for service delivery processes. The review team could not find a central listing of policies or procedures for Facilities and Grounds. Campus constituencies repetitively voiced that they, too, knew of no central source for policies and processes. Several conversations with campus constituencies familiar with maintenance and operations voiced concern because service processes are not well defined; instead they must rely heavily on finding the right person to help them understand expectations of service relation-

ships. Although many of the client comments focused heavily on maintenance and operations, the review team is concerned that there is little documentation of policies, procedures, and processes throughout Facilities and Grounds. Facilities and Grounds employees expressed a desire to have clear guidance on what is expected of them, expectations that can be shaped by leadership and management through a disciplined documentation of policies, programs, and procedures that help define expectations and consistent delivery of service activities. Without a systematic approach to service delivery, there were observed "gaps" between the customers' expectations and the final product, much room for individual misinterpretation of the policies, procedures and processes, and a general sense of confusion.

Recommendation 6A

The development of policies, procedures, and clearly defined processes is a time consuming activity. The review team recommends Facilities and Grounds leadership review a number of higher education facilities management websites to better understand what others in the field are doing. The leadership should familiarize itself with APPA publications and professional development experiences that outline typical facilities management systems that are well established at many institutions of higher education. Priorities for the development of systems should be discussed with the campus community so that Facilities and Grounds can focus its efforts on the most pressing issues. Standards should be identified and agreed upon, as should other key processes. As indicated in other sections of this report, the definition of these types of processes has to occur if the organization is to migrate to a more effective Facilities and Grounds organization.

Processes are in place to ensure that departmental facilities and equipment are adequate for the provision of effective and efficient services.

self-operations including all fixed costs and variable costs should be developed. The analysis should then be compared to the cost for a contracted refuse collection and hauling service.

While discussing refuse collection and hauling, the review team also wants to note its observation that recycling efforts are considerably behind other institutions. A cost benefit analysis of a campus-wide recycling program may demonstrate that refuse collection, hauling, and disposal costs equal or exceed the cost of a campus-wide recycling effort. The existing recycling program can benefit from labor saving equipment that also protects the health and safety of those engaged in the program.

The review team learned that the state of Hawaii does not permit state funds to roll-forward from one fiscal year to the next. The team notes that the state's fiscal policy does not seemingly permit capital equipment reserve funds to be collected in a reserve fund for the purpose of replacing equipment.

Employees noted that equipment takes an unacceptably long time to be repaired; a boom truck was reported to have been nonfunctional for years. Reports of the work force having to "make do" with equipment by adapting the equipment for purposes for which they were not designed is of concern. Reports that mechanics responsible for keeping large lawn mowers in operation must scrounge for repair parts in on and off campus waste bins are very disturbing.

Recommendation 6B

Institutional leadership, in tandem with senior individuals in Facilities and Grounds, needs to identify a process for funding repair and systematic replacement of essential tools and equipment. Facilities and Grounds is encouraged to work with the vice chancellor for Administration, Finance, and Operations to determine if any roll-forward options exist for capital equipment replacement.

Recommendation 6C

Facilities and Grounds needs to inventory its capital equipment, identify equipment in need of repair and replacement, and find a systematic method to fund repair and replacement. A possible method for collecting funds for capital equipment, as well as other Facilities and Grounds overhead and infrastructure investments,

is to develop and administrative overhead that is applied to work performed for the auxiliaries, revolving funds, and self-supporting departments on the campus. It is the experience of the review team that this approach, which is used at other institutions, has been acceptable to federal auditors. A general administrative recharge program for overhead, capital equipment replacement, and infrastructure improvements is an increasingly common method to fully charge auxiliary accounts for facilities services that are otherwise financially supported by the general fund.

Recommendation 6D

The following recommendations are "quick wins" that should be considered:

- Review and restructure Facilities and Grounds operating budget so that sufficient funding for basic supplies, tools, and equipment necessary to support an efficient workforce are in place.
- Evaluate the existing supply logistics and the warehouse inventory so that basic supplies, tools, and small equipment are readily available to meet the daily operational needs.
- Evaluate the quality of basic supplies so as to ensure that a reasonable standard of quality and consistency is maintained.
- Evaluate the existing service contract for pagers/communication devices and commit to keeping equipment in operating order.
- Evaluate the age and condition of Facilities and Grounds vehicles, specialized vehicles, and major equipment. Establish a depreciation schedule and an equipment replacement reserve that funds equipment replacement on a systematic basis.

The review team heard frequent complaints about the sluggishness of the procurement system for parts and supplies. Staff perceives procurement is partially responsible for the delay in the delivery of needed replacement parts and repairs. The volume of procurement activities that originate from Facilities and Grounds demands special attention from the UH Procurement Office. It is not uncommon for procurement staff to be co-located with facilities management organizations in order to provide personal, responsive service. The peaks and valleys of the demands upon a facilities management organization require changes in the amount of staff

dedicated to procurement activities. Procurement staffing levels that do not respond to predictable changes in the volume of activities in a facilities management organization can create frustration that begins with the facilities management organization and next bounces throughout the campus community.

The review team believes that the procurement organization, in its totality, has not served Facilities and Grounds or the UHM campus very well. While there may be dedicated service on the part of individual procurement staff, the overall responsiveness of the procurement organization has tarnished both service and response time of Facilities and Grounds.

Internal Facilities and Grounds processes, which appear to require the highest levels of leadership approval, may also impede timely procurement of supplies and equipment necessary for a productive workforce.

The review team understands that procurement cards are used by many departments on campus, but are not available for use in Facilities and Grounds.

Recommendation 6E

A prompt exploration of opportunities for improving the overall timeliness of procurement service delivery is needed. The director of Facilities and Grounds, the vice chancellor for Administration, Finance, and Operations and the system leadership that is responsible for procurement need to resolve the current procurement delays. The investment in the physical plant and the importance of timely Facilities and Grounds service to the community suggest that procurement should not be a bottleneck that either slows down service or creates production inefficiencies for the workforce.

Recommendation 6F

The team recommends that use of the "procurement card" be entrusted to a select group of individuals within Facilities and Grounds, after identifying appropriate levels of review. The review team believes that the identification of clearly defined processes, training, accountability, and controls can lead to empowerment of employees who can be provided with a procurement card and held accountable for procurement card abuses or violations.

6.2 An effective work management system is in place to identify, report, correct, and document substandard conditions and maintenance requirements.

A strong work management system can assist the trained supervisor in scheduling projects or work requests, regardless of how large or how small. A good system, with proper oversight and a commitment to implementation, can significantly decrease the possibility of requests "falling through the cracks," and can help identify and monitor repeat trouble call and callbacks for problems that are not resolved on the first attempt. Without a strong system, information is purely anecdotal and often unreliable. Scheduling of work and personnel is often not coordinated and can end up being subject to the whim of individual employees. Managers of a large physical plant face a daunting task as they try to identify issues and implement corrective measures with literally tens of thousands of requests for service.

The review team believes that Facilities and Grounds can make great strides with the refinement of its rather elementary work management system.

Recommendation 6G

The University of Hawaii at Manoa can benefit from investments in the acquisition, careful implementation and training that is required to establish a computerized maintenance management system.

Work authorization and scheduling procedures have been established that are consistent with the identified needs of each work unit and provide an equitable distribution of resources.

Facilities and Grounds do not appear to have data and statistics about workloads that can be used to determine backlogs or determine if resources correspond to workloads. Information about backlogs for various work units or trades crews could not be produced. Scheduling tends to be informal and occurs within individual shops. Control of expenditures and authorization of much expenditure appears to be controlled at the director's level.

Recommendation 6H

Facilities and Grounds should implement a well-defined work authorization and scheduling processes at the same time that it decentralizes financial authority, responsibility and accountability. Workloads and backlogs must be understood in order to allocate resources to the most pressing needs.

6.4 An effective preventive maintenance (PM) program is in place to provide regular inspection and servicing of facilities equipment to assure maximum service life, reliability, and operation.

Informal preventive maintenance programs exist. As reported in Section 4.0, supervisors develop their own preventive maintenance (PM) programs, their own service frequencies, and tracking methodologies. The most effective preventive maintenance program will not totally eliminate breakdowns and service interruptions. However, a formal preventive maintenance program reduces the likelihood that failures will occur. If scheduled and performed correctly, a well-defined preventive maintenance program will extend the life of the asset, increase equipment energy efficiency and thereby improve its life cycle cost profile.

At the University of Hawaii at Manoa, there is no evidence of an equipment inventory, or preventive maintenance tasks and frequencies that are critical elements of a formal preventive maintenance program. The review team requested data that would demonstrate a formal attempt to measure the cost of operating and maintaining various assets, but did not receive any documentation that would indicate such records exist.

Recommendation 6I

As indicated in previous sections, the review team strongly recommends that the university invest in a CAFM system that should certainly include an offline computerized preventive maintenance system. An investment will go a long way to implementing a work control process as well as a scheduling protocol, both of which logically interface very closely with a PM program.

6.5 Design guidelines that incorporate such elements as energy consumption, operating costs, environmental concerns, maintainability, sustainability, accessibility, and safety have been prepared, updated and are utilized.

UH has yet to develop a set of "design standards" for capital improvement projects. The review team was not at all surprised, therefore, to hear about and see evidence of a lack of consistency, not only in aesthetics but also in products and equipment performance. The absence of design standards leads to a lack of maintenance standards, while increasing maintenance costs and inconvenience to the customers.

While Facilities and Grounds are not responsible for new construction, it does bear the burden of the absence of design standards for the physical plant. The absence of design standards creates a potpourri of building components making the overall management of the plant increasingly difficult.

mmendation 6J

The university and the UH System administrations should seek a commitment to a common set of design standards that are to be included in every capital improvement project. The Facilities and Grounds has the capacity to assist in the development of standards based on the failure experiences that they have been called upon to repair from a number of capital improvement projects. Facilities and Grounds can also identify successful design elements that can reduce demands for maintenance and repair. The design standards should address critical components and systems of a building and associated infrastructure. Prescriptive design standards should define specific performance expectations, specific standard building materials, specific expectations and requirements for energy performance, common architectural features, guidelines for sustainability, life cycle costing, and/or analysis, etc. Most institutions of higher education have design standards that are pertinent to capital construction for their specific environment.

The delegation of
etary responsibilities for
gement of sub-units of the
et is effective in
olling expenditures.

There is little delegation of budgetary responsibilities beyond the director level. Budgetary responsibilities for all levels within the organization have been managed very tightly by the director. Expenditure reports for specific service areas and functions were not provided. The review team is accustomed to seeing budgetary authority, responsibility and accountability at managerial levels or, in some cases, even lower within facilities management organizations.

mmendation 6K

The review team recognizes that the transfer of budgetary authority, responsibility, and accountability cannot happen overnight or without supporting financial training, preferably from competent leadership in the accounting office within the department. However, the review team believes that someone operating at a director level cannot knowledgeably make decisions for an entire physical plant organization. The review team believes the best supervision of budgets and expenditures can occur closer to where the work is being performed.

7.0 PERFORMANCE RESULTS

The performance of the Facilities and Grounds organization can be assessed through campus appearance, employee satisfaction and motivation, effectiveness of systems operations, customer satisfaction, financial results, and supplier/business partner results. Where feasible, it is helpful to have measurement tools in place to assess performance in these areas.

7.1 The appearance of the buildings and grounds is in keeping with the surrounding community as well as the desired image of the institution.

It is the opinion of the review team that the majority of the work spaces from which Facilities and Grounds personnel are required to operate are highly inadequate. The facility as well as of condition of work spaces serve to weaken the sense of self-esteem among the employees in this organization. Many Facilities and Grounds staff works out of space that discourages the development of pride in the work place. In keeping with a theory that pride begins at home, the Facilities and Grounds is encouraged to invest their talents to improve the conditions of their own work place.

The appearance of the campus landscape plays a strategic role in creating and maintaining the university's image. Numerous studies have shown that nationwide, the majority of admissions applicants were most influenced by the appearance of the campus buildings and grounds. In today's competitive educational marketplace, the appearance of the campus is absolutely critical to the success of the university. Among long-term employees there is recognition that the campus appearance has improved significantly over the past several years. However, a widespread desire for further improvements in the appearance of the campus exists. Recent landscape improvements received generally high praise.

Members of the university community who were interviewed share common desires for the campus appearance. Faculty and administrators want to be proud of the appearance of the campus.

The review team found the landscaping of buildings and grounds to be one of the most encouraging and progressive units within the organization. The Grounds leadership has demonstrated an ability to innovate and improve performance. However the unit's performance is constrained by a lack of support.

The review team is surprised by the number of campus committees involved in campus landscape interests (six were courted).

The recognition of Grounds is accompanied with an understanding that the responsibility for campus landscape is decentralized and divided among six different units. A consistent minimum standard of grounds maintenance is preferable across the entire campus. The review team's consensus is that there are many areas on campus that do not yet meet that minimum standard. Excessive litter, inconsistent and uncoordinated mowing practices, an absence of edging and trimming, and inadequate weeding and pruning were frequently observed.

Recommendation 7A

Consider consolidating and centralizing the separate grounds maintenance functions and grounds resources under the developing strength of Facilities and Grounds. Reallocate resources to enhance the image of the campus grounds.

Grounds maintenance and landscape maintenance functions are labor and equipment intensive. In order to optimize the labor and to achieve efficiencies and effective in maintenance programs, proper equipment is a basic and fundamental requirement.

Recommendation 7B

Provide the resources necessary to furnish Grounds with the basic and essential tools and equipment. Set up an equipment replacement program.

The campus grounds demonstrate the absence of standards and guidelines. There are many differences in choices of materials, surfaces, colors and finishes, and planters and benches that visually impact the campus appearance. Some examples include: signage, walkway surfaces, curbs painting, traffic control bollards (posts), bicycle racks, and trash cans.

Recommendation 7C

A campus landscape plan which includes standards and guidelines should be developed as an essential and complementary part of the campus master plan. Grounds should work in collaboration with the Campus Planner Office and the UH Capital Improvements Program Office on the development of these standards and guidelines.

7.2 The condition and cleanliness of facilities are in keeping with the image and standards adopted by the institution as well as activities associated with its mission and programs.

The delivery of custodial services is one of the most readily quantifiable tasks when caring for a physical plant. A custodial program should begin with a detailed space inventory and floor plans that are used by the custodial staff to outline the many repetitive, cleaning tasks and frequencies. Consistent cleaning standards tested and approved cleaning products and standard cleaning techniques should be in place. All of the elements for cleaning a bathroom, as an example, should be uniform and consistently applied by all custodial employees throughout the campus. Proper equipment that is sized and designated for a specific cleaning task can improve workforce productivity. As an example, large floor scrubbers, although a one-time initial expense, can save labor on large floor areas throughout the life of the equipment.

Properly prepared floor plans that outline cleaning frequencies, tasks, products, and equipment can provide the custodial staff with a daily roadmap of the work that they are expected to accomplish within an eight-hour work day. If the information is collected and managed via a software package that is specifically designed for custodial services, the campus will be the beneficiary of consistent service levels that can literally be measured. Computerization of the database can provide management with a tool to ensure an equitable distribution of workloads and equitable service. Cleaning frequencies and tasks and floor plans can be shared with campus clients to help clients understand the base services that are to be provided on a daily basis. Computerization of the database can also provide management with a powerful tool to understand how the addition or subtraction of a single task or frequency will impact the total resources needed to care for the entire physical plant. The workforce must have the proper tools, equipment, supplies, detailed work assignments and training if it is going to succeed.

The review team heard estimates about the average square footage cleaned by individual custodial employees, however the team could not identify that the estimates are supported by solid base data. The development of solid base data will enable Facilities and Grounds to benchmark its square footage cleaning averages with the cleaning average of other institutions.

Recommendation 7D

Facilities and Grounds organization should enlist the services of a specialized custodial consultant to assist the organization in the development of an overall custodial delivery services program that includes, but is not limited to, all of the elements listed above. Once developed, Facilities and Grounds is encouraged to benchmark its program against other institutions of higher education.

Overall, general conditions in many parts of the campus physical plant detract from the overall appearance and impression of the campus. The noticeable absence of campus standards, the visible maintenance and deferred maintenance items, and the general unkempt appearance of the campus are cause for concern.

Recommendation 7E

The campus is clamoring for improvement in the overall condition of the physical plant. A concerted effort to improve the appearance of the buildings and grounds, particularly the grounds, will send a signal that Facilities and Grounds is heading in a new direction. Improvements in grounds conditions are noticed by large numbers of campus users. Litter pick-up, the placement of trash receptacles so that there is always a receptacle in sight, sidewalk repairs, irrigation system repairs, weeding, standard signage, bollards, barricades, and bike racks will send a message of care and may model expectations for the entire organization.

Building systems and infrastructure are maintained and operated at a level of reliability that contributes to a successful implementation of the institution's mission and programs.

Many building systems and infrastructure reliability are below community expectations and requirements. Comments from customers who participated in this review suggest considerable frustration with the reliability of HVAC systems. Others noted that Facilities and Grounds are responsive, but they don't know how to fix the problems that they encounter. Several clients noted that building and infrastructure conditions are impeding their efforts. Strongest complaints about service and mission disruption come from those in research areas, an area that is of extreme importance to UHM as a comprehensive research intensive institution.

The deferred maintenance backlog is reported to be approximately \$100 million. The review team believes that a detailed inventory of problems will demonstrate the deferred maintenance backlog is significantly larger. There

Recommendation 7F

were observations that requests for state repair and maintenance appropriations included projects that served the needs of auxiliary or revolving fund departments.

Preventive maintenance and maintenance programs needs to be significantly improved. Tracking of preventive maintenance and repair tasks and observation of repetitive repairs issue should lead to a better understanding of items that cannot be repaired and are in need of replacement or renewal. A detailed inventory of deferred maintenance items is recommended. The deferred maintenance backlog, which is partially addressed through state allocations to the repairs and maintenance (R&M) fund, should be carefully reviewed to ensure the most pressing needs are clearly understood and are being appropriately addressed. Several small repair items that cannot be resolved by Facilities and Grounds should be grouped together for submission as R&M requests.

Because there are so many general fund deficiencies, the review team suggests that general fund projects receive priority in R&M request lists. These systems and infrastructure are critical to the continuation of many campus programs and although there are auxiliary or revolving fund projects, highest priority should be granted to general fund facility needs.

7.4 Funding resources are effectively used and are adequate to support a level of facilities maintenance that prevents the deferral of major maintenance and repairs.

This report has already addressed several issues as opportunities to improve organizational performance, efficiency, and effectiveness. Generally, it can be stated that funding levels are not adequate to prevent the deferral of major maintenance and repairs. The campus has received substantial R&M allocations throughout the past several years. During the last five years the campus has received more than \$76 million and is anticipating more than \$30 million for this fiscal year. This allocation for R&M is sorely needed to help address what is believed to be a substantially underestimated backlog of deferred maintenance and facility renewal requirements.

7.5 Staff is highly motivated and productive, taking pride in the accomplishment of their duties.

- There is pride in the workforce, however it is mainly institutional based rather than departmental based.
- There is commitment among staff to improve. Given a clear direction and the tools to accomplish new expectations, the group will perform. As with any group of veterans however, change will not come easy.

- Staff wants to have a quality operation and is frustrated with reoccurring problems and with changing and unclear expectations.
- Communications need improvement.
- Performance management and the practice and need of individual performance evaluations are in the organization well.
- There is a noticeable absence of clearly defined goals and objectives for the organization.

Recommendation 7C

To achieve a condition where staff are motivated, have pride in their work and department, and in the accomplishment of their duties, it is necessary to create and maintain a high-performance workplace and to promote employee development efforts.

Changes in the Facilities and Grounds work culture can help the institution. Strong leadership is needed.

- 6. Customer satisfaction measures ensure that the levels of service are consistent with customer needs and requirements and within the facilities department's capability.

Facilities and Grounds has a customer service feedback form that is given to the customers after completion of a work order. How the information is used to effect service improvement is not clear. It is the review team's assessment that Facilities and Grounds do not have an effective process for determining customers' service satisfaction or an effective process for the organization to determine and understand customer needs and requirements.

During the time of the FMEP site visit, the campus was engaged in an electronic customer survey of campus customers. A major part of this survey addressed services provided by Facilities and Grounds. The survey results are compiled and reported on a campus website; <http://manoa.hawaii.edu/inco/fmsurvey/results.php> the overall results of the survey indicates a need for substantial improvement is customer service satisfaction.

In addition to these survey results, the review team's findings from numerous interviews with campus customers and key stakeholders indicate that Facilities and Grounds clearly lacks a strong customer orientation and can make considerable strides with this important performance tool. Management has a large opportunity to place an emphasis on the importance of identification and understanding of the customer needs and requirements, customer expecta-

tions for service, and customer satisfaction and dissatisfaction. Additionally, the organization can improve its communications about its services with campus customers. Facilities and Grounds has no website that could serve as an effective communications tool to faculty, staff, administrators, and students. Descriptions of services offered, policies, program, initiatives, and contact information on a website would improve communications.

It is recommended that a two-box ratio methodology be applied to the recently completed electronic survey results. A two-box methodology calculates the ratio of responses received in the top of the scale (#5, Outstanding, and #4, Very Good) to the bottom of the scale (#1, Unsatisfactory, and #2, Marginal). As a rule of thumb, any response with a two-box ratio of less than 2:1 requires an action plan on the part of the responsible manager.

For example, on the survey results dated for February 15, 2006, question number 8 on the survey asked "The indoor air quality and room temperature are properly controlled with an appropriate comfort zone." The results in the top two boxes (Outstanding and Very Good) totaled 202, and the results in the bottom two boxes (Unsatisfactory and Marginal) totaled 637. This resulting ratio is a very negative number. This represents the magnitude of the customer problem with in-door air quality and room temperature. Use of this method also highlights that not only is it desirable to move the customers from the bottom two boxes to the top two boxes, but it also alerts us to the fact that there are a large number of customers who are in the middle (197) and can go either way.

Recommendation 7I

The results of the electronic survey should be used by Facilities and Grounds to establish a base-line for developing action plans and for achieving customer service improvement. Each year a similar survey should be utilized in order to measure progress. The annual survey should target specific customer groups such as faculty, building facility managers, and administrative staff. Student surveys should be conducted separately.

Other customer service management tools should also be utilized. Customer service requires personal contact. Project managers and front-line staff should talk and listen directly with customers. Individual meetings and targeted focus group sessions can be very effective tools.

Everyone within Facilities and Grounds should be asked for customer service improvement ideas. The staff can be an excellent source for service improvement ideas. Staff should be asked the questions such as: Why is our service quality what it is? And how can we get better?

The use of telephone surveys is also appropriate for certain services including follow-up on completed work order requests.

7. Managers and supervisors may in touch with the needs of higher education.

recommendation 7]

Our findings to this criterion were addressed in Section 1.7, Leadership.

In addition, it is recommended that members of the Facilities and Grounds management team (which should include supervisory staff, division managers, and the director) become active participants in APPA, and in PCAPPA. Facilities and Grounds should send members of its management team to the APPA Institute for Facilities Management, and the APPA Leadership Academy.

Participation in APPA and PCAPPA should be an ongoing commitment for supervisors, managers and other leaders involved and engaged in the facilities management profession. Other important professional organizations where participation is encouraged include:

- The American Institute of Architects (AIA)
- The Association of University Architects (AUA)
- The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE)
- The National Fire Protection Association (NFPA)
- The Professional Grounds Management Society (PGMS)
- The International Executive Housekeeping Association (IEHA)

8.0 OTHER CONSIDERATIONS

At the request of the Institutional Representative, this section would include any items or subjects that are not covered by the criteria in Sections 1.0 through 7.0. These items may include those things that are specific to the campus.

8.1 Organizational Structure

Organizational alignment for an effective and efficient Facilities and Grounds can take many different forms. The PMEP review team can suggest a number of organizational structures, but suggests strategy in the case of Facilities and Grounds, is a practical first step before suggesting major structural changes.

In the absence of a Facilities and Grounds mission, vision, core value, and strategic plan, it would be highly unlikely to hit the mark for creating an optimum organizational structure. Organizational form should naturally flow from a careful articulation, a shared understanding, and campus administrative approval of the organization's mission, vision, values, and strategy.

This report points out a number of fundamental questions that must be answered; all of which have a bearing on organizational structure. Some of these are: leadership and the management team, customer focus and levels of service, service standards, human resources, financial resources, relationships with other departments, relationships and role of UH System Office, and campus senior administrative leadership stability requirements, and campus infrastructure strength and weakness in three critical "lifeline" service areas including: Human Resources, Information Technology, and Financial Administration.

Also, it is the review team's assessment that Facilities and Grounds requires a major organizational transformation or turn-around effort. An appropriate approach to this will require both strong leadership and strong management throughout Facilities and Grounds. People with in-depth knowledge and experience of facilities management and with a proven successful track record in a research campus environment will be required. The precise people will see the big picture of what needs to be done and will in time provide the right organizational structure. The scope of what needs to be done is very broad and very deep.

Perhaps the best description of what needs to be done is provided by author James C. Collins who wrote in his book *Good to Great: Why some companies make the leap and others don't*, (New York: HarperBusiness, 2001) "First who-then what." Collins uses the bus analogy, "The executives who ignited the transformation did not first figure out where to drive the bus and then get people to take it there. No, they first got the right people on the bus (and the wrong people off the bus) and then figured out where to drive it." So, to paraphrase Jim Collins, our recommendation on reorganization is this: Get the right people on the bus, the right people in the right seats, and the wrong people off the bus, and let them take it someplace great.

Adequacy of Funding

The APPA team found it difficult to benchmark Facilities and Grounds financials with any high degree of confidence due to conflicting data and information concerning the size of the campus and the uncertainty of the scope of the Facilities and Grounds responsibility. The financial information provided by Carol Yoshida and the personnel information provided by Brenda Shin is very good. Some general cost comparisons are provided in this section of the report based on the best available information at this time.

The Facilities and Grounds annual budget is derived from a historical and incremental budget approach. The previous year's budget allocation is used as a basis and the budget allocation is adjusted each fiscal year. The basis for adjustment upward or downward is not always consistent and the rationale for adjustment is not always clear. For example, the campus utility budget for this fiscal year was reduced by \$1 million at a time when energy costs are projected to be at an all time high. Campus electricity costs for this year are projected to average 15.1 cents per kilowatt hour; an increase of 3 cents from 12.1 cents per kilowatt hour last year. Electricity costs, account for approximately 88 percent of total campus utility costs. This has been the case for each of the past three years.

To determine the adequacy of funding for Facilities and Grounds, it is typical to separate out the allocations for utilities. This does not imply that utility costs are not important. The utility budget for the University of Hawaii at Manoa when expressed as a percentage of total Facilities and Grounds annual allocation is over 50 percent; similar to what one would find at many peer institutions. The

current fiscal year however, will likely be among the highest percentage increase experienced by the campuses due to the dramatic increases in cost per kilowatt hour, and relatively modest increases in the Facilities and Grounds operating budget. It is because of this volatility in costs and because there is generally little discretion in this part of the budget, that it is helpful to separate these cost from the rest of Facilities and Grounds budget when performing operating cost analysis. Furthermore, there are many differences in policies that govern the ways that utility budgets are managed across the population of higher education institutions.

A general observation in reviewing Facilities and Grounds budget information is that the allocation for payroll expenses as a percentage of total Facilities and Grounds budgets (not including utilities allocation) is lower than average. It appears that wages and salaries by position classification are 10 to 20 percent below those of peer institutions.

The most common method of general cost comparison for facilities management departments is to utilize costs per maintained gross square foot (MGSF) for buildings, and costs for maintained acres for grounds and landscape services. MGSF is less than gross square feet. The rationale behind calculating MGSF is that facilities organizations typically do not provide maintenance services for all of the gross square feet (GSF) of the campus. For the University of Hawaii at Manoa, the MGSF number was not provided. Therefore GSF is utilized in the Manoa campus calculations while the comparative campuses utilized in the comparisons are reporting MGSF. The gross square feet for the campus operating cost and for the repair and maintenance cost comparisons used in this report is taken from the budget documents provided to the review team. This GSF number is 4,751,432.

Ideally for more accurate comparisons, the type of buildings would also be identified such as permanent buildings versus temporary buildings. The type of space would also be classified as classroom, office, wet lab, dry lab, auditorium, and assembly spaces, etc. The type of space has a direct relationship to the cost of maintaining the space. Space utilization, campus population density, age of facility, history of maintenance, plant configuration (central

utility plant versus distributed systems), and hours of operation are also important factors and typical components of any analysis of the adequacy of funding for maintenance. All of these factors contribute to the wear and tear of facility components and they help determine the service frequencies and service standards.

For fiscal year 2004-05 Facilities and Grounds received a base budget allocation of \$30,863,151. This allocation includes the budget amount for EH&S of \$1,297,150, and purchased utilities of \$14,181,710. Subtracting these amounts from the base budget leaves a budget allocation for building maintenance and grounds of \$15,384,291.

It is common practice at major research universities for all services associated with planning and capital improvements, project management, architectural design, mechanical engineering, and electrical engineering divisions (as UHM has organized these divisions) to be 100 percent supported through recharge to the projects to which the staff in these divisions are providing services. This would be true when performing work for an academic department, an auxiliary department, any capital project, and even when performing work to support Facilities and Grounds operations and maintenance activities. In other words, the costs of these services would not be assigned to Facilities and Grounds general budget expenses unless there was work being performed that is directly supporting maintenance. It appears that Facilities and Grounds budget allocation is burdened with these costs. To arrive at the true budget dollars that are available for campus building maintenance and grounds, it is necessary to subtract these costs.

An extremely important component of Facilities and Grounds budget is the allocations for campus repair and maintenance (R&M).

The R&M allocation is the most volatile allocation from year to year and dependent on state funding and R&M program appropriations. These are critically important dollars, however, as they represent the institutions reinvestment in the campus physical plant. As time goes on, the appropriation and use of these dollars will remain critically important budget components for the campus.

Overall, the review team has concluded that the quality of available data and the uncertainty of campus policy governing the use of funds do not allow valid comparisons with similar institutions at this time. In general, it appears that Facilities and Grounds could do a better job of providing campus Facilities and Grounds services by more effectively and more efficiently utilizing available resources.

A comparison of grounds maintenance costs and custodial services costs based on the data provided to the review team and use of the APPA's *Facilities Performance Indicators for 2004* follows.

APPA Grounds Maintenance, Cost Comparisons
Grounds Maintenance includes all costs required to operate and maintain campus's landscape and grounds.

Applying the use of the APPA *Facilities Performance Indicators for 2004* for 49 Carnegie Classified Research/Doctoral Extensive (new class RU/VH) Institutions the comparisons are as follows:

	Costs/Acre	Labor Costs/Acre
UHM	\$5,937	\$5,356 (90%)
RU/VH Institutions	\$4,794	\$2,941 (61%)

APPA Custodial Services, Cost Comparisons
Custodial services include all costs related to custodial and housekeeping services interiors and exterior functions such as cleaning windows.

Applying the use of the APPA *Facilities Performance Indicators for 2004* for 49 Research/Doctoral Extensive (new class RU/VH) Institutions the comparisons are as follows:

	Cost/GSF	Labor Cost/GSF
UHM	\$1.06	\$0.98 (93%)
RU/VH Institutions	\$1.09	\$0.92 (85%)

The higher than average labor costs for the University of Hawaii at Manoa campus may be a resulting effect of the need for equipment, material and supply needs, use of technology needs, and the need for service standards as addressed in Section 6.0 of this report.

6.3 Other Key Financial Benchmark Indicators

Other key financial benchmark indicators which the campus should consider developing are as follows:

- Current replacement value of the campus facilities and infrastructure (CRV).
- Facilities Condition Index (FCI). The FCI is a useful tool that has come into common use to express the overall condition of facilities. The FCI is the ratio of the total cost of correcting deficiencies to the facilities current replacement value (CRV).
- FCI = $\frac{\text{Cost of Correcting Deficiencies}}{\text{Current Replacement Value}}$

Over the past decade, the FCI has become a generally accepted measure of capital renewal, deferred maintenance, and modernization planning. One standard used to establish the overall condition of a single facility or an entire campus using the FCI is as follows:

FCI Range	Condition Rating
<0.05	Good
.05-0.10	Fair
>0.10	Poor

The campus has reported a repair and maintenance backlog (building deficiencies) of \$100 million. The review team believes that the backlog could easily be two to two and a half times this amount. In this report, the review team has recommended that a comprehensive facility condition audit be conducted so that the true nature of the deferred maintenance and capital renewal requirements are known. A facility condition audit performed by experts in this field is also an ideal way of capturing the campus needs to address the mandated plant adaptation requirements such as modifications to meet Americans With Disabilities Act requirements, asbestos abatement, and a number of other environmental and regulatory requirements. An accurate assessment of the deferred maintenance backlog and campus facility renewal requirements has a direct impact on determining the adequacy of funding for Facilities and Grounds.

6.4 Additional Recommended Measures

- Costs per square foot for custodial services, and for the building maintenance trades
- Cost per acre for grounds maintenance
- Cost per square foot for Facilities and Grounds administrative services
- Cost per square foot for engineering and professional services
- Cost for contracted services
- Facilities and Grounds costs per student FTE
- Energy consumption expressed as BTU/GSF/YR
- Annual Facilities and Grounds operating expenditures as a percentage of gross institutional expenditures (expenditures for education and general purposes and excludes auxiliary function expenditures)
- Utilization of the APPA's Facility Performance Indicators 2004 and *The Strategic Assessment Model*, second edition.

CONCLUSION

The executive summary of this report provides an extraction of facts taken from the overall findings by the FMIEP review team during the week of February 5 thru February 10, 2006. The review team carefully applied the FMIEP criteria to the University of Hawaii at Manoa Facilities and Grounds to ensure that the FMIEP criteria were applied in accordance with the FMIEP's intent. The criteria are nonprescriptive so that results-oriented organizations can find their unique way to success. The FMIEP criteria do not prescribe how the organization should be structured; or the planning and quality that must be included in the organization. The FMIEP criteria recognize that units or functional service areas of the organization can be managed in different ways, as long as the end results produce a satisfactory service to the institution.

The University of Hawaii at Manoa is generally dissatisfied with the service that it is receiving from Facilities and Grounds. The FMIEP criteria seeks to identify strategic direction, shared values, strong business practices, documented policies, and information systems that enable data driven management decisions. The FMIEP seeks to find leadership and quality customer service. The FMIEP team recognizes that Facilities and Grounds is faced with incredible challenges.

The recommendations in this report are offered to outline a possible roadmap that might align Facilities and Grounds with the University of Hawaii's mission while also enhancing the overall effectiveness of the Facilities and Grounds organization. The review team's approach to the FMEP was an objective and critical assessment with conscientious, explicit, and judicious solicitation and application of the facts, evidence, and best practices supporting the recommendations.

As the campus prepares to address the problems and challenges presented in this report, it is important to acknowledge that a business as usual approach is not and will not be acceptable to many of the numerous campus constituents who actively care about the University of Hawaii at Manoa and who participated in this FMEP. Facilities and Grounds needs to change and needs leadership if it is to do so. Dramatic change, which the review team finds necessary, will require bold leadership and an organization-wide initiative. Dramatic change will require strategic, financial, and intellectual capital investments on the part of the campus administration. Ultimately, change agents, rather than a single voice for change, are believed to be necessary. Succeeding within the context of the current situation requires knowledge, skills, and abilities that do not appear to be present at many top levels in today's Facilities and Grounds organization. It will be important for campus leaders and for the Facilities and Grounds leaders to work together to understand and resolve the major forces that will affect the future of the organization.

The FMEP review team concludes that there are five important challenges that must be considered as fundamental to the future of a successful Facilities and Grounds organization. First, a commitment to permanent leadership at the highest levels of the university and campus administration is desperately needed. There is little doubt that the unresolved uncertainty in leadership, has taken its toll on Facilities and Grounds and the campus. The organization's decision-making capability and capacity to assume risk by supporting adequate resource allocations, developing work priorities, managing campus expectation, and establishing a sense of direction, have all been affected by leadership uncertainty. Looking ahead, clear and consistent direction from the campus and university administration will be an essential ingredient for success.

A second challenge is to clearly understand the adequacy, management, and distribution of resources; the physical resources, the financial resources, and the human resources. This report highlights major needs and requirements for all of these critical resources.

Third, the institution, along with a concerted effort by Facilities and Grounds, must be challenged to renew its appreciation of the value of people. Action is needed to institutionalize an investment in the growth of Facilities and Grounds' staff through training, seminars, professional involvement, career ladders, and other means that unlock human potential. The recognition and development of the staff must be given a high priority and must be supported with financial resources as well as a philosophy that supports for employee development. Given the unique circumstances of geographic location, local area employment competition, and other economic realities, it makes sense that any investment in preparing people to become more productive and effective will produce an attractive return on investment. One thing that will not change today and well into the future is that it takes people to do the work.

A fourth challenge, based on the review team's findings, requires a commitment from Facilities and Grounds and the campus administration, to lead the campus to a campus-wide energy and resource conservation strategy and program. Campus energy costs constitute more than 50 percent of the total operation and maintenance of Facilities and Grounds budget. Electric energy costs at the University of Hawaii at Manoa are the highest among all U.S. higher education institutions. Looking ahead, there is every indication that energy costs will continue to escalate. The need for a sense of urgency to manage campus energy consumption will increase and this topic will occupy a larger percentage of every campus administrator's agenda.

Sustainability is a common issue in higher education that is normally the subject of campus collaboration that offers something for an increasing number of campus constituents who are interested in the topic. The opportunity for campus collaboration is not unique to the University of Hawaii at Manoa, which happens to be very special because of the campus geographic location, its climate, the strength of a number of related campus programs, and because of the campus need for facility renewal. The mag-

nitide of the pending campus facility renewal program should spotlight the strategic importance of plant renewal as well as resource conservation. Facilities and Grounds must face its role and its responsibility to be an active practitioner in furthering the solutions for smart growth and campus sustainability.

The leadership on the sustainability issue demonstrated by the University of Hawaii Sea Grant College Program and the School of Architecture presents a made-to-order opportunity for Facilities and Grounds to become partners with the campus efforts, and in turn to become leaders among higher education facility departments. It would be sad indeed, if the campus were to miss this opportunity.

The fifth challenge-facing Facilities and Grounds is to build and incorporate technology as a partner in the organization. Institutions have learned that the appropriate use of technology is an absolute necessity to effectively manage a labor intensive enterprise. Technology, whether in Facilities and Grounds business practices or in building automation, has the potential to increase productivity while at the same time meeting the needs of rising costs and/or decreasing budgets. The introduction of technology must be accompanied with an investment in training so that proper utilization manifests itself with experience.

The University of Hawaii at Manoa is a challenging environment that contains all of the complex elements that require application of professional facilities management practices. Anything less will shortchange the institution. The investment in the Manoa campus physical plant and infrastructure is substantial. Operational and maintenance requirements are increasing as the plant ages and the conditions reflect the age as well as past maintenance practices. The resources provided to Facilities and Grounds appears to have been less than adequate, particularly in view of the clear and visible plant deterioration.

There are opportunities to redirect and manage the current level of resources to do a better job of meeting campus Facilities and Grounds requirements. Facilities and Grounds is most fortunate to have enjoyed for a number of years an understanding and supporting cast of campus customers who have accepted the organizations need for additional resources. However, the understanding and

support for Facilities and Grounds has diminished with a strong belief that something must now be done to bring the department in line with the campus mission and values. The development of the campus strategic plan, the work of the Ad-Hoc Committee on Facilities Management, the Committee on Administration and Budget, and the APPA-FMEP process and report, collectively serve to inform campus administration of the magnitude of the facility needs and the importance of addressing these needs to key campus stakeholders. The realization of what has to be done now is exposed. It is time for action.

It is likely that this report has called attention to many of the fundamental issues of the past. Management must now find a way to address these issues and to engage in activities that will produce a change from the past, and a change from the status-quo. The hope for improvement is not located in the past but rather out front and ahead.

In the course of this review, we were constantly reminded of the numerous challenges facing those who work in Facilities and Grounds. It is our sincere hope that the people of the University of Hawaii at Manoa campus will find a way to work together and overcome the cumulative affects of its many campus facility services and physical plant issues.

All members of the APPA Review team: Jack Flug, Pete van der Have, Paul Tabolt, Mo Hollman, and Marc Fisher found the review to be both challenging and professionally rewarding.